

THE  
JOHN DEE TOWER  
OF  
1583  
A RENAISSANCE BUILDING  
IN NEWPORT, RHODE ISLAND

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HISTORY OF THE  
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BY  
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"CITIZEN OF THE WORLD"  
(COSMOPOLITE, IS A WORD COINED  
BY JOHN DEE, FROM THE GREEK  
WORDS COSMOS MEANING "WORLD"  
AND POLITÈS MEANING "CITIZEN")

### *About the Author*

Jim Egan is the Rhode Island State Coordinator for the New England Antiquities Research Association and has been a professional photographer for 30 years. For a fuller biography, see appendix A.

### *Dedication*

To my wife, Lucinda Landon  
and our two sons, Alex and Eric,  
for their steadfast faith in my research.



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# THE HISTORY OF THE JOHN DEE TOWER OF 1583



(from old postcard, Metropolitan News Co. Boston)

I know. My title gives away the punch line.  
And here, I'll give away the storyline:

The 28-foot tall stone tower which still stands today in Touro Park, in Newport, Rhode Island has baffled historians for generations. I have boldly renamed it the John Dee Tower because (I assert), he was the architect who designed it. Most people have never even heard of John Dee (1527-1608), but he was quite famous in his time, the Elizabethan Renaissance.

Dee has been described as a “polymath.” This sounds like someone well-versed in the various branches of mathematics, but it actually means someone who has knowledge of a wide range of subjects. (In ancient Greek, *plu-* means “much” and *manthanein* means “to learn.”) This word is especially appropriate to Dee as he felt that all the arts and sciences derived from mathematics. (again, *manthanein* means “to learn” and *tekhne* meaning “art, craft, skill.”) And to Dee, Mathematics was the two “sisters,” Arithmetic and Geometry.



Dee was also an expert in navigation and the foremost enthusiast of England's colonialization of North America.

England became Protestant when Elizabeth I became Queen, but it was still the home of many faithful Catholics. Dee and his associates devised a plan to help quell England's internal religious turmoil – a colony in the New World where Catholics would be allowed to worship as they pleased.

With knowledge of cartography, Dee selected what is now Narraganset Bay for the site of the colony. He designed an architectural structure which (at the beginning) would function as a fort and eventually would become the city-center for a prosperous colony. The building was constructed, but the colony never got started and the building was abandoned for decades.

In the 1600's, the Pilgrims, Puritans, and the settlers of Rhode Island knew about the Tower and its history but kept it hush-hush for fears that the English families involved in the planned Elizabethan colony would claim it was still their land.

Because of this clever cover-up, as generations passed, the knowledge of who built the tower faded and was lost. Besides, most early American settlers were so absorbed with surviving the present, they weren't that concerned with the past. And, in 1776, when America became independent, they became much less interested with "English things." It wasn't until the late 1800's and 1900s that people really wondered: Who actually built that Tower?

I have provided the punch line and the storyline up front so you can better follow the trail of clues that has led me to this conclusion. But keep your seat belts fastened, because the mathematics and cosmology that Dee has infused in the design of his tower is even more exciting than the trail of clues and the punch line combined.

### ***Oh, no! Mathematics! I hate math.***

Let me assure anyone who is math-a-phobic, the mathematics of this story are presented so that a Middle-school student can understand them. It's as simple as 1, 2, 3, 4. In fact, Dee had a way of looking at numbers that is quite unlike the way we look at numbers today, so really knowledgeable mathematicians might actually have to do a little un-learning to understand how he thought.

Here are some tantalizing highlights of what we'll explore on this journey:

- Past research: Viking or Colonial?
- Professor Penhallow's two words that caught my attention.
- Clues in early Rhode Island colonial history.
- My "aha" moment.
- Evidence in the Elizabethan State Papers.
- The meaning of the John Dee's *Monas Hieroglyphica*.
- A key clue provided by the mind of Buckminster Fuller.
- Robert Marshall's discovery of an ancient canon of number.
- Robert Marshall (in the 1900's) saw numbers the way John Dee did (in the 1500's.)
- Mathematical clues about the size of the Tower.
- Where the "design plan" of the Tower is hidden.
- What the Tower expresses cosmologically.

And don't be concerned if you're not a history buff. You only have to have a sense of broad eras in Western and American history:

Ancient Greece	1000 BC – 100 BC
The Roman Empire	100 AD – 300 AD
The Middle Ages	500 – 1400
The Renaissance	1400 – 1600
European Settlement of North America	1600 – 1776
American Independence	1776 – Now

[To keep things simple for non-historians, I refer to the centuries by numbers; (for example, “the 1500’s” instead of the “sixteenth century.”)]

Also, I use the abbreviations BC and AD. I find the more politically correct abbreviations BC and BCE too similar to each other. If you are religiously offended, think of BC as Before Consideration (of Year dates) and AD as After Demarcation (of Year dates).]

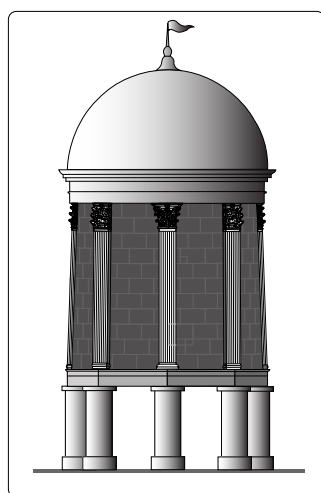
### *Newport has a natural harbor*



Newport is at the mouth of Narragansett Bay in the state of Rhode Island. It is graced with a natural harbor which is convenient to, yet protected from, the Atlantic ocean.

The tower was built near the summit of a small hill rising from the water's edge. Before any houses were built, it had a sweeping view to the west of the harbor, Jamestown Island, and the southern mainland of Rhode Island.

### *The exterior of the Tower*



The Tower as seen today is but a shadow of its former self. In my reconstruction (shown on the front cover) the Tower originally stood 48 feet tall and was capped by a shining gold dome. Atop the dome was a 6 foot flagpole or weathervane. The dome appeared to be supported by eight tall, white, Corinthian pilasters (flat columns.) However, it was the stone cylinder that did the actual supporting (and the pilasters were attached to it). And this whole assembly sat on 8 massive pillars.

The 8 pillars and much of the stone cylinder can still be seen today, but the dome and the pilasters are long gone.

In 1848, Governor William C. Gibbs (who lived in the house on Mill Street, directly north of the Tower), reported that the British had stored gunpowder in the Tower during the Revolutionary War (70 years earlier.) When the colonial troops ran them out of town, they ignited the gunpowder and blew off the roof and some of the upper stone work. (Means, p. 23)

(This is not to suggest that the Tower had pilasters and a dome when the British Forces occupied it in the 1770's. I think the dome had disappeared in the late 1500's, even well before the days of the Pilgrims and Puritans.)



Philip Ainsworth Means

Philip Ainsworth Means, in his 1942 *Newport Tower* describes the eight pillars:

**“These distinctive features of the tower cannot be described even by a friendly critic as masterpieces of masonry. Although squat and thick, the pillars look feeble.**

**Possibly this is accounted for by their construction, coarse rubble-work with mortar which has largely disappeared from the interstices between the stones.**



**Here however we should remember that originally the columns, arches, and all other parts were covered with mortar-plaster which doubtless gave them an appearance of greater strength and regularity.”**

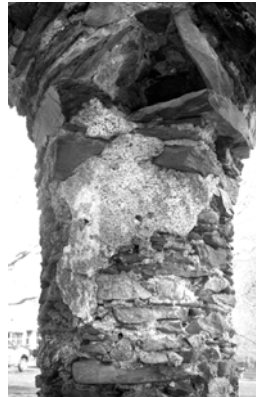
(Means, pp. 7-8)

Evidence of this almost 1-inch thick plastering can still be seen today on the northwest and the northeast pillars where it has been relatively protected from the elements.

Evidence of plastering that once covered the entire tower, inside and out.



Interior of NW pillar



Interior of NE pillar

plaster was almost an inch thick



Means isn't very complimentary about the drums they rest on:  
**“The bases of the pillars, being at present time no more than mere thickenings of the shaft, have all the grace of so many elephant-feet.”**



These bases appear insubstantial because only about 6 inches of their height is visible today. Over the centuries Touro Park was re-landscaped frequently and a foot of soil has accumulated above the original ground level. During his 1949 excavation, William Godfrey found that the bases were originally 18 inches tall. Godfrey writes,

**“The addition of these bases to the columns materially alters the appearance of the Tower, and makes it architecturally a more satisfying structure.”**

(Godfrey, 1948 Excavation, Initial Report, Sept. 24, 1948, p. 2)



About 1 foot of the drums is buried underground, leaving only about 6 inches visible

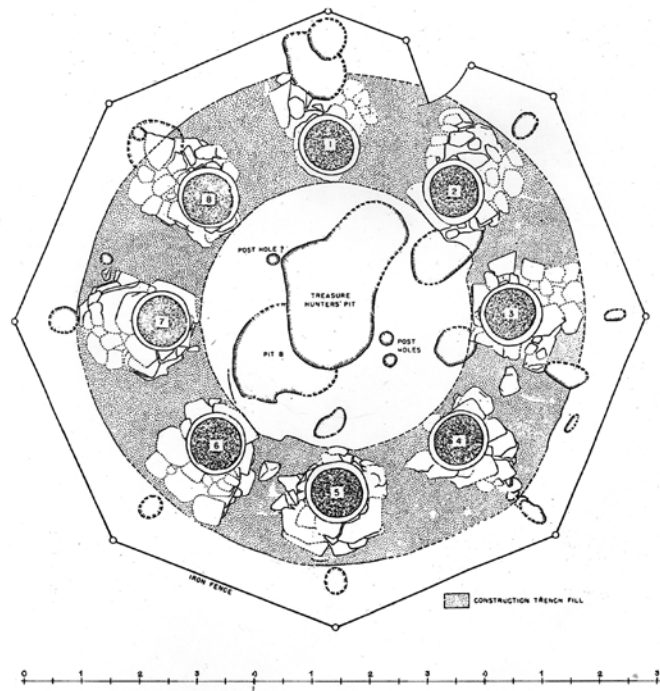


Godfrey and his crew dug a trench between two of the pillar bases and found that they rested on a 4 foot tall footing beneath the ground. The footings he explored did not reach bedrock, but he suspected some of the unexcavated ones might have.

He determined that the builders dug a circular trench 4 feet deep and **“placed rough unshaped boulders, tumbling them in almost at hazard so that some of them, while resting on others below them, did not support the columns above.”**

The footings were not cylindrical, but were wider at the lowest depths. These lowest parts of the footing splayed outwards considerably, but not so much inwards, as can be seen in Godfrey’s drawing shown here.

They seem to have been built not only to support a lot of vertical weight, but also to prevent any outward splaying of the pillars .



(Godfrey, 1948 Excavation, p. 3)

Godfrey concludes: “When these footings had been built to the ground level, they were plastered over, and on this prepared surface a drum of masonry 48 inches in diameter and 18 inches high was constructed as the base of each column.” (Godfrey, 1948 Excavation, p. 2)

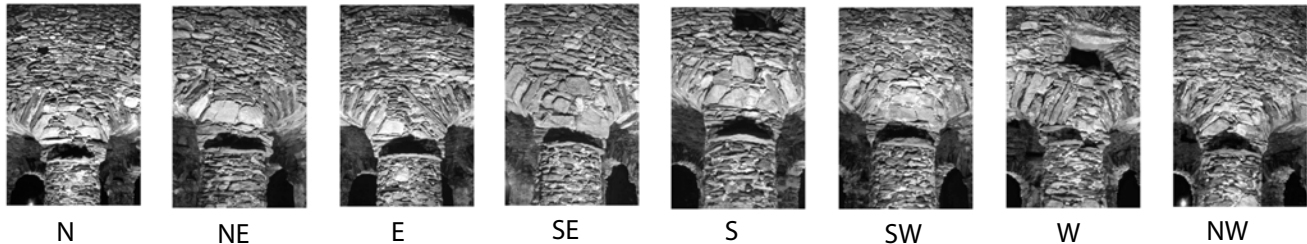
There is a projection at the tops of the pillars as well. Means (following John Rowe in his 1938 report on the Tower), prefers to call it an “impost block” rather than a “capital,” avoiding “its classical connotations.” He writes:

**On the inside of the building the surface of the shaft is nearly flush with the wall above, but with just enough inward projection at the impost block to make it seem likely that there was once at that point a molded pseudo-capital of mortar-plaster.**

(Means, p. 8)

An impost block is a support on top of a column from which the arches spring. These photos of the exterior of the building show that the impost blocks are made from a number of large stones.

The stones above the shadow areas form the impost blocks from which the arches spring.

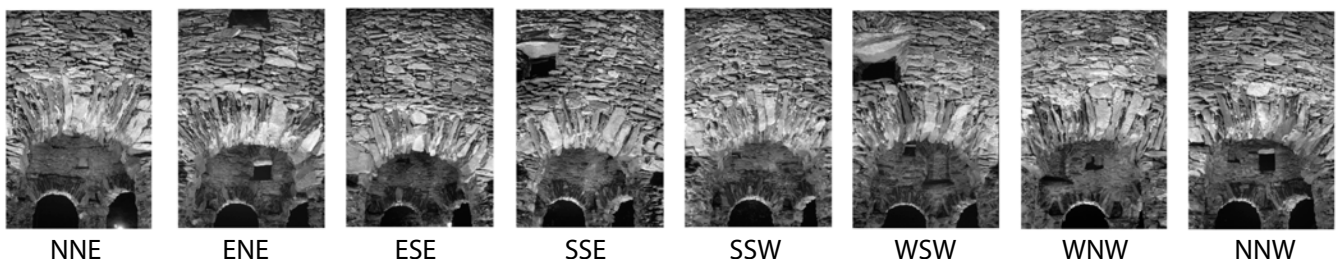


Means calls the arches in the tower “heavy-handed construction.” He points out that they are made of flat stones, not tapered ones, and “they don’t even point to the center of the semi-circle formed by the arch.” In addition, “they all lack a true keystone.” Means concludes:

**In this respect the arches of the Newport tower are unlike the arches built by English architects and masons in the post-Renaissance period.”**

(Means, p. 9)

The 8 arches



I contend that the builder wasn't concerned about how the arches looked because they were "covered up." Not only were they all plastered over, but the arch wasn't itself even meant to be seen! What I suggest is that the arches were used for structural purposes rather than for decorative looks. Awkward as they are, architecturally they are still stronger than spanning the columns with a stone lintel could potentially break under the weight of the upper cylinder.

On the outside of the building there is a 6-to-7-inch wide "shelf" on the top of each column. Some researchers have conjectured that these provided end supports for 8 beams which radiated outwards, forming the roof of an ambulatory that might have once surrounded the lower part of the Tower.

The jutting column-tops and haphazardly constructed arches led me to believe there was a two foot tall "pseudo-entablature" that circled the building and upon which 8 Corinthian pilasters seemed to rest. I say "seemed" because the "pseudo-entablature" and "pseudo-columns" were made from long boards of wood about 2 to 3 inches thick. They would have been faux-painted with fluting (channels) and fillets (moldings). Indeed, the entire exterior of the Tower had the look of harmonious classical architecture

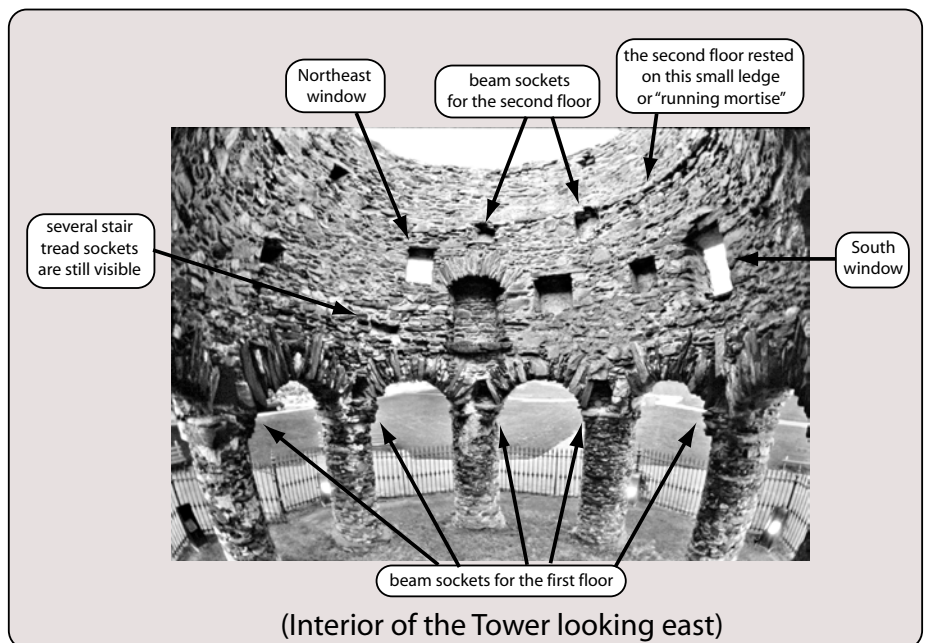
Atop the 8 Corinthian columns was another "fake-entablature" that was 4 feet tall. On top of this rested a gold dome. This dome was fake too, in the sense that it was not literally made from gold. It was from stone and mortar corbelled into a hemisphere, plastered, and painted a golden color.

(An apparent inconsistency with my reconstruction is that the "fake pillars" or pilasters would cover some of the windows of the Tower. The reason for this will become clear after I explain what John Dee wanted to express with the Tower.)

### *Interior of the Tower*

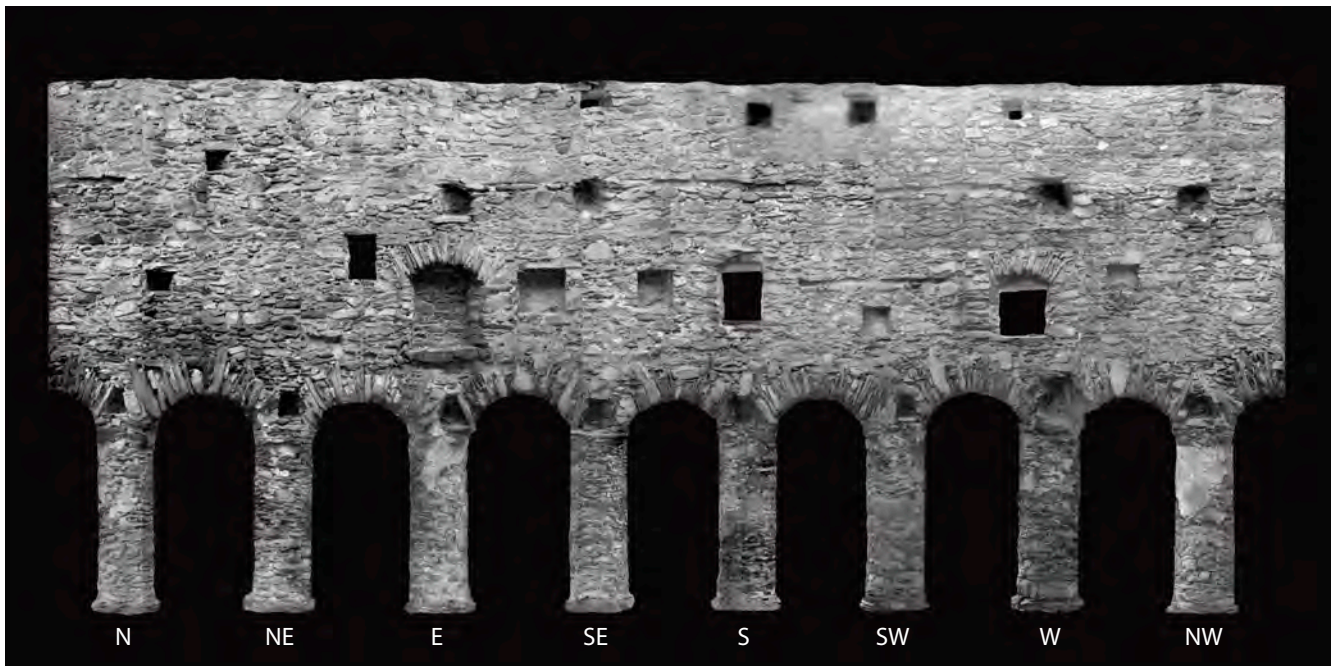
Now for our virtual tour of the interior of the Tower. It's hard to capture all the features of the interior in one photograph, but by comparing these three viewpoints you can get a pretty good feel for it.

Here is an interior view looking east. The fireplace is above the east pillar. Just above it and to the left a bit is the "Northeast window." The "South window" is almost above the south pillar. This picture is taken from the sill of the West window. (All of these windows (the three largest in the tower) are in the first floor room.





Here is a “photogrammetric view” of the interior of the Tower. To get this perspective, I composited 40 photos of the interior, each taken “flat-on.” I’ve marked the pillars according to their orientation. Note that the right edge of the photo (northwest pillar) mates up with the left edge of the photo (north pillar.)



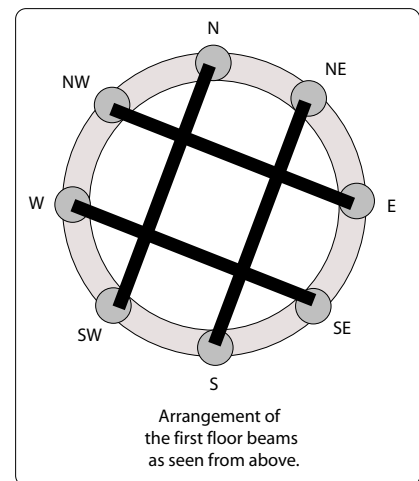
Photogrammetric composite of the interior of the Tower

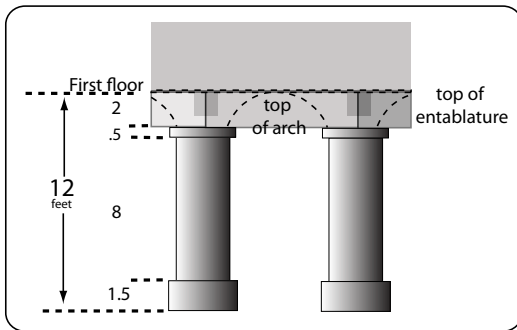
It is evident from the orientation of the sockets that the four beams crisscrossed in this manner. Judging from the dimensions of the sockets, these timbers were at least 1 foot by 1 foot thick and they most likely had mortises cut out of them, so they overlapped like Lincoln Logs.

It might seem as though the strength of the beams would be jeopardized by cutting chunks out of each of them where they overlap. But, the benefits of making a solid grid that interconnected and stabilized all the pillars far outweighed any loss of strength. Besides, those juncture points were most likely drilled and pegged together, making them very strong.

Nailed on top of this matrix of beams would be a sub-floor of wooden boards about 1 to 1 ½ inches thick. Nailed on top of that would be the actual floor, made of the same thickness boards. (The boards of the sub-floor and floor would run parallel, with the upper floorboards covering the long gaps between the boards of the sub floor.)

With the beams and about 3 inches of flooring boards, this puts the first floor level at about 12 feet above the original ground level.





This means that there are 3 things that are 12 feet above ground level:

- 1) the apex of the arch
- 2) the top of the entablature (outside the Tower)
- 3) the first floor (inside the Tower)

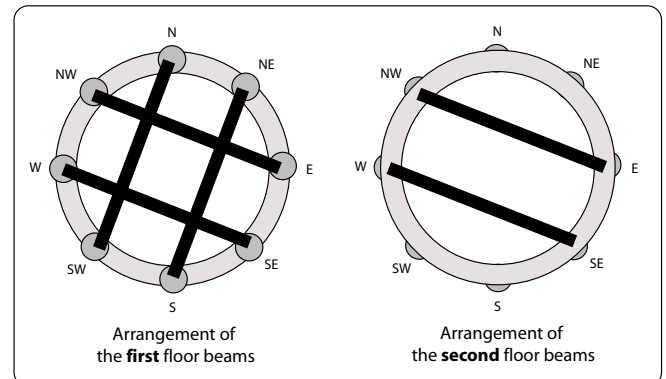
### *What was the height of the second floor?*

With all this “twelveness,” one might expect the second floor to be 12 feet above the first floor. But it’s not. It’s 10 feet above the first floor. There’s lots of evidence that it existed and that it was as solid as the first floor.

The second floor beam sockets can still be seen today. One is just above the fireplace, another is about 8 ½ feet to the right of it. And there’s a matching pair on the other side of the interior, (one approximately above the west window and another 8 ½ feet to its right.)

Thus, only 2 large beams (at least 1 foot by 1 foot thick) supported the second floor (as opposed to the grid of 4 on the first floor.) As you can see from the socket alignments, the two second floor beams ran parallel to 2 of those 4 first floor beams. (These beam sockets are clearly different from the four rectangular niches that are in the wall of the first floor room.)

Having only 2 beams on the second floor “lightens the load” on the upper tower, but also allows room to accommodate a stairwell.



close-up view of the “running mortise” on the southeast part of the interior

The sub-floor and floor which rested on the second floor beams were also supported by a small ledge that is still clearly visible today around most of the inside of the cylinder.

Means cites John Howland Rowe’s 1938 report that the impressions of planks “**roughly 16 inches wide**” **could be seen on the “running mortise.”** (Running means that it is continuous and mortise means that it is “cut out” or “recessed.”)

(Means, p. 14 and Rowe Report, p. 7, 11, 13)



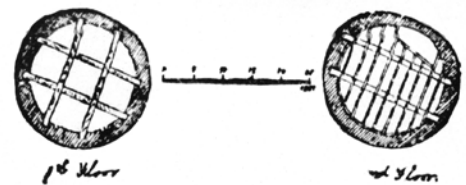
Looking west, the two other beam sockets and the "running mortise" are clearly visible

Means adds:  
**"If this is correct the second floor must have been even more massive and solid than the first floor. One wonders why. Such strength would not be required there if the tower were built as a windmill."**

(Means, p. 14)

Here is an illustration of these two floors from Mason's 1879 article entitled, "*The Old Stone Mill at Newport, Construction versus Theory.*"

Note that Rowe shows a hole in the second floor to allow for people walking up the steps to pass through. He indicates secondary cross-beams in his drawing, but there is no evidence of small sockets around the running mortise.



George Champlin Mason's 1879 construction of the first and second floors of the Tower

opening in floor to accomodate stairwell



the stairway from the first floor to the second floor curved along the northern interior wall

There is clear evidence that a wooden stairway once connected these two floors. Mason, reports **"marks left by the treads of the stairs"** could be seen in the wall. Rowe says that these step-sockets held planks that were 3 to 5 inches thick. Most of the treads were 10 inches wide, with 10 inch risers. Some of the lower stair-sockets can still be seen to-day, though the upper ones are no longer visible. (Means, p. 15)

I think the stairs wrapped further around the northern wall than Mason indicates, with the last step being on one of those solid 1-foot by 1-foot second floor beams. Connecting to this beam would help stabilize the entire left hand side of the stairway, which must have had some kind of vertical support for each of the heavy steps.

(G.C. Mason, *The Magazine of American History*, pp. 541-549, 1879)

### ***The third floor room or the "dome room"***

As the first floor is 12 feet above the original ground level and this second floor 10 feet higher, this puts it 22 feet above ground level. Tower height today is about 26½ feet above ground, so only about 4½ feet of the wall of this second floor room remains today.

Means discusses the extant height of the tower:

**“We may safely believe, however, that the wall was at least two or three feet higher than it is at present. Such additional height would give ample head-room to the upper chamber, and that head-room would be substantially increased if, as we may be almost certain, the wooden roof had a conical form.”**

(Means, p. 16)

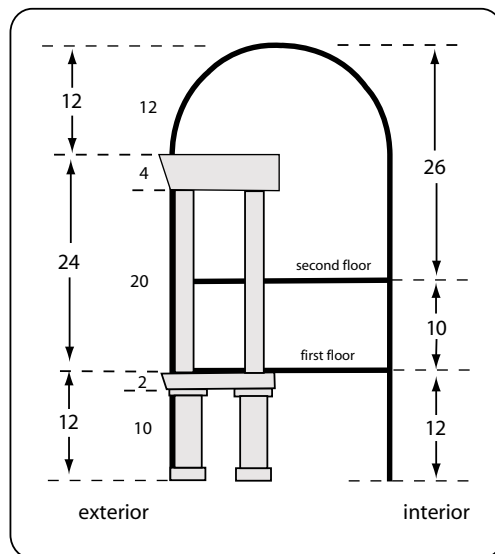
While I disagree with Means regarding the shape of the roof and the height of the tower, it's worth noting that he visualized a taller tower as well.

My conjecture is that there was 9 ½ more feet of cylinder above the present 26 ½ foot level, making 36 feet.

When the 12 foot dome is added, that makes 48. So Means and I only disagree by about 7 feet. That's not much over the course of a 48 foot tower.

However, all this would mean that the upper, second floor chamber would be 26 feet tall! That would be one big belfry. And it would also be a waste of useful space.

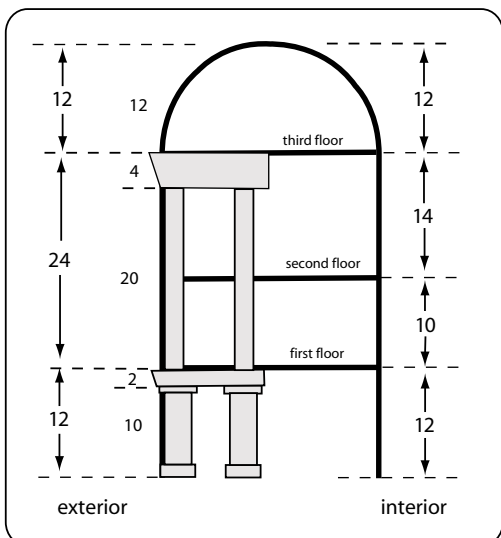
**Instead, I envision  
that there was a third floor!**



The question then becomes, at what height would Dee have placed this third floor?

One possibility is that the third floor was 14 feet above the second floor, leaving a perfectly hemispherical 12-foot tall dome room at the top. Such a design plan would relate nicely with the proportions of the features on the exterior of the building. But there are several practical problems with this plan.

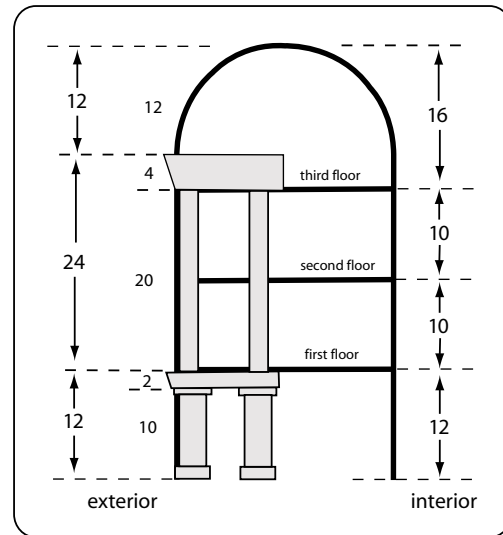
To access the dome room would require another curved stairway. Not only would this stairway have to be 1.4 times longer than the lower stairway, but when one entered the dome room he would bump his head (ouch) on the lower, arching part of the dome (especially if these spaces were dark.)



In other words, the first floor room and the second floor rooms were like twins, both 10 feet high and each containing stairways of the same height.

In most buildings, the typical architectural plan is for stairways to be put above other stairways. But the tower is not your typical building. It's as much a "symbol" as it is a "structure."

I think the stairs in the second floor room wrapped along the southern interior wall (as opposed to the first-floor stairs which wrapped along the northern interior wall.) Thus, the 2 stairways would form a continuous spiral up to the dome room.



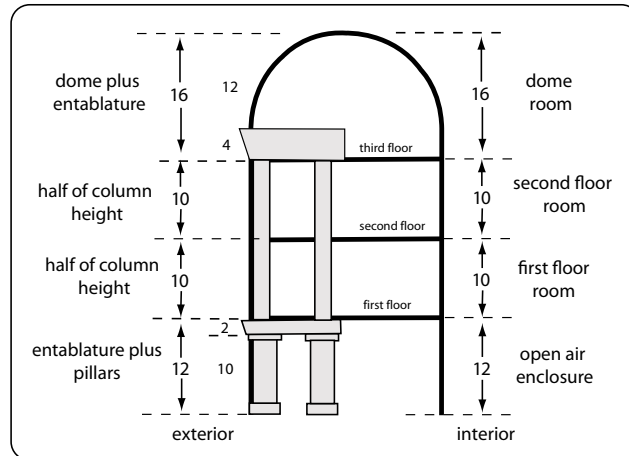
In my conjectured reconstruction, there are correspondences between the levels of the floor on the interior and parts of the architectural features on the exterior of the Tower.

The first floor aligns with the top of the pillar entablature.

The second floor aligns with the midpoint of the pilasters or fake columns.

The third floor aligns with the tip of the pilasters or the bottom of the pilaster entablature.

Important  
architectural  
features on  
the exterior...



...correspond  
with the floor levels  
on the interior.

At this point, you might feel that my reconstruction is highly conjectural. That's OK. Indeed I have put the cart way before the horse.

My rationale will become clearer as we explore John Dee's mathematical cosmography. But as we journey down this road I wanted you to be able to envision the possibility of the Tower as clean, classical, colorful architecture rather than the stony, drab, skeleton-of-its-former-self that we see today.



## *The Windows*

Seven openings in the tower walls are still visible today. Three of these are considered windows. They are quite large and are splayed, suggesting they once had wooden frames and shutters. The other 4 are merely small peepholes.

All three windows are in the first floor room. The smallest of the three, just to the left of the fireplace, I call the “**Northeast**” window because of its orientation. It is about 2½ feet tall by 2 feet wide and its sill is 6 feet above the level of the first floor.

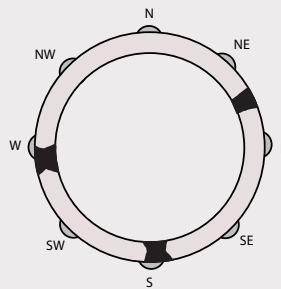
The “**South**” window (though it’s off a few degrees from facing exactly due south) is squarish, about 2½ feet tall by 2½ feet wide. On its sill are several drill marks which, over the years, have weathered to look more like cup marks. This sill is about 4 feet above the level of the first floor.

The “**West**” window (which again is a few degrees from facing exactly due west) is the largest of the three windows. It is about 2½ feet tall by 3 feet wide. And it’s only about 2½ feet above the first floor (not a very convenient height for looking out of.)



Drill marks on the sill  
of the South window

West  
window



Northeast  
window



South  
window

Unlike the other two windows, the West window has a relieving arch to help keep the weight off the center of the thick slate lintel on top of the opening. (This arch can be seen both on the interior and on the exterior of the building. Again, it was most likely covered with plaster and thus was probably more structural than decorative.)

John Howard Rowe discusses the Northeast, South, and West windows in his 1938 report:

**The three doubly splayed windows on the first floor  
form a very interesting series in some respects ...  
Their splays increase as you go clockwise;  
they are also set progressively lower in the wall in the same direction ...**

**Mason calls the positions of these windows “irrational,”  
and this is true, in the sense that they are not equally spaced,  
nor of the same size, nor centred over the columns.  
They are not unreasonably placed, however,  
for these largest windows are on the three sunny sides of the tower.**

(Rowe, p. 10-11, in Means, p. 10)

The fourth opening in the first floor room is the “north peephole” which is only about 1 foot tall by 1 foot wide, and is about 5 feet above the first-floor level. (This puts it below the stairwell that spirals up to the second floor.)

The second floor room only has 3 small peepholes (though it may have had more, as only about 5 feet of the 10-foot-tall room exists today. They are each about 3 to 4 feet above the level of the second floor.

### ***The Niches***

In addition to the windows, there are 7 niches or shallow recesses built into the interior walls, 5 in the first floor room and 2 in the second floor room.

The largest is just to the right of the fireplace. It is about 25” tall by 30” wide by 16” deep, and has a large brown lintel stone above it.

Right next to it is a slightly smaller niche measuring about 18” tall by 20” wide by 10” deep. Means reports seeing traces of wood in the plaster of this niche, suggesting the very rectangular shape was achieved constructing the masonry around a box mold. (Means, p. 11)



Two niches on the interior of the Southeast wall

Rowe, in his 1938 report, suggests the box frames might have had wooden doors attached to their edges, making them recessed cupboards. Others have suggested the niches were left open and held small statues, instruments, or books.

On the interior wall, between the south and west windows, is a niche about 24" tall by 18" wide by 12" deep. It's very low, only about 3 feet from the floor. Above it, about 5 feet off the floor, is a horizontal niche about 7 feet long by only 4 inches high. Means calls it a "horizontal slot" rather than a niche because its ends are not as recessed as its midsection. Rowe suggests the slot was a support for a "wall table of some kind" and that the lower niche was a secret hidden cupboard.

Five-feet tall is rather high for a table, but it could have sloped downwards to about 3 ½ feet making a wide architect's deck that one could work at while standing.



Along the south wall is a long horizontal niche with square niche below it.

The final first-floor niche is located to the right of the West window and is about 16" tall by 18" wide by 12" deep.



Niche near the West window



Two niches in the second floor room

On the second floor are two "twin niches" that are only 5 feet apart from each other on the southern interior wall. They are each approximately 18" tall by 24" wide by 9" deep, and are only about 3 feet above the second floor level.



## The Fireplace

This brings us to what Means calls “**the strangest extant feature of the tower, the fireplace**” which is on the eastern interior wall. Its opening is about 3 feet wide by 4 feet tall and it is recessed into the thick wall about 2 feet.

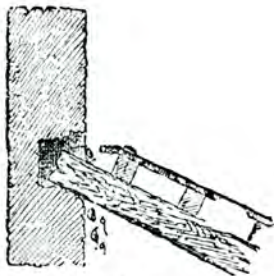
The top of the fireplace has a flattish arch made from flat stones. From an engineering standpoint, the arch is important because, just above it, is the beam socket for one of the massive 1-foot-by-1 foot beams that supported the second floor.

But architecturally, the arch seems odd because the left-hand side of the arch (where all the outward thrust would be) only about 6 inches from the northeast window. This would provide very little support, right where it was needed.

The fireplace has a solid hearthstone that is about 6 inches thick and is wider than the fireplace opening. Many researchers have presumed that this hearth indicated the level of the first floor, as typically fireplaces are at floor level. But the Tower is not your typical building.



The unusual fireplace is



*Sketch of a raised floor*

Mason thought the floor was raised up from the grid of beams

George Champlin Mason, writing in 1879, conjectured that there might have been another course of beams resting on the eight criss-crossing beams. However, the hearthstone of the fireplace is about 2 feet above the top of the level of the eight beams, suggesting a lot more sub-floor woodwork would be required. (Mason 1879, in Means, p. 11 – 13)

It's more likely is that that the floor sat directly on the eight beams and the **fireplace was a wall-fireplace**, as unusual as this might seem.



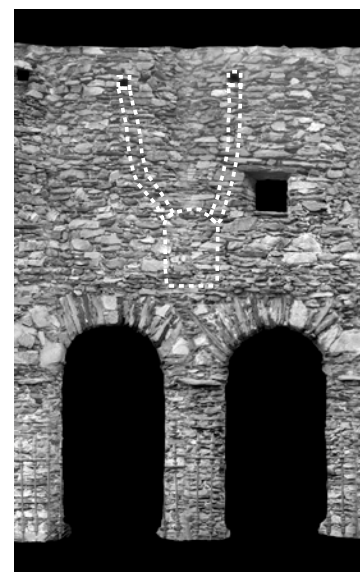
I think the floor sat directly on the beams, at the same height as the tops of the arches (12 feet above ground level)



Interior of the Tower, showing where the 2 flues run through the middle of the thick wall

Another curious feature of the fireplace is the design of the ventilation system. The arch acts like a hood, but instead of having a large, single flue, there are two smaller flues that rise from the back corners. Each flue is about 7 inches by 7 inches and rises about 7 feet in the middle of the thick wall.

They exit on the exterior through two 7-inch square holes that can still be seen today. These ventholes are about 6 feet apart, indicating that the flues in the wall are not vertical but curve north and south. The “southern” flue actually curves much more than the “northern” flue. Perhaps two flues were used to steer clear of the beam socket above the fireplace. But then why didn’t the builders simply run these two second floor beams in a different place?



Exterior view of Tower showing the 2 flue venting holes

Means summarizes it well:

**“This carefully planned heating-plant is the most astonishing extant feature of the so-called Old Stone Mill.”**

(Means, p. 12)

### ***How does someone get from the ground level to the first floor?***

An obvious question remains: How did people get from ground level into the Tower? Godfrey’s excavation found no evidence of a stairwell.

Some have suggested the West window was the entry, but anyone who has ever climbed through a window will tell you it’s not gracefully done. If a ladder was used, it would have to be 14 to 16 feet tall. If it was kept outside, anyone could gain entry to the Tower. On the other hand, a ladder rather cumbersome to haul up and store in room that is only 10-feet tall and 18-feet wide. Ponder this problem and we’ll return to it later.

### ***The roundness of the Tower***

When photographed from most places in Touro Park, the Tower looks “squarish.” And because the it’s surrounded by houses, you can no longer see Newport Harbor from the park.

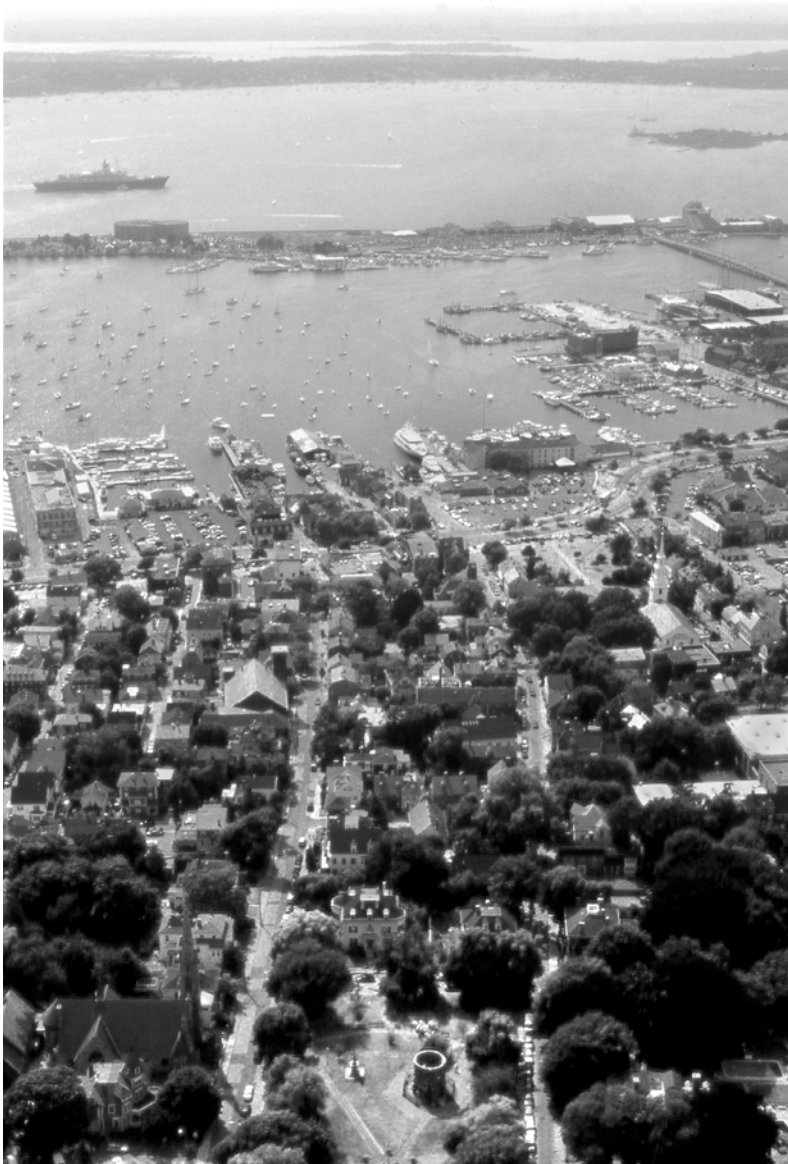
It’s only when viewed from above, that the Tower’s roundness is striking. It’s circularity and proximity to Narragansett Bay are **really** apparent from a helicopter.



(View from the steeple of the Channing Memorial Church)



view of the top of the Tower



# VARIOUS THEORIES ABOUT WHO BUILT THE TOWER

## *The Benedict Arnold Theory: The Old Stone Mill*

The tradition that the Tower was a mill starts with Governor Benedict Arnold's own words. On December 24, 1677 "Subject to Weakness and Infirmities" he wrote his last will and testament. (His actual will is at the John Carter Brown Library in Providence.)

(One might think he chose this day as it is Christmas eve, but the early colonial settlers did not celebrate Christmas. Curiously however, Arnold's 62nd birthday was two days earlier, on December 22.)

On the very first page of his will he writes:

**...My body, I desire and appoint to be Buried \* at the NorthEast Corner\*  
of a parcel of Ground Containing three rodd Square,\*  
being of and lying in my Land in or Near ye Lyne or Path  
from my Dwelling House leading to my stone-built Wind-Mill'n  
in ye Towne of Newport above mentioned.\***

**The middle or center of which said three rodd square of ground  
is and shall be the Tomb already erected over  
the Grave of my GrandChild Damaris Goulding,  
there buried on the 14th day of August 1677.\***

(Benedict Arnold's Will, John Carter Brown Library, p. 1)





The Arnold Family Burial Ground can still be visited today, halfway up the hill of Pelham Street, surrounded by stately mansions. A rod is 5½ yards or 16½ feet, and this 3 rod square plot is still 49½ feet by 49½ feet square. Arnold's house, which was torn down in the early 1900's, was located about 100 feet west of Thames street, between Pelham and Mill Street (up a small rise). The tower, the cemetery, and the house are in a straight line which runs approximately east-west.

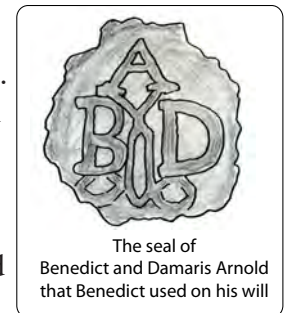


Arnold's word "**miln**" (or "milln") was the Early English word "mylne," which later morphed into mill. (In French it became Moulin, as in the famous Parisian cabaret, the "Moulin Rouge" or the "Red Windmill.") (The etymology of "mylne" is similar to that of the word "kilne," a furnace or oven, which in some parts of England became kill, but we still say kiln.)

Curiously, there are 5 asterisks scattered about this particular sentence. This is the only place in his lengthy 10-page document that has placed asterisks.

Benedict's signature can be found at the bottom of each page along with the red wax of his family seal. The seal has three initials: a "B" and "D" for Benedict and his wife Damaris with an "A" above and between them both.

Comparing the handwriting the text and his signature, it's evident that Benedict didn't actually pen the will himself. Because the asterisks are jammed between words and even overlapping letters, they appear to have been added after the will was written. Whether Benedict added them while proofreading the will is not known, but it's clear he wanted to emphasize this important sentence.



On page 3 of his will, he refers to it again, this time with a slightly different spelling:

**"my Stone Built Wind-mil'n ..."**

Benedict also had referred to the "mill" in the death record for his granddaughter Damaris Goulding, who died when she was only 2 years old on July 13, 1677:

**"then dyed and lyeth interred under a tombe in my land  
between my dwelling house and stone wind mill."**

(Means, p. 20)

The "mill" was also referred to in the deed for a Jewish cemetery (or Beth Chayim) dated February 28, 1677. In describing the boundary of the cemetery land sold by barrel maker Nathaniel Dickens to Mordecai Campanal and Moses Pacheco for use of the "Jews and their Nation Society or Friends" it is called "**ye Stone Mill.**" (Gutstein, 1936, pp. 37-8, Means, p. 19)

Benedict and Damaris' youngest daughter, Freelove, married Edward Pelham in 1682. In Pelham's will, he left the "Old Stone Wind Mill" to their daughter Hermione, the wife of John Bannister. (Even today the wharf downhill from Pelham Street is called Bannister's wharf.)

Means summarizes the rest of the history this way:

**“1755-64** In this period, according to the (testimony of) Joseph Mumford, the building was being used as a powder mill or more probably as a **powder magazine**.

**1764** At about this time the tower was being used by (Mumford’s father to store hay.) At that time it had a circular roof which could be turned, windmill-wise, with the aid of a yoke of oxen. At that period there was also a floor above the arches of the tower. In his youth Mumford Junior and his playmates frequently found gunpowder in the crevices, sometimes two or three pounds at a time.

**1767 John Bannister**, having apparently inherited the property from his wife, Hermione, daughter of Edward Pelham, devised it to his sons, John and Thomas.

**1770-75** This is the date of a painting showing the tower two or three feet higher than it is now. (The work has been attributed to Gilbert Stuart, but this is doubtful, as it is not done in his characteristic style.)

**1775-80** In this period the structure was being used by the British as an **ammunition magazine**. On leaving Newport, according to what Governor Gibbs told Lossing, they tried in vain to blow up the building with gunpowder, but succeeded only in blowing off the top 2 or 3 feet.

**1791** The property was conveyed to William Peck.

**1794** William Peck conveyed the property to Jeremiah Olney.

**1799** Jeremiah Olney conveyed the property to George Gibbs, Jr.

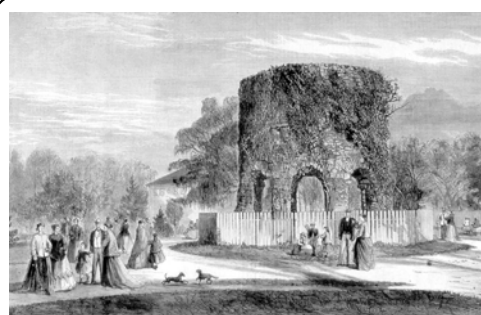
**1808-48** The building and its land were the property of **Governor William C. Gibbs** whose fine old mansion stands just to the north, across Mill Street.

**1854** Touro Park was founded through the generosity of a \$10,000 gift by **Judah Touro**, a descendant of the founder of Touro Synagogue.

**1854-78 The Viny Period.** Vines grow up all over the tower.

**1878-today** “The Old Stone Mill or Newport Tower – a public curiosity and cherished monument.”

(Means, pp. 21-25)



Tower in its “Viny Period” in the late 1800’s  
(Harper’s Weekly Magazine, Aug. 24 1867)



Sign next to the Tower in the late 1900’s which highlights Benedict Arnold Theory and Viking Theory

## *No, not that Benedict Arnold!*

The early Colonial history of Southern New England might be broadly summarized this way:

- 1620 Pilgrims settle in Plymouth
- 1626 Salem settled
- 1630 Puritans settle Boston
- 1636 Roger Williams founds Providence
- 1637 Anne and William Hutchinson, William Coddington, John Clarke, and others settle in Portsmouth on the northern tip of Aquidneck Island
- 1638 Coddington, Clarke, and others move to Newport with its beautiful natural harbor, on the southern tip of the island
- 1663 King Charles II grants royal charter to Rhode Island, appointing Benedict Arnold as the first Governor
- (1678 Governor Benedict Arnold dies)
- 1776 Declaration of Independence
- 1775-1783 Revolutionary War
- 1787 United States Constitution

**Traitor!** This is the word that pops into the minds of most people when they hear the name Benedict Arnold. Ingrained as this association might be, it's important to think of Governor Benedict Arnold and the Revolutionary War Traitor Benedict Arnold as two distinctly different men.

Yes, they have the same name.

Yes, they are related.

Yes, the Traitor got his name from the Governor.

Yes, he was his great – great – great grandson.

But they lived a century apart!

If your child's, child's, child's son or daughter does something notorious in the next century, around 2110, should you be held responsible?

To distinguish between the two, I perhaps could always use the term "Governor Benedict Arnold." But he didn't become Governor until he was 48. Prior to that he was simply **Benedict Arnold** So this is the name I will frequently utilize in this text, and you, the reader, must make the mental adjustment. (It's still challenging for me, after years of researching him.)

## ***Easton's Windmill is destroyed by a hurricane***

In short, there is a lot of written evidence that the tower was Benedict's Windmill, built at least before 1677.

Documentation shows that a fierce hurricane hit Newport on August 28, 1675 and destroyed the only windmill in town. Peter Easton's wooden windmill was located near what is now Easton's Beach or First Beach. Easton noted on his calendar diary that it was the first windmill in Newport when it was built in 1663.

Historians have conjectured that the wealthy Governor Arnold built the mill for his fellow Newporters after the storm of 1675. But 1675-1676 were tumultuous years in Southern New England – the time of King Philip's war – hardly a time for a massive building project.

Means makes another point:

**“But to imagine a leap, without any transition step,  
from a flimsy wooden scaffold mill  
(such as we may reasonably suppose Peter Easton's windmill to have been)  
to a monumental stone building with eight columns and arches  
and having two floors, a fireplace with two flues, and several doubly-splayed windows,  
is something which no person of common sense can do.”**

(Means, p. 166)

Furthermore, windmills and fireplaces don't go together very well. The dust created by the grinding process is prone to spontaneous combustion. Boom.

## ***The Chesterton Windmill***

Defenders of the Arnold Windmill Theory have pointed to the Chesterton Windmill in Warwickshire England as a prototype for the Newport Tower. It does look similar, being cylindrical and having a pillared arcade. However, the Chesterton Windmill has 6 square pillars, where the Newport Tower has 8 round ones. Its arches are 24 feet above ground level, where the Newport Tower's arches are only 12 feet up. And it doesn't have a fireplace.

## ***The Medieval Viking Theory***

In 1829, Charles Christian Rafn, secretary of the Royal Society of Northern Antiquities in Copenhagen, was preparing a 500-page book on Norse voyages to Vinland in the 1100's. Rafn had determined that Vinland was New England, so he wrote inquiry letters to Massachusetts and RI Historical Societies.

Over the next few years Thomas Webb, secretary of the Rhode Island Historical Society obliged by sending Rafn pictures and descriptions of Dighton Rock, a 40-ton boulder originally located on the bank of the Taunton River between Fall River and Taunton. The numerous inscriptions on the flat face of the rock have been interpreted as either being made by local Indians or early Portuguese explorers.



But Rafn, who never personally saw the inscriptions, was convinced they were Norse and devoted 42 pages to deciphering it in his 526-page *Antiquitates Americanae* (in 1837). He proposed America was discovered by the Scandinavians around 950 AD.

(Johs. Hertz, *Round Church or Windmill*, pp. 55-56)

Webb had also sent Rafn details about a human skeleton found in a Fall River sand bank in 1832. It had a brass breast plate about 13 inches long by 6 inches wide, a belt made from brass tubes stitched together with sinew, and copper arrowheads. Modern scholars have identified it as a Native American wearing English trade-goods, but Rafn believed it to be more evidence that he had located Vinland. (Means, p. 52)

In 1838, Webb informed Rafn about “The Old Stone Mill” and sent him sketches of it by a noted archeologist named Frederick Catherwood. In his 1841 book *Account of an Ancient Structure in Newport, Rhode-Island, the Vinland of the Scandinavians*, Rafn concludes that the Tower was a baptistery built by Eric Gnupsson, a Norse adventurer who was the Bishop of Greenland around 1120.

Henry Wadsworth Longfellow had met Rafn in 1835 and even joined his Royal Society of Northern Antiquities. One day while horseback riding on the beach in Newport he came up with the idea of writing a poem combining the skeleton and the tower.

(Johs. Hertz, *Round Church or Windmill*, p. 62)

His 1841 “The Skeleton in Armor” is the tale of a Viking sailor who asks his lover’s father for her hand in marriage. The father rebuked and insulted him. So the bold Viking kidnapped her. With the father and 20 horsemen in hot pursuit, the lovers leaped aboard his awaiting ship and made their escape across the high seas:

**Three weeks we westward bore  
And when the storm was o’er,  
Cloud-like we saw the shore  
Stretching to leeward;**

**There for my lady’s bower  
Built I the lofty tower  
Which, to this very hour,  
Stands looking seaward.**

(Longfellow, “Skeleton in Armor,”  
*The Poetical Works*, Vol I.)

[a bower is a rustic cottage]

Rafn’s was partially proven correct when the Norwegian archeologists Stine and Helge Ingstad uncovered a Norse settlement at L’Anse aux Meadows in northern Newfoundland, but no evidence has been found that the Vikings settled in southern New England.

Rafn’s ideas (fueled by Longfellow’s famous poem) inspired in the names these modern-day institutions around Newport: Hotel Viking, Viking Automotive, Viking Cleaners, Newport Vikings Pop Warner Football Team, even the Viking Tuxedo Company.

## ***Round Churches of Europe Theory***

In his book, Means reviews 26 round churches that returning Crusaders built in the 1100's. Their inspiration was the Church of the Holy Sepulchre in the heart of Jerusalem. Means even visited many of the round churches that still exist in Denmark, Sweden, Netherlands, Spain, Portugal, France, Germany, and Italy. He cites Sir William St. John Hope's 1918 account of 14 known round churches in England. Of these, only four are still fully intact and have active congregations.

### **1. London – The New Temple Church (South of the Strand)**



Amid a cluster of courtyards that form the Inner and Middle Temples where law students have been trained for centuries is the circular New Temple Church. The name Temple comes from the Knights of the Temple of Solomon or Knights Templar, who built this church in 1185. A statue of two knights on horseback sits atop a column in the courtyard

On the floor of the church are marble effigies of famous knights. But the nave is almost twice as wide as the Newport Tower and only has 6 pillars.

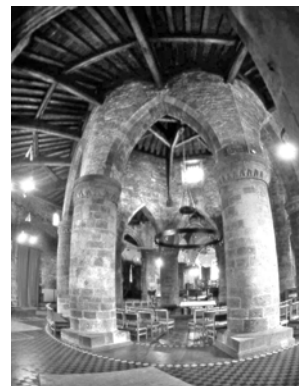


### **2. Little Maplestead, Essex, The Church at Little Maplestead**

About 40 miles northeast of London in the rolling countryside of Essex is this quaint historic church. The circular nave has six pillars and is smaller in diameter than the Newport Tower.

### **3. Northampton – The Church of the Holy Sepulchre**

The large octagonal nave of this church has eight columns. The distance between opposite columns is 32 feet as opposed to 18½ feet in the Newport Tower. Above the columns and their arches the walls are octagonal, not round like the Newport Tower.





#### 4. Cambridge – Church of the Holy Sepulchre (located on Bridge Street just opposite St. John’s College.)



In 1921, Dr. F. J. Allen wrote a small book entitled *The Ruined Mill, or Round Church of the Norsemen, at Newport, Rhode Island, USA compared with the Round Church at Cambridge in Europe.*

Allen, who lived in Cambridge (England) most of his life, visited Newport in 1880 and was fascinated by the “old mill.” He was struck by its similarity “in form and dimension” with the Round Church of the Holy Sepulchre. He was impressed at the skill with which the builders, using only unhewn stones, had managed to imitate the contour of the Norman column, its shaft, base, and capitol. (Allen, p. 93)

Means, following Allen, writes:

**“The Newport Tower is unique  
in the Western Hemisphere  
and only one old building in the world  
today resembles it closely.”**

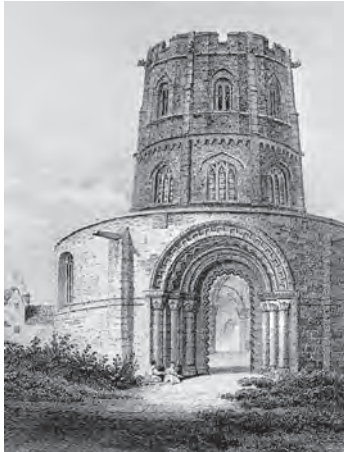
(Philip Means, *Riddle of the Newport Tower*, p.4)

He is referring to the Church of the Holy Sepulchre in Cambridge, often simply called the Round Church of Cambridge. (Means, *Riddle*, p. 4)

The eight columns form a ring 19½ feet in diameter. This is close to the Newport Tower’s 18½ foot diameter. But the columns are ashlar (finished to a smooth surface) where in the Newport Tower they are rough stonework.

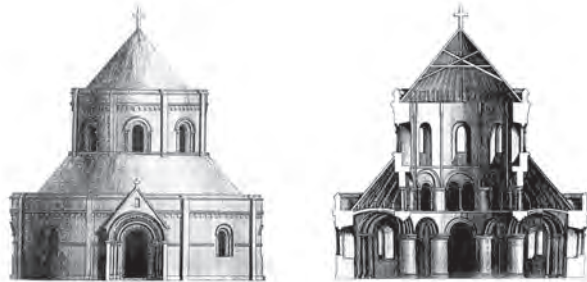


Over the columns are round arches, as in Newport. Above the columns are another set of short columns in the triforium, and further up are eight arched windows in the clerestory. The Newport Tower doesn't have either of these features.



John Britton's engraving of the church in its a Gothic phase from the 1600's to the 1800's

Over the years the exterior of the church has undergone major face-lifts outside. In the 1600's it was given a Gothic treatment, and in the 1800's it was restored to its present condition.



John Britton's 1837 depiction of what the Church of the Holy Sepulchre, Cambridge might have originally looked like

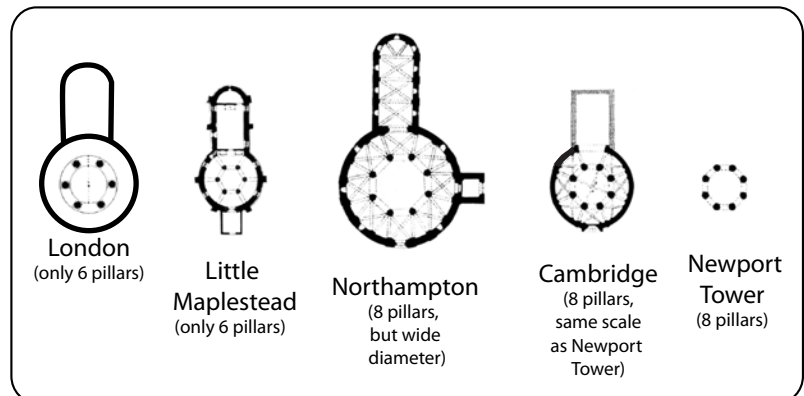
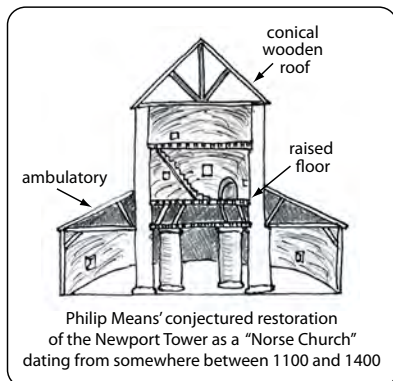


John Britton's 1837 engravings of front doorway (showing columns inside), the groundplan, and an interior view of the of the Church of the Holy Sepulchre, Cambridge, England



This summary shows the similarities between the church in Cambridge and the Tower in Newport

However, none of the round churches of England appear to have had floors above the columns or the window treatment seen in the Newport tower. The four existing churches all have ambulatories around the outside of the columns. These ambulatories have walls made from stone and are roofed.



Means explains how Newport Tower might have looked “as a Norse round church of the 12th to 14th centuries, complete with an ambulatory and an awkwardly raised floor. (Means, pp.141 and 297)

However, the Newport Tower never had ambulatory. Both Godfrey’s excavation and recent ground scans have failed to find any remnants of one.

In his 300-page book, Means painstakingly explored these three main theories:

- 1) Viking baptistery
- 2) Benedict Arnold’s Windmill
- 3) Crusader Round Church

But in the end, he was still baffled.

As a final conclusion, he writes:

**The circular arcaded tower at Newport continues to be the most enigmatic and puzzling single building in the United States, a building which may hold the buried key to the early Christian history of the Western Hemisphere.**

**Until the excavation is done we shall never really know for sure by whom it was built ... or when ... or why ...”**

(Means, *Newport Tower*, p. 303)

### *Godfrey's Excavation*

That excavation was finally done six years later, in 1948. William S. Godfrey Jr. led a team from Harvard that dug inside the tower, around the columns, and made a long trench south-east of the tower.

Godfrey unearthed hundreds of colonial artifacts like rusty nails, pieces of pottery and clay pipe stems, but found neither postholes nor Norse artifacts.

Digging carefully at the lowest level, under a flat rock he found what appeared to be the imprint of a boot. It “appeared to be about size eight, with a large, square heel and a rather broad toe.” He felt it was the impression made from the shoe of a colonial workman.

Godfrey concluded the Tower was Benedict Arnold’s **“summer-house or folly ... built as a comfortable retreat and lookout for a very rich and very autocratic old man.”** (Godfrey, p. 129)

A folly is a “costly ornamental building with no practical purpose.” Regardless of how wealthy or politically successful Benedict Arnold was, colonial settlers had enough trouble building functional infrastructure without wasting time, money, and energy on ornamental buildings.

Godfrey suggests the tower was converted into a “windmill for grinding corn” during Arnold’s lifetime, and this is why he referred to it as his “Stone Built Windmill” in his will.

In 1954, Arlington H. Mallery, an engineer from Ohio, excavated near several columns. He concluded that the colonial artifacts around the foundation were there because in colonial times the columns had been underpinned, meaning that new supports were inserted under each column. Mallery concluded that “The Stone superstructure of the tower was built prior to the colonial era and was probably pre-Columbian.” (before 1492)

In the 1970’s, Dr. Manuel Luciano da Silva, in his book *Portuguese Pilgrims and Dighton Rock* writes that the Newport Tower closely resembles the Rotunda of a Templar Monastery in Tomar, Portugal.

### *Modern Test of Norse Theory*

In 1992, Jørgen Siemonsen, Chairman of the Committee for Research on Norse Activities in North America AD 1000-1500 performed a carbon-14 test on the tower’s mortar to determine its age. Hönge Junger and his team of scientists used a ½ inch bit to drill 10 small holes in the mortar at various places on the tower. They drilled in about 7 to 12 inches and took samples from various depths. Back at the radioactive-carbon dating lab, the samples were tested at the radioactive carbon dating lab at the University of Helsinki. (Johannes Herz, p.96)

In a press conference held at the Tower on September 22, 1993, Jørgen Siemonsen reported that it had been constructed between 1500 and 1630, with an uncertainty range of 50 years. Here is an excerpt from New York Times reporter Tracy Breton’s article about the press conference entitled “*Tower Built by Vikings? Bubbles Bust a Theory.*”

(New York Times, September 28, 1993)

... Most archeologists and historians contend that the circular, 26-foot Newport Tower was built in the mid-1600's for Rhode Island's first Governor, Benedict Arnold, a great-grandfather of the Revolutionary War traitor. But because it has some similarities to Norse buildings, there was some speculation that it was built by Vikings in the early 11th century.

Last week a Danish businessman, who directs the committee of scientists, released results of a two-year study that he said disproved both theories. At a news conference held at the tower, the Dane, Jorgen D. Siemonsen, announced the panel's conclusion that it was probably built sometime between Columbus's first trip to America in 1492 and the Pilgrims' landing in 1620.

It could have been built any time from 1450 to 1700, he said, "though we can almost with certainty say that it is a post-Columbian tower," built in the 16th or 17th century, most probably in the 17th century. Mr. Siemonsen said these conclusions were based on analyses of the age of the tower's mortar and of the unit of measurement used in building it.

Using technology developed over the last decade at the University of Helsinki, researchers used radiocarbon dating to determine the age of carbon dioxide bubbles locked in 30 mortar samples taken from the tower in January. Each sample weighed about one-third of an ounce.

As a control, mortar samples were also extracted from the Wanton-Lyman-Hazard House, the oldest standing residence in Newport, which is known to have been built between 1676 and 1698 just a few hundred yards away from the tower; the dating system conformed well, Mr. Siemonsen said.

The group also did a computer analysis of photographs to determine what unit of measurement was used in building the tower's windows and pillars. Mr. Siemonsen said the study indicated a unit of measurement called the ell, from Central and Southern Europe, one that was not used then in England. "We would have expected that if they were British colonial builders they would have used the English foot," as was done in constructing the Wanton-Lyman-Hazard House, he said.

The scientific evidence, he said, "brings us to the conclusion that someone built this tower before Rhode Island was settled by the British in 1634."

Another factor in the new dating was the determination that the tower's mortar was made from crushed clam shells instead of limestone. The earliest evidence of limestone's being quarried in Rhode Island was in 1646, Mr. Siemonsen said...

However, Högne Junger analyzed the accumulated data a little differently when he presented findings at the International Conference on Accelerator Mass Spectrometry in May of 1996. He felt some of the early dates weren't statistically reliable, so he averaged only the more recent dates, concluding the tower was built around 1665, plus or minus 48 years either way.

(Junger, in Johannes Herz, pp. 90-97)

Several scientists have challenged the validity of the results. But the Norse enthusiasts seem satisfied that it wasn't a Viking tower from the 1100's and have not returned to do any further testing.

### *Ground scans to find possible foundations in Touro Park*

Judy Foley  
and James P. Whittall  
doing a groundscan in 1993



In 1993, James P. Whittall of the Early Sites Society based in Rowley, Massachusetts performed a ground scan of the western end of Touro Park which indicated there were never any other structures in the park.

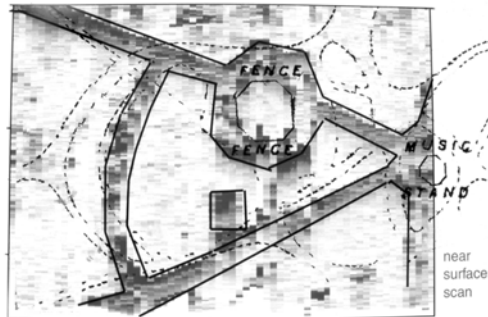
As ground scan technology had improved in the next decade, I felt a clearer picture of this part of the Park might be obtained. I wrote a proposal to the New England Antiquities Research Association and they agreed to fund the project.

Archeologist Dan Welch and his team used Geophysical Survey System's SIR2 radar scanner to get a cross-section picture of the park at five different depths.

In these illustrations, I have overlaid the modern walkways (solid lines) and the older walkways (from around 1895) over Welch's scan results.



Dan Welch and the  
NEARA groundscan  
in April, 2001

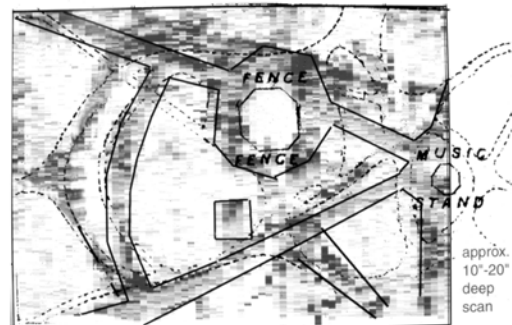


1) The "near surface scan" shows the modern sidewalks and the square area where the statue of Reverend Channing stands.

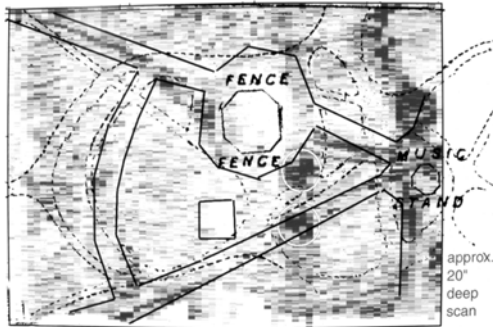
2) In the "approx. 10" to 20" deep scan" the 1895 walkways are evident



postcard showing the old walkways in the park

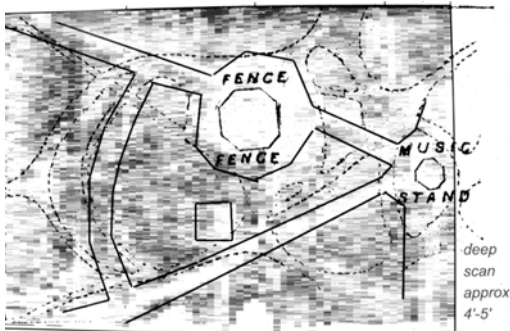
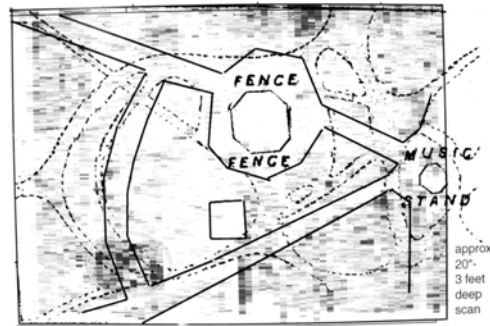






3) The “approx. 20” deep scan” picked up on two anomalies just south of the tower that are each about 15 feet by 15 feet. After looking at John Hopf’s photos of Godfrey’s excavation, it appears that these are the positions of two large piles of screened dirt from the trench that Godfrey dug southeast of the tower.

4) In the “approx. 20” to 3 feet deep scan” picked up on what Dan Welch called the “**most tantalizing evidence.**” In the southwest corner of the park he picked up an anomaly covering an area approximately 20 feet by 30 feet in size.



5) In the “approx. 4 to 5 feet deep scan” not much was visible at all.

The general conclusion, once again, was that no other structure had ever been built in the western end of the Park.

### *The Egan Anomaly*

In 2003, the Chronognostic Research Foundation, led by **Jan and Ron Barstad** of Tempe, Arizona performed a ground scan of Touro Park. In 2006, the Newport City Council granted them permission to excavate in the park, outside the tower fence. They hired the expert team of Providence archeologist Ray Pasquariello and Newport geophysicist Dan Lynch and a crew of enthusiastic excavators. Digging one-meter square test pits about 40 feet from the tower, they found numerous colonial and modern artifacts (a set of car keys) but no signs of any structure.

I visited the dig one afternoon and introduced myself to one of the diggers. Over my shoulder I heard someone say, “You’re Jim Egan?” It was the field supervisor Dan Lynch. “Come over here,” he said. “I want to show you what we call “Egan’s anomaly.”

We walked over to the southwest corner of the park where a crew was excavating the area my groundscan technician had called the “most tantalizing evidence.” The diggers could dig no more. They had hit solid rock ledge about 2 to 4 feet beneath ground level. The ledge sloped downward, so it was hard to determine how far down it was underneath the Tower. It didn’t prove much, but I can’t tell you how flattered I was to have an anomaly named after me.

The Chronognostic Society did a follow up dig in 2007. But again the several test pits they dug northeast of the tower failed to yield anything but colonial and post colonial artifacts.

([www.chronognostic.org](http://www.chronognostic.org))

## 450 Tons of Stone

Fellow NEARA member Suzanne Carlson, an architect from Edgecomb, Maine wrote an article called “*Loose Threads in a Tapestry of Stone: The Architecture of the Newport Tower.*”

She compares the tower architecture to the round towers of Ireland, the round churches of Denmark, French Belgian and French Monastery lavabos (small, open arcaded round or octagonal building where monks would wash before dining at the refectory), and the Templar round churches throughout Europe.



Carlson, with over 30 years experience in project planning, consulting with masons and supervising buildings, put together a partial material list:

### Materials List

#### *For the Masons*

450 tons of granite field stone

#### *For the Mortar-makers*

5 tons of good quality tabby [hard drying] lime  
46 tons of sand, washed in fresh water  
1750 gallons of fresh water

#### *For the Carpenters*

4 hardwood trees  
each 5 feet in diameter and 60 feet tall  
(for beams and floors.)  
3 softwood trees  
(for staging)

### Crew List

**1 Supervisor** (architect engineer and general contractor)  
**1 Master Mason** (with experience making arches and columns)

**1 Apprentice** (to help lay up stone)

**1 Mortar maker**

**2 Laborers**

**1 Water boy**

**4 Carters** (to transport material)

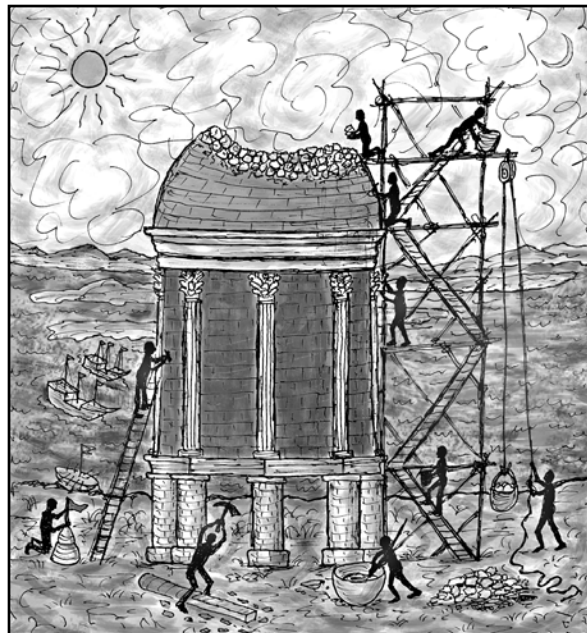
**1 Carpenter** (to supervise wood cutters, do rough carpentry)

**1 Carpenter** (to do joining work and finish carpentry)

**2 Apprentice Carpenters** (to work on staging and framing for arches and pillars)

**2 Laborers** (to work the pulleys that hoisted lumber and stone to the upper levels)

She also estimated the tower project would require a crew of about 16 men, working continuously for about 1 to 1 ½ years.



Carpenters, masons, plasterers, and laborers



**Professor Penhallow  
takes a reading  
with his astrolabe**

### ***Professor Penhallow's Research***

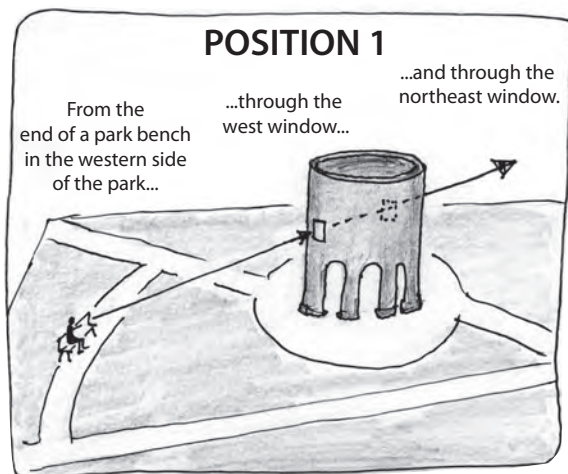
The most enlightening research done on the Tower recently doesn't involve looking down under the ground. It involves looking up.

In the early 1990's a science teacher in Newport named Mike Brennan encouraged Professor William S. Penhallow to look at the Tower. Penhallow taught astronomy and physics at the University of Rhode Island for 33 years (plus he held 2 Science Faculty Fellowships from the National Science Foundation to study astronomy at Indiana University and spent sabbaticals at Brown, Yale, and Wesleyan.)

Penhallow noticed that there were two locations in the park from which a view could see through two of the three first floor windows.

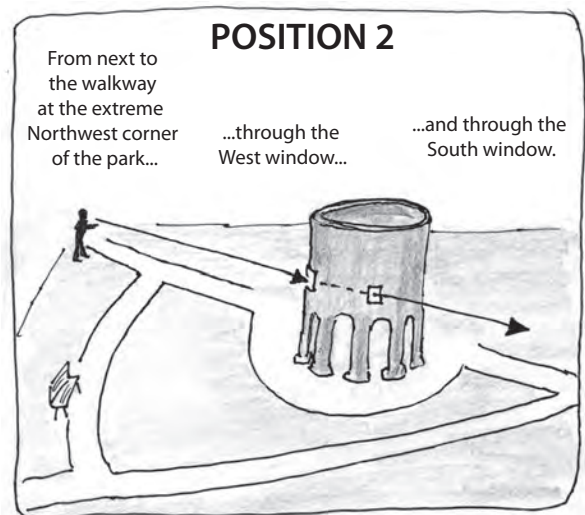
How can this be possible? The windows are all 15-18 feet above ground, and the height of person's eye is only about 5 feet above ground. Also, both these locations are to the west of the tower where the park slopes downward another 4-6 feet. This seems to make it even more challenging to see through a pair of high-up windows.

The reason these alignments are possible is that the windows are at different heights. Recall from our virtual tour that the Northeast window sill is 6 feet above the floor, the South window sill was 4 feet above floor level, but the West window was only 2½ feet above floor level.



**Position 1:** Viewing from one of the park benches on the western edge of the park you can see uphill, through the low west window, through the interior of the tower, and out the higher northeast window.

**Position 2:** The second alignment can be seen by standing next to the walkway in the extreme northwest corner of the park. From there one can look uphill, through the west window, through part of the interior of the tower and out the higher south window.





Penhallow also identified 16 other alignments between the windows, peepholes, and niches in the tower, but the sight lines from positions 1 and 2 are the most significant.

By studying the azimuth and altitude of the sight lines (and then converting to right ascension and declination), Penhallow predicted:

**“... on December 25, 1996  
the full moon would rise above the eastern horizon  
and be visible through the northeast and west windows  
from Position 1 on the park bench.”**

Doug Schwartz, a fellow NEARA member from Connecticut, met me at the tower at dusk on Christmas Day. Fortunately, the skies were clear.

*Sure enough,  
Penhallow was right!*

In this photo if you look in the **West** window you can see the edge of the **Northeast** window and the full moon shining through it.

The event only lasted for a few minutes, as the moon proceeded on its upwards course.



Lunar Minor alignment  
through two windows,  
December 25, 1996

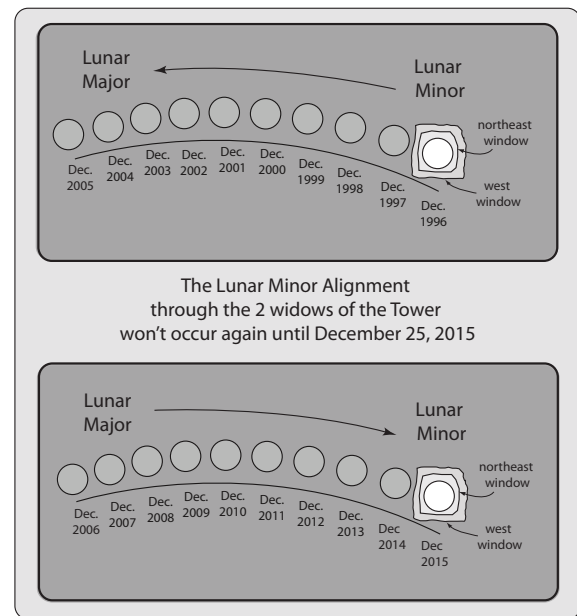


Approximately 20 minutes  
after the alignment,  
the moon becomes visible  
to the right of the Tower.

*The special thing about this event  
(involving a cycle peculiar to the moon)  
is that it will not occur again until December 25, 2015.*

Here's a simplified explanation. The northernmost risings of the moon vary from year to year. In December of 1996 it was at Lunar Minor position. In 1997, the northernmost rising of the moon was slightly further north— enough that it would not be visible through the Northeast and West window sightline.

These northernmost risings continue to drift further north for 9.3 years, and in 2005 it reached the **Lunar Major** position. Over the next 9.3 years it works its way back down to the Lunar Minor position and will be visible again through the two windows on December 25, 2015.



### Could this alignment be lucky accident? Not likely.

You can see that the full moon pretty much “filled up” the angle of view created by the windows. The lunar circle only subtends an angle of  $\frac{1}{2}$  of a degree; that's not a very big “window” onto the celestial sphere of the sky.

### *The Winter Solstice Sunrise Alignment*



the crack of dawn,  
December 23, 1999

The other significant astronomical event Penhallow wrote about involved the rising sun on the Winter Solstice.

December 21 and 22 of 1997 were cloudy, but December 23 was predicted to be clear. I arrived at the park in the pre-dawn coldness and set up my camera on a tripod at Position 2 in the northwest corner of the park.

From my viewpoint, the sun rose beside the east pillar (7:32 AM), slowly climbed upwards at an angle.

(Notice that a thin patch of sky is visible through the West window and the South window.)





about one-half hour after sunrise,  
December 23, 1999

Then at 8:02, about a half hour after sunrise... BINGO ... the sun blasted through both the South and West windows!

It didn't actually appear as it does in this photo. I intentionally selected a very small aperture on my camera and this star-effect is created by the shape of the aperture leaves inside the camera. To the eye it's simply a blast of light. But one should never look directly at the sun, since it can cause permanent eye damage. Even observing it through camera film or x-ray film is not safe. It's essential to use a "Sun Viewing Filter" (also called a Solar Filter or Eclipse Filter), an ultra-dense filter made for astronomers (available over the web.)

What's amazing about this event is that because the West window and the South window are so close to each other along the curve of the tower, there is a really thin "window" onto the celestial sphere.

From here on earth, the sun and moon appear to us to be the same size, each subtending about one-half of a degree. The thin space through these two windows is less than one-half of a degree wide, so we never see the full circle of the sun. Instead the circle of the sun slowly creeps across a tall, thin space delineated by the two windows. But even a fraction of the sun is blindingly bright.

This "**light show**" only lasted a few minutes, but I was delighted to find out there was a **second feature**.

I walked around to the east side of the tower and looked at the interior western wall. I watched the slow movement of tall, thin patch of light that was streaming in through the South window and hitting the wall just to the right of the West window.



patch of light shining  
through the South window  
onto the west interior wall

As the sun slowly rose, the patch of light slowly descended to the right.

After passing through the west window,  
the patch of light creeps along the west interior wall  
and illuminates an egg-shaped rock in the west-northwest arch.



egg-shaped  
rock

About 45 minutes later it appeared as though it was going to illuminate a large egg-shaped rock in the west-northwest arch. This prominent light colored rock appeared to be a keystone, but it was clearly not in the center of the arch. A few minutes later, the light from the South window fully illuminated this rock like a tight spotlight on an actor delivering a monologue.

The light patch slowly worked its way down the egg until it no longer hit the interior of the tower. (As the egg-shaped rock is at floor level, the patch would have originally slowly crept across the floor.)

I returned 2 weeks later to see what happened. The sun still went through two windows from Position 2, but it only illuminated **half** of the egg-shaped rock.

This series shows the patch before it passes through the West window, then as it passes through the West window (some of it misses), then afterwards, and finally when it illuminates the egg-shaped rock.



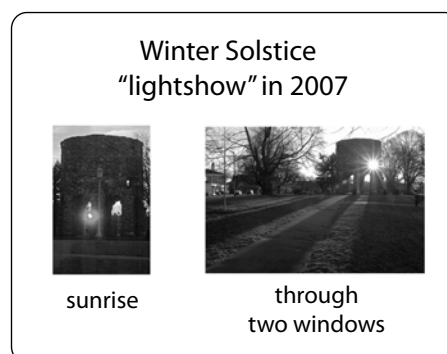
Two weeks later, the moving patch of light only illuminates half of the egg-shaped rock.

So the days surrounding the solstice provide the optimum show, but the alignment event happens for about 3 weeks before and 3 weeks after the solstice.

The reason for this can be found in the word solstice, “sol” meaning “sun,” and “stitio” meaning “stationary.” The sun’s rising position lingers or “stands still” at its southernmost extreme for a few days before slowly proceeding back northwards.

(Note that neither the Lunar Minor event nor the Winter Solstice event is a “horizon event.” They occur about a half-hour after the moon or sun pops up over the horizon. To view horizon events the windows would have had to be at ground level [or human eye level], and the view to the horizon would have to have been kept clear of trees and houses.)

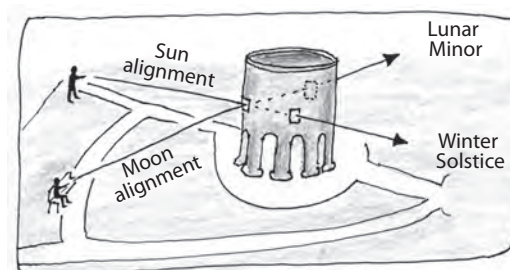
Over the last decade, I have returned to photograph this event quite a few times. And (weather permitting) the event is always the same. It is the same as it **has been** for centuries, and **will be** for centuries in the future. A celebration of the annual dance of the sun and the earth is built into the fabric of the Tower.



To summarize: the windows of the tower seem to have been intentionally arranged to align with special times in the Lunar and Solar Cycles.

The view from Position 1, which marks the southernmost point of the Moon's most northerly limits in its 18.6 year cycle, I call the **"Moon alignment."**

The view from Position 2, which marks the Winter Solstice, I call the **"Sun alignment."**

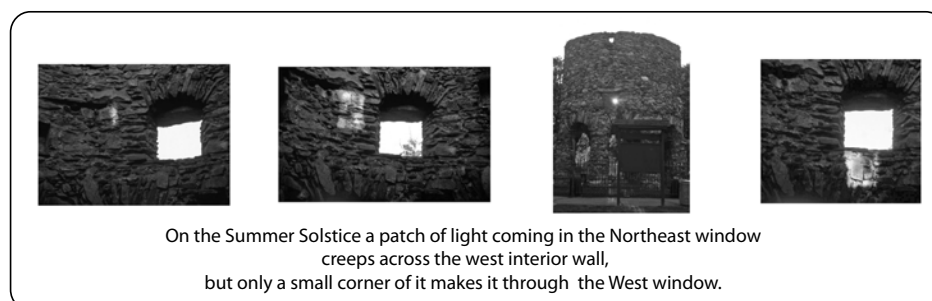


And both of these alignments **"share"** a common window, the West window.

### *Testing for a Summer Solstice Sunrise Alignment*

On the summer solstice, the sun rises 5.5 degrees north of where that Lunar Minor moonrise was on the horizon (58 degrees for the summer solstice sunrise versus 63.5 for the Lunar Minor moonrise). So I journeyed to Newport on June 18 (a few days prior to the solstice) to see if the summer sun could be seen from Position 1.

At sunrise, a faint patch of light shone through the Northeast window onto the interior of the tower just to the left of the West window. It slowly crept close to the West window, but not close enough so that it was shone through and out to Position 1. By getting closer to the Tower and maneuvering my position, I could just barely catch a glimpse of the sun through the two windows and then only for a few seconds. I concluded that the Position 1 alignment was **not** intentionally designed for a summer solstice event – its purpose was strictly for the Lunar Minor alignment.



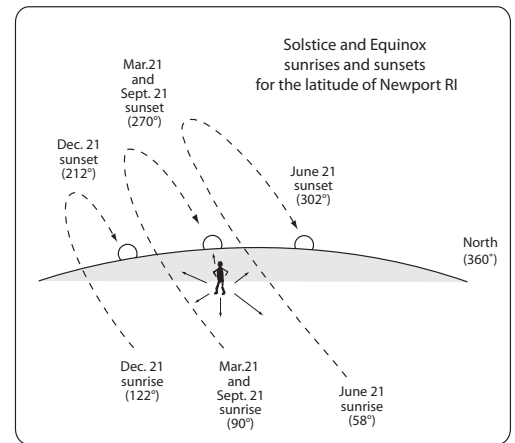
## *The Equinox alignment*

Both alignments from Position 1 and Position 2 involved the West window (which is the only window which has a relieving arch above its lintel), so I conjectured that the Equinox sunset might also shine through the West window and illuminate the fireplace. After all, the sill of the West window was about 2 ½ feet above the first floor and the fireplace hearthstone was about 2 ½ feet above the first floor as well.

The fireplace is aligned vertically above the east pillar, but unfortunately the West window is **not** directly above the west pillar. (In addition, all the pillars are actually 3 degrees off from the cardinal points of the compass. For example the North pillar is 3 degrees west of north)

As the sun sets on the equinox, the patch of light shining in through the West window slowly moves upwards and to the right.

At one point it cuts across the corner of the firebox and extinguishes just to the right of the fireplace. However, this is not the actual sunset because the light is just being blocked by a house at the west end of the park. The placement of the patch at sunset is estimated here with a dotted-line box.



During Equinox sunsets, the patch of light coming through the West window passes just below the fireplace's hearthstone and extinguishes on the right edge of the firebox



Here are two wider views of this equinox sunset event. They each include the West window, through which the light is shining.





## Two words provided an illuminating clue



Professor Penhallow guided a NEARA field trip to the tower in the spring of 2001. A group of about 40 people followed him around the park as he showed us the Position 1 and Position 2 (and others). We gathered near the Towers wrought-iron fence and he pointed out the various niches, peepholes, and beam sockets. He offhandedly remarked that the first floor room of the tower might have acted like a **“camera obscura.”**

Those two words stuck in my mind for days. What did a “camera obscura” have to do with astronomical alignments? I had remembered being fascinated with a camera obscura exhibit at the Philadelphia Art Museum when I was in college. In a small dark room they had constructed was a hole that looked out onto a busy street scene with trucks and yellow cabs. Inside the room the same scene was projected on the walls, only it was flipped upside-down and left-to-right. The trucks and cabs were in full color. They were moving. And there was no lens in the hole. How does this happen?

In college, I had majored in Business and minored in Art. After graduation I decided to merge my two interests and become a professional photographer. At a RISD continuing education class, the instructor John Rudiak, explained that a pinhole camera was a miniature camera obscura.

In Latin, camera obscura means a “dark room” (*camera* means “room” and *obscura* means “dark”). A pinhole camera is nothing more than a “dark box.” The hole in a camera obscura (about ½ inch to an inch in diameter) is simply smaller in a pinhole camera (best made by poking a needle through a thin metal plate and affixing it over a larger hole in the box).

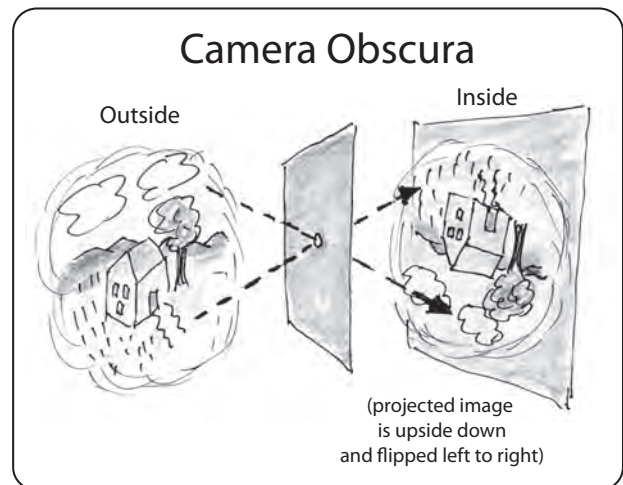
Light behaves the same way, whether in a room-sized camera obscura or a small shoebox. Since light travels in a straight line, the light bouncing off something low in a scene (like the grass on the ground) will travel upwards, through the hole, and continue upwards being projected on the upper part of the interior wall (or the interior of the shoebox).

Light bouncing off objects that are high in the outdoor scene, like blue sky and clouds, will travel downwards, through the hole, and continue downwards being projected on the lower part of the interior wall.

**In short, the image is inverted.**

The same thing happens left-to-right. Light bouncing off objects on the east side of the scene will travel in a somewhat westerly direction, through the hole, continue westerly and be projected on the western side of the projection wall. (And vice-versa for objects in the western side of the scene).

**So in addition, the image is also reversed left-to-right.**





It's challenging to describe a camera obscura room in words. It's a hard concept to grasp unless you have been inside one. And even then it's mind-boggling that it actually happens. Every detail, every blade of grass, every color, every movement of every object, be it whizzing car or flying bird, appears in the image.

It's a real-time video movie screen of what's happening outside the hole.



A pair of my professional photographer friends Eric Gould and Peter Goldberg (who attended Rhode Island School of Design) constructed a portable “8 foot by 8 foot by 8 foot” camera obscura and set it up for alumnae and students to see during Parent’s Weekend.

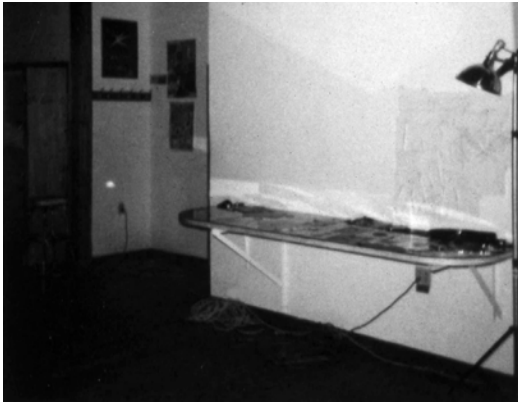
Their friend, the talented Erminio Pinque (of Big Nazo puppet fame) provided the witty exterior signage. Children, RISD students, and adults are all fascinated by what happens in this simple “box with a hole.”



### *What's that spot?*

I started out in my photography business shooting with 35 mm cameras, but the big advertising budget customers demanded 4 x 5 color chromes (giant slides) and even in some cases 8 x 10 chromes. I soon became proficient at making sense of the inverted image I saw on the ground glass (using a black cloth over my head to make it more visible).

Professional photographers need to control the exact placement of lights so they generally block up all the windows in the studio.



Late one afternoon as my photography assistant, John Tavares was leaving for the day, I noticed a perfectly circular spot of orange light next to the door of the dimly lit studio.

“What’s that spot?” I asked him.

“Probably sunlight coming through a hole in the window blockers,” he replied.

Projecting the bright spot onto my hand, I followed it back to a tall, thin area where the black foam core light blocker wasn’t fully covering the window.

“But this isn’t a round hole. It’s a thin sliver. Why is the image round and orange colored?” I asked.

We looked out another window and saw that the sun was just about to set and was glowing orange.

“It’s a camera obscura image of the sun,” I declared.

“You’re crazy. Tall thin cracks don’t make circular projections,” he replied.

“No, the whole studio has turned into a camera obscura and that’s an inverted image of the sun. I can prove it. Just watch,” I said.

Moments later the sun was only a “half-sun,” slowly lowering below the horizon. But on the wall of the studio the “half-sun” was upside down and creeping upwards. We watched as it slowly moved upwards some more, then finally vanished.

I explained again that we were simply watching an image of the sun, sometimes called a “solar disc” and that people in olden days kept track of them to tell time, sort of like an inside-out sundial.”

“You’re crazy. Round spots aren’t made from tall, thin apertures,” he said as he stormed off for the day.

To prove my point, the next morning we poked a round hole in one of the window blockers. On the floor was a round solar disc. Then we made a square hole. The solar disc was still round. We made a triangular hole. The solar disc was still round.

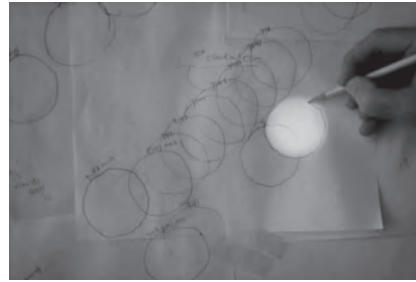
I explained that it really wasn’t the shape of the hole that mattered, only its size relative to the distance it was being projected.

If the hole is small enough compared to the projection distance, the camera obscura effect happens.

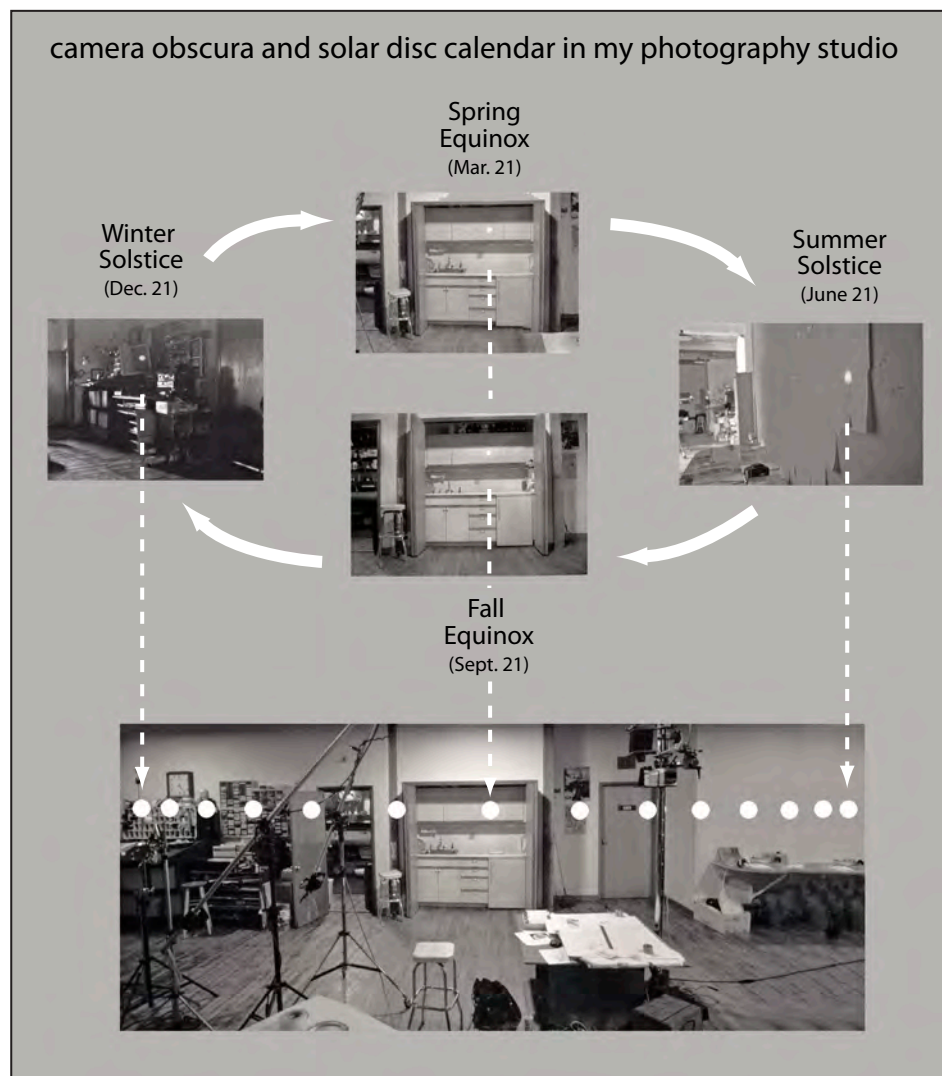
After experimenting with solar discs for a few weeks, I made a permanent hole in the window blockers of the west facing window. I tracked the progress of the solar disc as it moved upwards.

The next day I followed the same procedure and sure enough, the track had shifted a bit. I tracked the sunsets over the course of a year. It set near my office in June, near the kitchen in September and way back at the design desk in December. Then it turned back and was at the kitchen in March, then returned to near my office in June. I had constructed a camera obscura-solar disc-annual calendar.

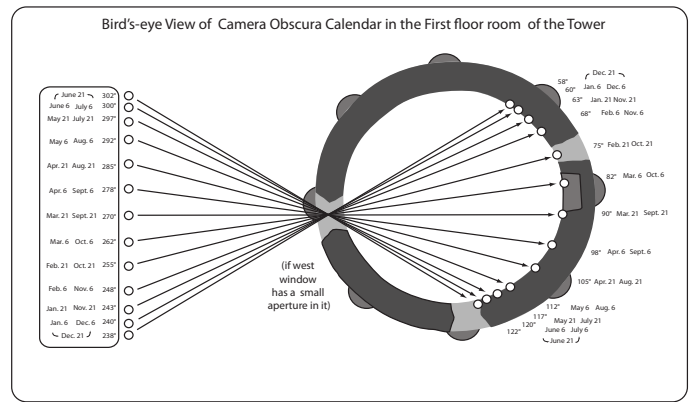
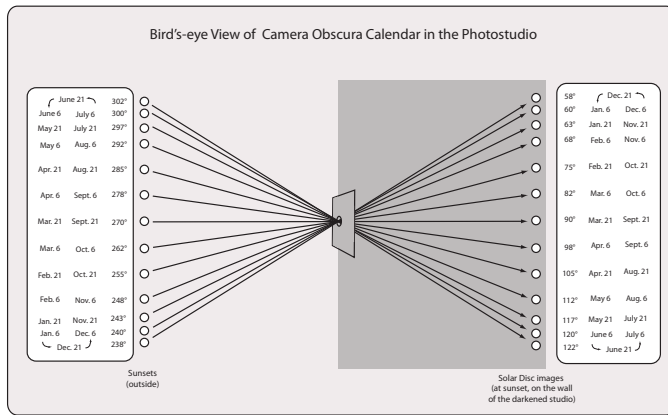
This is what Penhallow was referring to when he commented that the first floor room of the Newport Tower might be a “camera obscura.”



marking the path of the solar disc on the wall just before sunset



[The spacings between these various discs is irregular because the day-to-day position of the setting sun changes more rapidly around the time of the equinoxes. The effect is like a pendulum that swings fastest in the middle of its sweep.]



I transferred that data to the interior of the first-floor room of the tower, and made a graphic of it in Photoshop.



I was perplexed.

If the first floor room of the Tower was originally built as a camera-obscura-sunset-calendar, why didn't the architect have the equinox sunset end up in the fireplace? To have the setting sun "start a fire" on the first day of Spring and the first day of Fall would be pretty special.

But things were "off" a little. The builder might not have been able to reposition the West window, as it was already carefully placed to accommodate a Lunar and a Solar alignment. But he could have relocated the fireplace slightly, to "center" it in the symmetrical annual solar-disc-at-sunset pattern.



Photo taken from a tall ladder inside the Tower, looking west-southwest over Newport Harbor

It's impossible to recreate the actual view of Newport Harbor that the West window once had because the two stately houses just west of Touro Park currently block the vista. From the top of the Tower one can get a glimpse of part of that sweeping panoramic view.





Photo taken from near the Tower looking west down Pelham Street

Here is another glimpse of part of that vista, looking west down Pelham Street. You can see Goat Island, then Jamestown Island, and beyond that is the mainland of southern Rhode Island.



The caretaker of the Newport Congregational Church at the corner of Pelham and Spring Streets was kind enough to escort us up a tall ladder inside the bell tower.

The panoramic view was breathtaking, but to make it a camera obscura room presented many obstacles (not to mention the whipping winds).



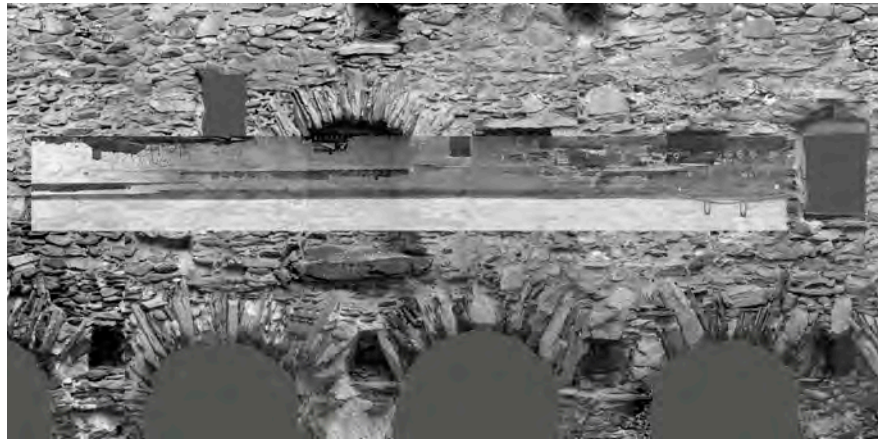
Here is how a section of the panoramic view would look projected (upside-down and reversed left-to-right) on the east interior wall of the Tower.



It's hard to distinguish either the the panoramic view or the east interior wall of the Tower in this digital superimposition



This combination image is hard to read, so here I've just taken a sliver of it to show where various features are projected. Goat Island stretches across the fireplace, and the Pell Bridge is just to the left of the South window.



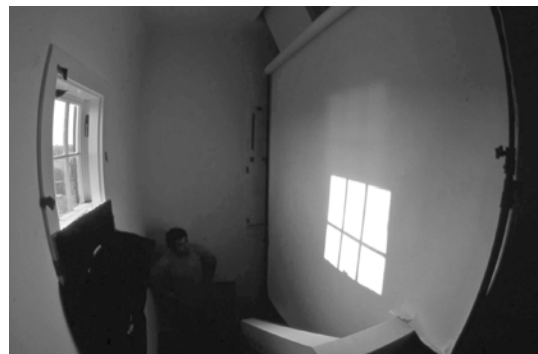
Digital simulation of part of the camera obscura image.  
(Panoramic composite of western horizon superimposed upon the eastern wall of the first floor room.)

John and I searched further for a small room with a harbor view similar to what the Tower once had. We spotted an old firehouse on Lower Mill Street with a small window at the top of a 3-story tower.



The current owners, a marketing business, were gracious enough to let us make a camera obscura in the upper stairwell.

We set up a long roll of 9-foot-wide white seamless paper to provide a clean “projection wall.”



We blocked up the west window with opaque, black plastic. In the center of it we taped a cardboard mount with an adjustable aperture, opened to about an inch in diameter.

We could see the rooftops of the businesses along Thames Street, cars zipping by on America's Cup Avenue, and boats cruising around Goat Island. The Pell Bridge arched along the horizon line (though it was strange to see it reversed in the projected image.)

In the blue sky we could see the details in the puffy clouds and, of course, that great illuminator, the sun.



Being so bright compared to the rest of the backlit scene, the sun didn't have the delineated round edge of a solar disc, so we made the hole much smaller, about a quarter of an inch in diameter.

Now the solar disc looked great, but everything else went pretty dark. With one exception. The boats near Goat Island were still clearly visible in the patch of sunlight reflecting off the water. I inspected it a little closer. The harsh sun twinkled off the choppy waters. The shimmering, glistening image on the white seamless paper hardly looked like water at all. **This sparkling water looked more like fire!**



I thought of calling it WaterFire, but to Rhode Islanders that means Barnaby Evan's environmental art installation of 100 bonfires blazing in cauldrons in the rivers of Providence. An alternative idea was to call it FireWater, but that sounds like strong whiskey. So I settled on "Fiery Water."

The glimmering of "Fiery Water" is actually thousands at miniature reflections of the sun.

If the surface of Newport Harbor was as calm and reflective as a mirror, at sunset, the camera obscura image would look like "two suns" slowly creeping towards each other and melting into each other before they simultaneously extinguished.

But a saltwater harbor near the ocean is rarely flat like a mirror. There is generally some chopiness due to the wind, tides, and boat traffic. But even waves are reflective. Each wave is like its own curved mirror. Mostly it is dark, reflecting the sky, but some part of its surface is at such an angle that it reflects a small image of the bright sun. Thousands (or millions) of these small reflections make the glistening Fiery Water image. As the waves are constantly moving and shifting, their sun reflection surface angles change making a shimmering, sparkling image.

For comparison purposes I took a photo looking straight out the window. By this time, the Fiery Water reflection had moved a little to the right.

If you are looking west over a body of choppy water, there is not any Fiery Water in the morning. But in the afternoon when the sun is backlighting the surface of the water, the sparkling starts.

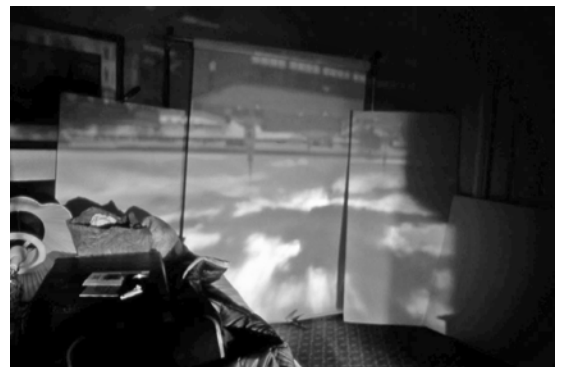


About 2 hours before sunset a large area sparkles. About an hour before sunset the hot spot is so bright you can't look at it, even with sunglasses. About 20 minutes before sunset it's as intense as the sun. Just before sunset the sun's angle gets too low and it starts to diminish. If the sun goes through haze and turns orange, the sparkles die down to observable orange shimmers. And at sunset, of course, the Fiery Water sparkle dies down and extinguishes completely.



For a different viewpoint, I asked the Hotel Viking if I could set up a camera obscura in one of their rooms. The bellhop guided me to room 503 which has a sweeping view of the western horizon. Notice that the spire of Trinity Church cuts across the dark sliver of land that is Goat Island.

It was mostly cloudy, but that made for dramatic skies in the camera obscura image.

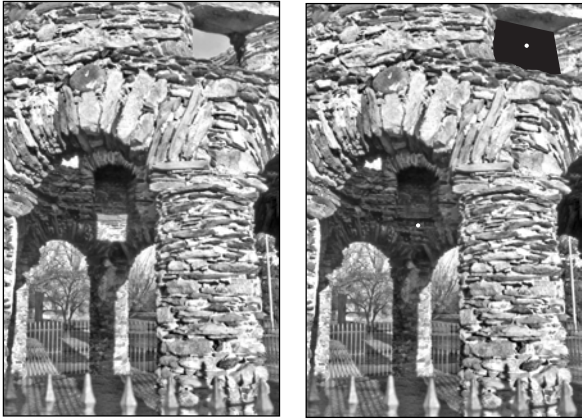


Finally the sun broke through and the shimmering Fiery Water made Goat Island and Trinity Church steeple dramatic silhouettes.

[The fiery water image is quite bright compared to the rest of the camera obscura image, but it's still much dimmer than the actual scene outdoors. Thus I couldn't use a shutter speed fast enough to fully capture the crisp, sparkling reflections.]

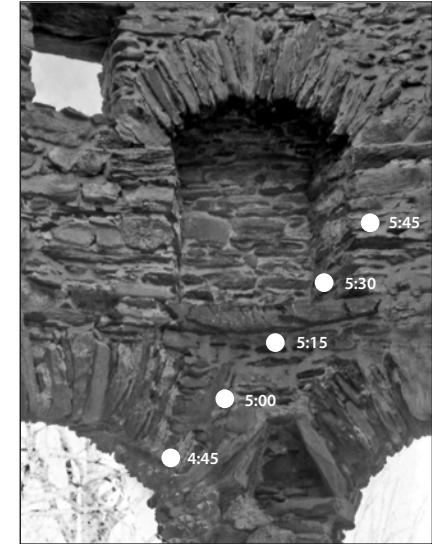


## *Equinox sunsets in the Tower (and “Fiery Water”)*



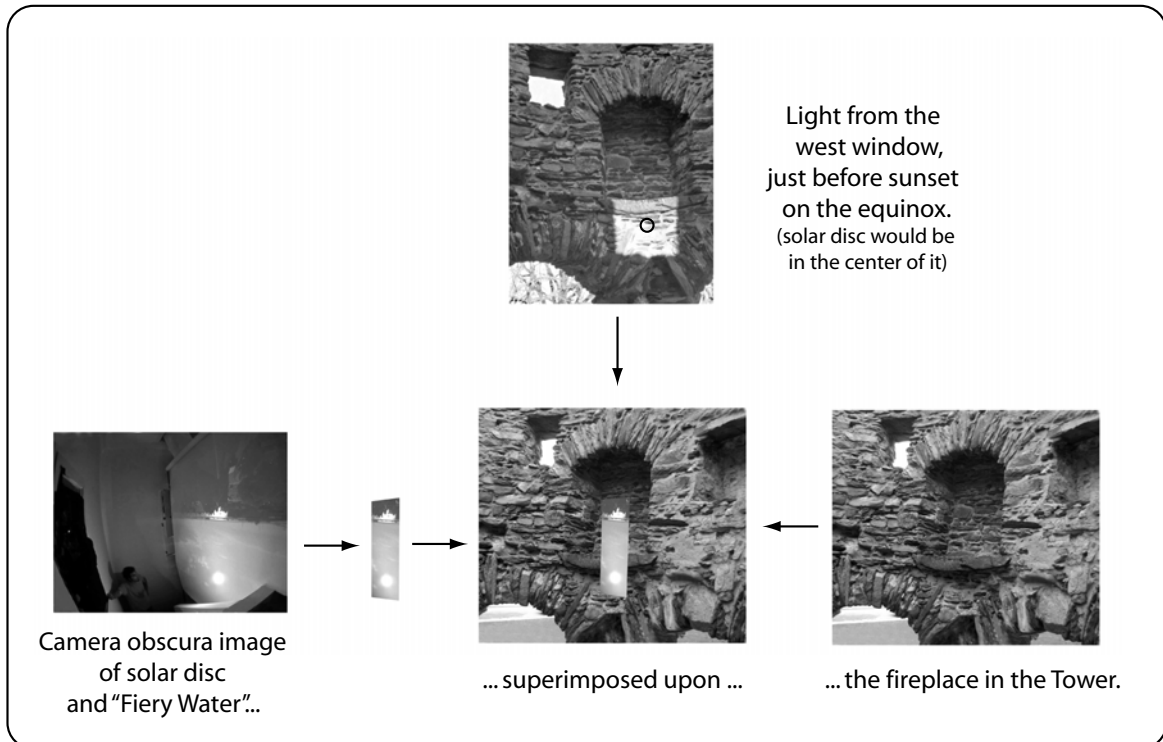
If the West window was blocked up, except for a small hole, during the Equinox sunset a small solar disc would creep up the eastern interior wall

This illustration shows the sun’s position approximately every 15 minutes for the hour before sunset. Note that about 30 minutes before sunset the solar disc is projected just below the hearthstone of the fireplace.



Various positions of the solar disc during the Equinox sunset

The West window and the fireplace were carefully positioned not to celebrate the sunset, but to celebrate the time about a half hour before sunset—when the firebox was ablaze with **Fiery Water!**



Fiery Water lights the fire in the fireplace on the first day of Spring and the first day of Fall.

This seemed too amazing to be true.

Did someone really conceive of all this and build it into the fabric of a stone and mortar building?

And if so, who could have conceived of it?

Templars? Vikings? Benedict Arnold? Someone else?

I presented my findings at a New England Antiquities Research Association meeting, but none of my historian friends had ever come across this solar-disc-at-sunset calendar idea, never mind the concept of “Fiery Water.”

So I decided to launch my own investigation. It seemed to me that many investigators had approached the Tower with a pre-conceived notion and tried to fit the Tower into their puzzle. In 2003, British author Gavin Menzies wrote *1421: The Year China Discovered America* claiming that a huge Chinese fleet circumnavigated the world and built the Newport Tower on their journey. Others have suggested that the Tower is something that Prince Henry Sinclair, Prince of the Orkney Islands, might have constructed when he sojourned across the Atlantic in 1398.

I decided to take a different approach. I would start from the known facts about the Tower and see where the clues lead. The first person who ever mentioned the tower was Governor Benedict Arnold. It’s curious that the tower was owned by the richest and most powerful man in Newport. How did he get so rich at a time when many colonial settlers were still struggling to survive? **I decided to “follow the money” and paint a picture of the life of Benedict Arnold.**

Also, I had to know if someone in Benedict’s time era might have known about a camera obscura, and in particular, one used as a solar-disc calendar room. So first I decided to investigate the history of the camera obscura.



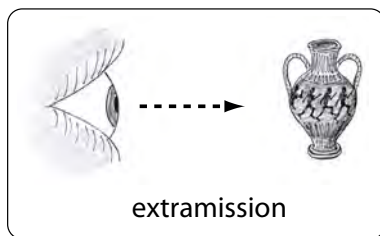
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# THE HISTORY OF THE CAMERA OBSCURA

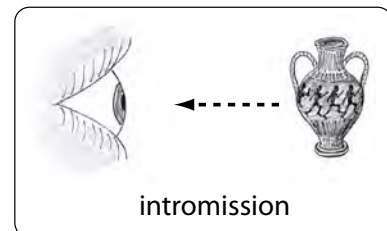
## *A Brief History of Theories about Vision*

The history of the camera obscura goes hand in hand with the history of ideas regarding how we see.



Vision was a popular topic among Greek scholars. Some, like Euclid (ca. 300 BC) and Ptolemy (ca. 150 AD), believed in “**extramission**,” that rays emanating from the eyes were responsible for vision.

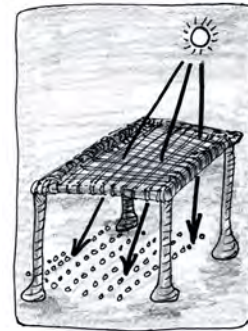
Others, like Aristotle (ca. 300 BC) and Galen (ca. 175 AD), believed in “**intromission**,” that rays emanating from the object were responsible for vision.



**Aristotle** was the first Greek to describe the pinhole effect. Here are two questions he poses in his “14 Problems:”

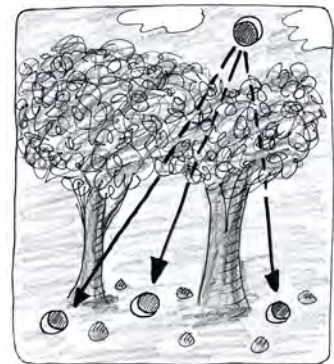
**Problem 6:**

“Why is it when the sun passes through quadrilaterals, as for instance in wicker work, it does not produce figures rectangular in shape but circular?”

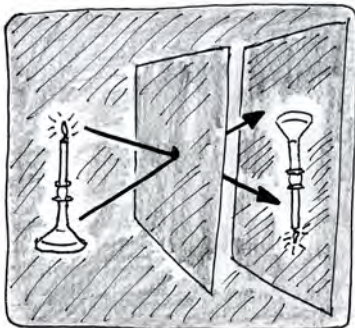


**Problem 11:**

“Why is it that in an eclipse of the sun, if one looks at it through a sieve or through leaves, such as a plane tree or other broad-leaved tree, or if one joins the fingers of one hand over the fingers of the other, the rays are crescent shaped when they reach the earth? Is it for the same reason as that when light shines through a rectangular peep-hole, it appears circular in the form of a cone?”



(Renner, p. 3, and W.S.Hett, pp. 333-335.)



The Arab scientist **Al-Kindi** (ca. 801-873), in his *De aspectibus*, describes his experiment with a camera obscura to prove light came from a luminous body. He set up a candle on one side of a wall with a small aperture and a projection screen on the other.

By moving the candle around and watching its projected image on the other side, he recognized that light traveled in straight lines. Despite his understanding of this principle, he still agreed with Euclidian “extramission” theory.

The Persian polymaths **Avicenna** (ca. 980–1037) and later, **Averroes** (1126–1198) defended Aristotle’s “intromission” theory of vision.

Aristotle, Al-Kindi, and Avicenna each described the effects of a single light passing through an aperture, but none of them described what happens with multiple light sources, or, indeed, with the light reflecting off all the objects in the field of vision.

This was first described by the great Arab scientist **Alhazan** (Ibn al-Haytham) (965 – ca. 1039). He was also the first to correctly describe that vision was the result of light reflecting off objects, entering the eye, and sending signals to the brain.

(Steffens, Bradley, *Ibn al-Haytham, First Scientist*, p. 72 –73)

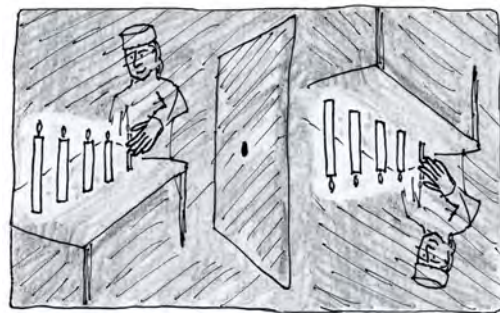
Alhazan's monumental *Kitab fi'l Manazir* was translated into Latin around 1100 under the title *De aspectibus* or *Perspectiva* and was widely disseminated through Europe. (In 1572, Frederico Risner published it under the title *Opticae Thesaurus*.) He took al-Kindi's candle experiment a step further by using "a number of candles":

**"When in one place several candles are put at various different points, all opposite an opening leading into a dark place (locus obscuras), with a wall or an opaque body opposite the opening, the lights (lucens) of these candles appear on the body or that wall separately and corresponding in number to the candles.**

**Each one of them appears opposite one candle on a line passing through the openings."**

(Renner., p. 7 and F. Risner, pp. 108-12)

Alhazen's experiment would look something like this: If the 5th candle was covered on the "outside," the 1st candle would appear extinguished on the "inside."



Note especially that Latin expression "**locus obscuras**," meaning "a dark place." The more commonly used Latin expression "**camera obscura**," meaning "a dark room," was first used by Johannes Kepler in 1604.

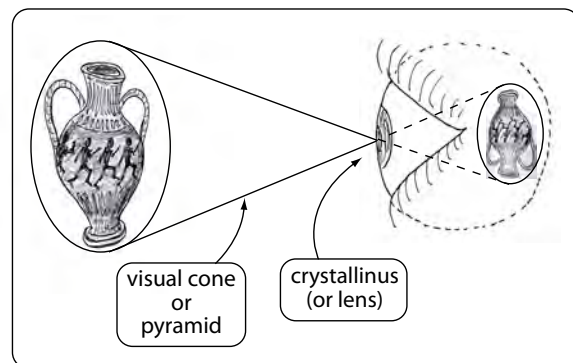
(Mary Sayer Hammond, *The Camera Obscura*, p. 35)

Alhazen's Arabic term for lens was translated into Latin as "crystallinus". He described a visual cone or pyramid whose apex was at the "crystallinus" and whose base was the visible object.

(Crombie, p. 307-311)

Alhazen writes:  
**"Vision is complete [only] when the form of the visible thing received by the crystalline humour passes through into the optic nerve."**

(Straker, 1971, p. 433 in Mary Sayer Hammond, p. 38)





## *Ideas about Vision in Europe (from 1200 to 1600)*

One of the first Europeans to study optics was **Robert Grosseteste** (1168 – 1253), the Bishop of Lincoln, England. He lectured in Oxford, wrote a text called *De Luce* or “On Light,” and experimented with lenses.

He inspired **Roger Bacon** (ca. 1220-1292) (who was born in Benedict Arnold’s hometown of Ilchester, Somerset), one of the first European advocates of the scientific method. Besides writing on mathematics, astronomy, geology, music, and morals, he wrote extensively on *perspectiva*, the Medieval Latin term for optics.

He never overtly described fully detailed images projected in a camera obscura, but he did recommend the use of a small aperture for observing solar eclipses:

**“observe the fall of the rays of the sun through any round aperture  
and watch diligently the bright circle which the rays have formed  
in the place onto which they fall.”**

Through his work with mirrors and magnifying glasses, he predicted that one day lenses to see tiny objects (microscopes) and distant objects (telescopes) would someday be invented.

Bacon influenced **John Peckham** (ca. 1230–1292), a teacher at the University of Oxford and later the Archbishop of Canterbury. Peckham wrote about his theories of vision in *Tractus de sphaera* (or *The Movement of Spheres*) and *Perspectiva communis* (or *General Optics*). In 1542, 250 years after Peckham had died, George Hartman published a highly edited version of *Perspectiva communis*.

Peckham’s *Perspectiva communis* circulated in manuscript form for decades and was published by **Fazio Cardano** in 1482. In 1582, George Hartman published another, more edited version. In Peckham’s explanation of the image of the solar disc seen during an eclipse, Hartman added the phrase “**in loco tenebros**,” meaning “in a dark place.” Subsequent editions adopted Hartman’s changes, so Peckham has often been credited with inventing the camera obscura.

(Mary Sayer Hammond, p. 71)

Over on the continent, the Polish scientist **Witelo** (ca. 1230–ca. 1290) wrote a book entitled *Perspectiva* (or *Optics*) based on the work of Alhazen and Bacon. He discusses how images are formed through a round aperture, but is not able to explain why images are also formed by apertures that are not circular. Witelo’s book was quite popular and even became part of the curriculum at Oxford in 1431. “To graduate with a B.A. degree one must have read Euclid’s *Elements*, Alhazen or Witelo.” (David C. Lindberg, *Theories of Vision*, p. 121)

Witelo’s contemporary, **Arnold of Villanova** (ca. 1238–ca. 1310) studied medicine at the Sorbonne in Paris, but spent most of his life traveling through Italy and Spain. To amuse his friends and patrons, he designed a darkened room and had actors perform outside. They would perform battle scenes and the hunting of animals with audio like the clashing of metal for thunder or the blare of a trumpet. (John H. Hammond, p. 9)

A Jewish philosopher from Arles in southern France named **Levi Ben Gershon** (1288–1344) was the first person to give a description of the Jacob's staff, a device used to measure the distance between stars. He also recommended that solar eclipses be viewed in a camera obscura as it will not hurt the eyes. (His nickname was Gersoides or Ralbag, an acronym for **Rabbi Levi Ben Gershon**.)

The astronomer **William of Saint Cloud** wrote about a camera obscura used to observe the solar eclipse of 1285:

**“They made in the roof of a closed house, or in the window, an opening turned towards that part of the sky where the eclipse of the sun would appear, and the size of the hole was about the same as that made in a barrel for the purpose of decanting wine.**

**The light of the sun entered through this opening, before which, at a distance of twenty or thirty feet, something flat, for instance a sheet was placed.**

**A ray of light will be seen delineating itself on the sheet in a round shape, even if the aperture is angular.**

**The spot illuminated will be larger than the opening and so much greater as the sheet is moved away from it, but then it will be more feeble than if the sheet is placed closer.”**

(Saint Cloud, in *Potonniee*, p. 21, Mary Sayer Hammond, p. 74)

This is the first clear description that a dark room was being used for observing the sun. Nicholas Orseme later suggested that William of Saint Cloud turned the cathedral of Notre Dame into a giant camera obscura:

**“The experience that whenever the sun shines through an aperture high above the ground, as in the cathedral of Paris, then that light appears to jiggle as if the sun were moved discontinuously by shaking or trembling.”**

(Orseme, in Straker, *Kepler's Optics*, dissertation 1971, in Mary Sawyer Hammond, p. 77)

**Leonardo da Vinci** (1452–1519) was well versed in the works of Alhazen, Roger Bacon, and John Peckham. (He was friends with Fazio Cardano who published Peckham's *Perspectiva*.) Leonardo was the first to actually describe the **projected scene** in a camera obscura (and not simply the projection of a light source like a candle or the sun):

**“I say that if the front of a building – or any open piazza or field – which is illuminated by the sun has a dwelling opposite to it, and if, in the front which does not face the sun, you make a small round hole, all the illuminated objects will project their images through that hole and be visible inside the dwelling on the opposite wall which may be made white; and there, in fact, they will be upside down.”**

(da Vinci, in J. P. Richter, 1970, Vol I p. 44, no. 70, in Mary Sayer Hammond, p. 124-5)

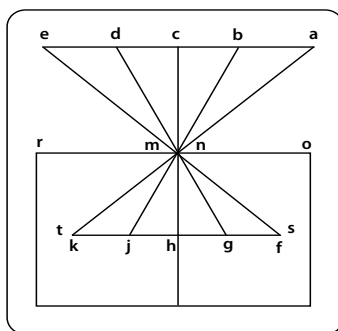
In his treatise *On the Eye*, Leonardo clearly describes how the eye is like a camera obscura:

***“How the species of objects received by the eye intersect inside the albugineous humor.***

**The experience which shows how objects inside the eye in the albugineous humor is demonstrated when species of illuminated objects penetrate through some small round hole into a very dark habitation.**

**“Then you will receive these images on a sheet of white paper placed inside this habitation somewhat near to this small hole, and you will see all of the mentioned objects on this paper with their true figure and colours, but they will be smaller and they will be upside down because of said intersection.**

**These simulacra if they proceed from a place that is illuminated by the sun will actually seem painted on this paper, which should be very thin and seen in reverse; and the said hole should be made in a very thin plate of iron.**



**Let *a b c d e* be the said objects illuminated by the sun, *o r* the front of the dark dwelling in which is the said hole *n m*, *s t* the said paper where the rays of the species are cut so that *a* right becomes *k* left and *e* left becomes *f* right, and so it is with the pupil.”**

[In Leonadro’s original geometric drawing, the numerals are written backwards, as he used mirror writing.]

(da Vinci, in Donald Strong, p. 78, Mary Sayer Hammond, p. 137)

“Albugineous” means like albumen, or the white of an egg, referring to the thick liquid he found in animal eyes he dissected in his anatomical studies.) Leonard felt the image was projected onto some kind of translucent screen inside the eye, but he does not imply that the screen is the retina, the rear surface of the eye.

Leonardo’s ideas were not widely disseminated as his manuscripts were in private collections until 1636, and they were not studied by scholars until the late 1700’s.

(David C. Lindberg, *Theories of Vision*, pp. 164-168)

The first written depiction of a camera obscura in the 1500’s is in **Cesare Cesariano’s** (ca. 1483–ca. 1550) translation of Vitruvius’ *On Architecture*, published in 1521. He added hundreds of engravings to Vitruvius’ previously unillustrated text. He also gave a word-by-word commentary on all ten chapters.

Cesariano writes that Vitruvius’ word “*speculatum*” (not speculum meaning mirror) might be interpreted two ways. First, as a “public show, stage-play, or spectacle.” Second as a “short, small tube or sighting hole used in astronomical devices like astrolabes.” Cesariano combined both meanings in a short story he tells about his journey to Milan when he was a young student. He and his friends stayed overnight in a monastery and one of the monks showed them a “spectacle.”

**“A beautiful law of optics may well be mentioned which was found out and verified by the Benedictine monk and Architect Don Papnutio.**

**If a circular cavity, about two inches in diameter,  
is cut with a lathe in a piece of wood, about four to six inches in size,  
and in the center of the concavity a small and very short tube (*spectaculum*)  
or aperture, which is also called a sight (*scopos*), is placed;**

**and if it be properly fixed in a leaf of a door, or in front of a window,  
shut, so that no light may enter,  
and if you have a piece of white paper or other material  
upon which everything passing through the aperture may be represented,  
you will see everything contained in the earth or the sky  
according to the pyramid formed through the aperture,  
and with their colours and forms.”**

(Cesariano, in Waterhouse, James. , p. 273, and Mary Sayer Hammond, p. 157-8)

Cesariano adds that this spectacle of the **“beautiful law of optics”** would be excellent for illustrious painters, astronomers, and opticians, **“like having money placed in the bottom of a water-filled sphere.”** He doesn’t elaborate on how artists could use this concept, but the reference to money suggests it could be quite profitable. The “water-filled sphere” was a device used by opticians as a magnifying lens. He seems to be suggesting that a lens might be used in a camera obscura to make the image even sharper. As with the word “speculatum,” Cesare Cesariano might be playing with a double meaning. (Mary Sayer Hammond, p. 160-161)

In 1550, **Girolamo Cardano** (1501–1576) from Padua in Northern Italy, published his eleven book compilation *De Subtilitate*, meaning *On Subtlety* [of things in Nature]. (It was Cardano’s father, Fazio who had published Peckham’s *Perspectiva communi* (*General Optics*) in 1482.)

In a chapter entitled “De Luce et de Lumine” (On Light and Illumination), Girolamo writes:

**“If you want to see the things which go on in the street, at a time when  
the sun shines brightly, place in the window shutter a bi-convex lens (*orbem e vitro*).**

**If you then close the window you will see images projected  
through the aperture on the opposite wall, but with rather dull colours;  
but by placing a piece of very white paper in place where you see the images,  
you will attain the eagerly awaited result in a wonderful manner.”**

(Cardano, Book 4, p. 107, in Gernsheim, H., in Mary Sayer Hammond, p. 162)

Most historians agree that **“orbem e vitro”** or **“orb that is glass”** refers to a magnifying glass with two convex sides. (Mary Sayer Hammond, p. 163)



Eight years later, in 1558, Giovanni Battista Della Porta (ca. 1535 –1615) of Naples, wrote a brief description of the camera obscura in his *Magica Naturalis Libri IIII* (or *Natural Magic in 4 Books*.)

**“The manner in which one can perceive in the dark the things which on the outside are illuminated by the sun, and with their colors.**

**If one would see this, it is necessary to closely shut the windows and door down to the smallest possible aperture, lest even a little daylight entering the interior should cause the demonstration to fail.**

**The light should be admitted only through a single conical hole bored through the wall, the base of the cone being turned to the sun and the pointed end towards the interior. The wall opposite should be kept white or covered with a sheet or paper.**

**One will then perceive everything that is lighted by the sun, and the people passing on the street will have their feet in the air and what is on the right will be on the left side. Everything will be reversed.**

**The images will be much larger as the paper will be farther away from the opening; but nearer the paper is placed, the smaller they will become.”**

He then adds the idea of righting the “inverted and reversed” image by using a concave mirror:

**“I will now reveal a matter which I have always hidden and believed it best to conceal: if one would see all these things in their colours on the paper, one uses a mirror. Not a mirror which disperses the rays, but one which collects them.**

**Move it farther away or place it nearer until you find the proper distance where the image is in the center of the mirror and the observer, looking attentively, can recognize the faces, the gestures and movements of the passerby (the clouds, the blue sky and the birds flying) ...**

**This will make it possible for anyone ignorant of the art of painting to draw with a pencil or pen the image of any object whatsoever.”**

(Della Porta, in *Potonniee*, p. 6-7, in Mary Sayer Hammond, p. 167)

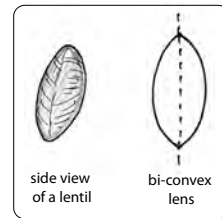
In Della Porta's expanded second edition,  
*Natural Magic in 20 Books* (printed in 1589) he writes:

**“If you put a small lenticular crystal glass to the hole,  
you shall presently see all things clearer,  
the countenances of men walking, the colors, garments,  
and all things as if you stood hard by.**

**You shall see them with so much pleasure,  
that those that see it can never enough admire it.”**

(Della Porta, *Natural Magic in 20 Books*, translated into English in 1658, Book 17, Chapter 8, p. 365-6.)

The word **“lenticular”** means in the shape of a lentil,  
a seed with two convex sides. This lentil analogy is  
how we get our modern-day word “lens.”



He describes making a spectacle using two rooms:

**“In a tempestuous night the Image of anything may be represented  
hanging in the middle of the Chamber, that will terrify the beholders.**

**Fit the Image, before the hole, that you desire to make  
to seem hanging in the Air of another Chamber that is dark.  
Let there be many Torches lighted round about.**

**In the middle of the dark Chamber, place a white sheet,  
or some solid thing, that may receive the Image sent in.**

**For the spectators that see not the sheet,  
will see the Image hanging in the middle of the Air,  
very clear, not without fear or terror,  
especially if the Artifice be ingenious.”**

(Della Porta, *Natural Magic in 20 Books*, Book 17, Chapter 7, p. 365)

He also recommends using the camera obscura for entertainment, as Arnold of Villanova  
had done 3 centuries earlier:

**“Nothing can be more pleasant for great men,  
and Scholars, and ingenious persons to behold.**

**That in a dark Chamber by white sheets objected,  
one may see as clearly and perspicuously, as if they were before his eyes,  
Huntings, Banquets, Armies of Enemies, Plays, and all things else that one desireth.**

**Let there be over against that chamber, where you desire to represent these things,  
some spacious Plain, where the Sun can freely shine.**

**Upon that you shall set Trees in Order, also Woods, Mountains, Rivers,  
and Animals that are really so, or made by Art, of Wood, or some other matter.**

**You must frame little children in them,  
as we use to bring them in when Comedies are Acted.**

**And you must counterfeit Stags, Boars, Rhinocerets,  
Elephants, Lions, and what other creatures you please.  
Then by degrees they must appear, as coming out of their dens upon the Plain.  
The Hunter he must come with his hunting Pole, Nets,  
Arrows, and other necessities, that may represent hunting.  
Let there be Horns Coronets, Trumpets sounded.**

**Those that are in the Chamber shall see Trees, Animals, Hunter's Faces,  
and all the rest so plainly, that they cannot tell whether they be true or delusions.  
Swords will glitter in at the hole, that they will make people almost afraid.**

**I have often showed this kind of spectacle to my friends,  
who much admired it, and took pleasure to see such a deceit.  
And I could hardly by natural reasons, and reasons from the Optics,  
remove them from their opinion, when I had discovered the secret.**

**Hence it may appear to Philosophers,  
and those that study Optics, how vision is made.  
And the question of intromission is taken away, that was anciently so discussed.**

**Nor can there be any better way to demonstrate both than this.  
The image is let in by the pupil, as by the hole of a window,  
and that part of the Sphere that is set in the middle of the eye,  
stands instead of a Crystal Table.**

**I know ingenious people will be much delighted in this.  
It is declared more at large in our Optics."**

(Della Porta, Book 17, Chapter 8, p. 365-6)

Della Porta's contemporary, **Danielo Barbaro** of Venice (1513–1570) translated Vitruvius' *On Architecture* in 1556 and his own *La Practica della Perspectiva* (*The Practice of Optics*) in 1568. He is more specific about using a lens:

**"If you wish to see how nature shows us the various aspects of things,  
not only the outlines of the whole,  
but also their parts as well as of their colors and shadows,  
you must make a hole of the size of a spectacle lens  
in the window shutter of a window of a room where you wish to observe.**

**Then take a lens from spectacles used by old men,  
that is to say, a lens which is fairly thick at the center and not concave  
like the spectacles for younger men who are shortsighted,  
and fix this lens in the hole you made.**

**After that, close all the windows and doors of the room,  
so that no light is present except that which enters the lens.  
Take a sheet of paper and hold it behind the lens  
and you will see on the sheet of paper every detail,  
however small, of everything outside the house  
and this will happen most distinctly at a given distance from the lens.**

**By moving the sheet of paper towards or away from the lens  
you will find the most suitable position.  
Here you will see the images on the paper as they are,  
and the variations, colours, shadows, movements, clouds,  
the rippling of water, birds flying, and everything that can be seen.”**

Barbaro also suggests using a diaphragm, and the use of the camera obscura as a drawing aid:

**For this experiment you should choose the glasses which do best,  
and should cover the glass so much that you will leave a little of the circumference  
in the middle, which should be clear and open, and you will see a still brighter effect.**

**Seeing, therefore, on the paper the outlines of things,  
you can draw with a pencil all the perspective and the shading and colouring,  
according to nature, holding the paper tightly till you have finished the drawing.**

(Danielo Barbaro, in Wheelock, in Mary Sayer Hammond, p. 171-2.)

Two more Italians, **Giovanni Battista Benedetti** of Venice and **Franciscus Maurolycus** (1594 – 1675) of Messina, Sicily also described the use of the camera obscura to view solar eclipses.

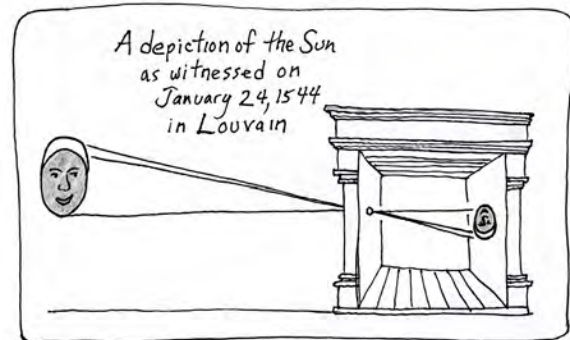
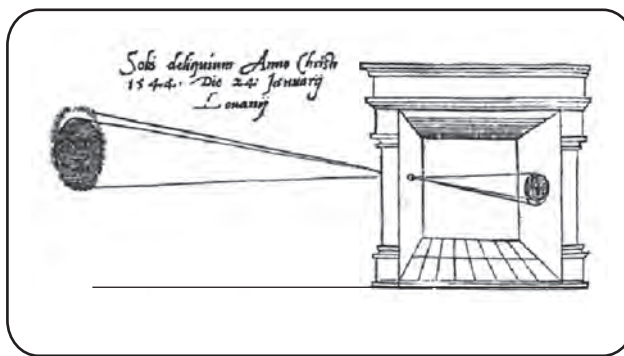


### *The camera obscura was known in Northern Europe as well.*

The German mathematician and astronomer **Erasmus Reinhold** (1511–1553) wrote a commentary on Georg Purbach's *Theoricae Novae Planetarum* (*New Planetary Theories*), in which he explains that not only are camera obscuras useful for observing eclipses, but also “things in the street.” Reinhold describes viewing the solar eclipse of January 24, 1544, and another in 1545.

Reinhold's student, **Reinerus Gemma-Frisius** (1508–1555), illustrated how they viewed the January 24, 1544 eclipse in his 1545 *De Radio Astronomica et Geometrica*. [This title, “*On an Astronomical and Geometrical instrument*” refers to his revised Jacob's staff, which was about 4 ½ feet long, with a 28 inch cross bar and had a new feature, a sliding sighting guide.]

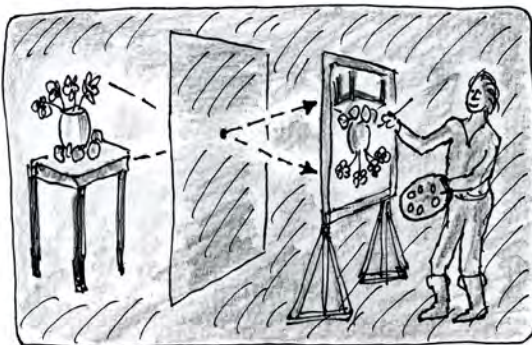
Here is Gemma-Frisius' illustration of the eclipse viewing, along with my modern-day sketch of it.



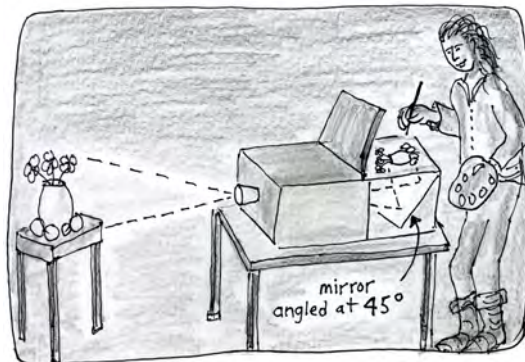
### *The history of the camera obscura from 1600 to the present day*

Much of this information on the history of the camera obscura comes from the husband and wife team of John and Mary Sayer Hammond. John wrote *The Camera Obscura, a Chronicle* in 1981 and Mary wrote the detailed 400-page *The Camera Obscura, A Chapter in the Pre-history of Photography* as her 1986 Ph.D. thesis at Ohio State University.

John Hammond's book is organized century-by-century. His chapter on the 1600's details Johann Zahn's 1686 *Oculus Artificialis* (or *The Artificial Eye*.) In his chapter on the 1700's he discusses how various artists used a small camera obscura in a box as a drawing aid.



camera obscura image projected  
onto translucent paper



a camera obscura in a box

John Hammond added a short appendix to his chapter on the 1600's quoting the English writer John Aubrey (1626–1697) who wrote *Brief Lives*, a compilation of short biographies of famous Englishmen.

**“Old Goodwife Faldo (a Native of Mortlake in Surrey)  
did know Dr. Dee and told me that he did entertain  
the Polonian Ambassador at his house in Mortlake and died not long after;  
and that he showed the Eclipse with a darke Room to the said Ambassador.”**

(John Aubrey, edited by O.L.Dick, in John Hammond, p. 37)

The English polymath John Dee (1527-1608) probably learned about the use of the camera obscura in 1548 when he studied in the Louvain (in the Netherlands) under Gemma Frisius.



Nicéphore Niépce used a camera obscura and a sensitized plate to make the first photograph

In the 1800's **Nicéphore Niépce, Louis J. M. Daguerre** and **W. H. Fox Talbot** invented photography using a portable camera obscura, light sensitive plates and chemistry. Camera obscura rooms become the entertainment rage in parks and sea-side resorts. (Hundreds still exist today, as documented on the website for the Brighton Museum, in East Sussex England and on *The Magic Mirror of Life* website hosted by Jack and Beverly Wilgus.)



Camera Obscura room from the late 1800's, in Santa Monica, California

In the 1900's **George Eastman** mass-produced the famous BROWNIE box cameras that sold for one dollar each. Eastman's company Kodak first manufactured of film on flat sheets, then later on rolls, which were used for motion pictures. In 1925, the German company Leica designed a camera that could use Kodak's roll film for still photography. Then color film was perfected.



George Eastman's Kodak "Brownie" box camera

Around 1970, the first CCD (charged-coupled-device) was invented leading to the digital revolution that changed the photo industry around 2000. You know the rest.

Now we snap pictures on cell phone cameras. But no matter how compact or electronic these devices are, they all have camera obscuras inside them.



even cell phone cameras are camera obscuras.

Western man has been fascinated with the behavior of light in a camera obscura for a long time: from the Greeks, to the Arabs, through Medieval times, Renaissance to Kodak to digital photography.

Nowadays, we go to the movies and think very little about the idea that a camera obscura captured the images, and that we are sitting in a camera obscura viewing them. But when the idea of a projected image was first seen by people of the Renaissance, it was utterly magical. It challenged their worldview so much that many users of camera obscuras were considered to be conjurers.

The German Theologian Johann Arndt provides an example of camera obscura paranoia in his 1605 *Wahres Christentum*:  
(Arndt, in Renner, p. 7-8)

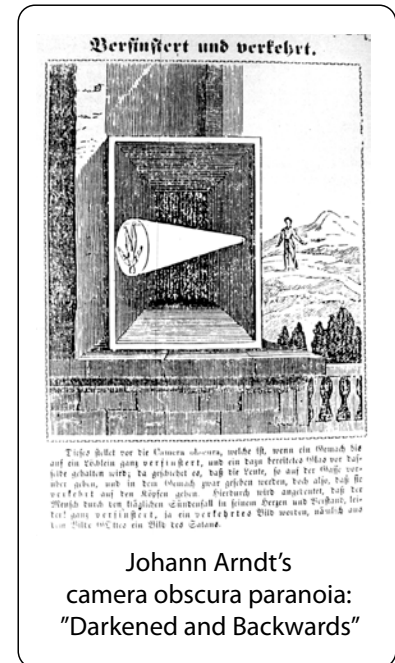
### ***Darkened and Backwards***

**“This person stands before a camera obscura which is a chamber that has been darkened except for a little hole, and a prepared glass is held before it.**

**Then it happens that the people who are walking past in the alley can be seen in the chamber, but indeed upside down.**

**Through this it is indicated that man because of his dark fall from grace in his heart and in his mind, unfortunately is lost!**

**Totally dark, even backwards, and upside down.  
This is transforming an image of God into an image of Satan.”**



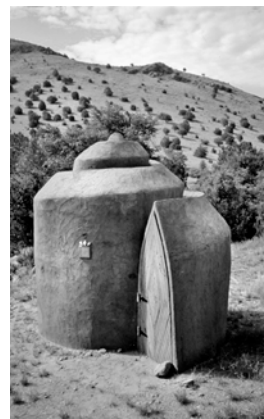
# THE CAMERA OBSCURA AS A “MERIDIANA” AND THE GREGORIAN CALENDAR REFORM OF 1582



I felt that learning more about the camera obscura would provide more clues as to who built the “Old Stone Mill” in Newport, so I decided to ask the experts.

I took a week long workshop on the camera obscura and pinhole photography taught by the husband and wife team of Eric Renner and Nancy Spencer of the Pinhole Resource. It was held at their house in the foothills of the desert in the extreme southeast corner of New Mexico.

Next to their house they have built a stucco camera obscura room in the shape of a nautilus shell spiral. Many different holes (even one on the roof) provide crisp images of the surrounding desert landscape.





Until recently Eric and Nancy published the *The Pinhole Journal* which displayed the works of many fine-art pinhole photographers from around the world.

In 1997, they dedicated an entire issue to “**Renaissance Pinhole Sites in Italy.**” Eric, Nancy, and their son had traveled to Milan, Bologna, Florence, and Rome photographing the churches that had been fitted with pinhole apertures and “meridiana lines” during the Renaissance.

Around the same time the noted astronomer J. L. Heilbron published a book entitled *The Sun in the Church: Cathedrals as Solar Observatories*, complete with astronomical explanations, history and color photos.

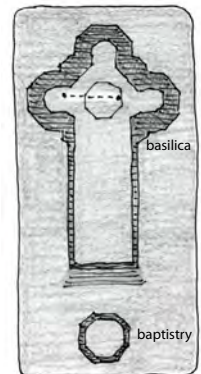
When small apertures were placed way up high in the dome or window or facade, these enormous cathedrals acted like giant camera obscuras. Because the interiors of the cathedrals are not totally dark, images of the clouds might not be visible, but the bright image of the sun or the “solar disc” made a bright spot on the floor.

In the larger churches, the solar disc was over 2 feet in diameter. As the sun moved east to west across the sky, the solar disc moved west to east across the floor of the church.



Toscanelli's pinhole and solstice mark inside the Duomo in Florence

In 1472, the Renaissance astronomer **Paolo Toscanelli** (1397–1482) placed a pinhole aperture in the Duomo (Basilica di Santa Maria del Fiore) of Florence. It's just at the base of the lantern windows beneath Brunelleschi's famous dome. A small marble disc was placed in the marble floor marking the exact spot of the solar disc at noon on June 21, 1472. According to his friend Regiomontanus, Toscanelli was experimenting to determine whether the earth's axis was slowly changing from year to year.



overhead view of Toscanelli's pinhole and solstice mark

In the 1500's, there was much discussion between astronomers and theologians about calendar reform. The Julian calendar had been introduced by Julius Caesar and his astronomer **Sosigenes of Alexandria** in 45 BC. The Julian calendar included leap days to make it more accurate, but still the Julian calendar scheme differed from the astronomical solstices and equinoxes by about 11 minutes per year.

While Sosigenes probably knew of the discrepancy, he apparently felt it wasn't significant. But at a rate of 11 minutes a year, the Julian calendar gained a day about every 134 years. From 325 AD Council of Nicea (when it became the official calendar of the Christian Church) to the 1500's, the calendar had become 10 days out of alignment.

In 730 AD, the venerable Bede, an English monk, wrote about the drift of the calendar and recommended something be done about it.

In the Medieval era, astronomer Johannes Sacrobosco (1195–1256), in *De Anni Ratione*, wrote the Julian calendar was out of sync with the sun.

Roger Bacon (1214–1294) quite accurately estimated the calendar was off by 1 day every 125 years.

Regiomontanus (1436–1476), his teacher George Peurbach, and Nicholas of Cusa (1401–1464) all recommended calendar reform to the 1434 Council of Basel. Regiomontanus advised Pope Sixtus that change was necessary to “**follow the simplest rules of God’s Law.**”

(Heilbron, p. 36-41)

The Council of Trent in 1563 finally referred the matter to Pope Pius V, but it wasn’t until 1582, almost 2 decades later, that the change was made.

In 1572, Pius V died and Gregory XIII became the Pope. Luigi Giglio, a doctor from Southern Italy, presented the new Pope with a plan to reform the calendar. But then Luigi suddenly died. So the Pope created a calendar reform commission headed by Luigi’s brother Antonio Giglio, **Christopher Clavius** (1538–1612), and **Ignazio Danti** (1536–1586).

Clavius, the renowned Roman expert on astronomy and mathematics, based his calculations on Erasmus Reinhold’s 1551 astronomical tables (called the Prussian Tables after the Duke of Prussia) which were based on data provided by Copernicus. Even though Clavius disagreed with Copernicus’ heliocentric theories, he knew the tables were more accurate than the 300-year-old Alphonsine tables.

Clavius was the driving force of the commission, technically and politically. In his lifetime, he wrote 6 treatises defending it, culminating with his 600-page *Explanation of Gregory VIII Roman Calendar Reform in 1603*.

### ***Ignazio Danti and his Meridiana***

The commission included representatives from all over Catholic Europe. The second most influential scientific mind in the group was Ignazio Danti from Florence.

His parents named him Pellegrino Danti, but he changed it to Ignazio when he became a Dominican monk at age 19. He was a zealous student of mathematics, astronomy, and geography and was soon tutoring wealthy Florentines.

In 1563, Cosimo I dei Medici, the Grand Duke of Tuscany commissioned Danti to paint his palace walls with detailed maps of various regions of the world (which he based on the work of cartographers like Abraham Ortelius and Gerard Mercator.) Cosimo had Danti construct technical instruments like astrolabes and even draw the architectural plans for a new Dominican church.

In 1571, Cosimo invited Danti to live in the Duke’s grand palace so he would be “continually available for service in cosmological matters.” (Heilbron, p. 50)

Cosimo and Danti discussed the impending calendar reform. Cosimo was quite excited about being in power during such a momentous occasion – the first revisioning of the calendar in 1500 years. He saw himself as Julius Caesar, and Danti as his Sosigenes.

Gregory VIII’s calendar reform was ultimately based on the findings and proposals of noted astronomers since the 1200’s. But Cosimo wanted Danti to demonstrate to Florence that the Julian calendar was out of sync with the movements of the sun, and perhaps obtain data that would make the reform even more accurate.

Danti realized the key piece of data was to find the exact number of days – down to the fraction – between the Spring Equinox of one year to the Spring Equinox of the next year.

Danti, with Cosimo's persuasive power, got permission from the Dominican brothers to attach an armillary sphere and a "quadrant" sundial to the newly designed façade of the Santa Maria Novella Church (Novella means new). These astronomical instruments can still be seen today, about 22 feet off the ground.

These are the same instruments that Sosignines and Ptolemy would have used to determine the time of the Spring equinox. Danti later wrote that this façade was chosen because:



armillary sphere

**“... it was the most convenient and stable in Florence,  
strong enough the stand immobile as long as the world lasts,  
and being freely exposed to the south,  
so as to receive the rays of the sun at the times  
of the equinoxes from morning until evening.”**

(Danti, “Prima” volume, 1578, pp.319 and 323, in Heilbron, p. 62)



quadrant sundial

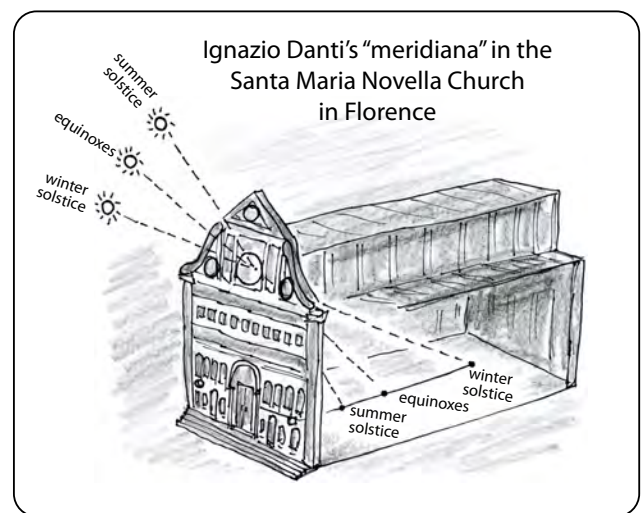
On the spring equinox of 1574, Danti invited the Florentine elite to witness the play of sunlight on the armillary sphere. It demonstrated that the equinox fell at exactly 10:24 (modern time) on March 11, 1574. Danti used the “quadrant” sundial, with its two horizontal gnomons, to determine the length of the tropical year, but the quadrant was not large enough to provide the precision required.

Danti came up with a new idea. He installed a metal plate with a hole in it on the edge of the grand circular window of the church, about 70 feet above the ground. On the stone floor inside the church he drew a line from the point right under the hole due north. The combination of the hole and the line is called a “*meridiana*,” meaning “noon” (*medius* means “middle” and *dies* means “day”).

The interior of the church became a giant camera obscura and the image of the round sun, (the solar disc) slowly crawled across the floor crossing the “meridiana line” at noon each day. But as the sun is lower in the sky in winter, and higher in the summer, the solar disc crosses the meridiana line at different places each day.

The summer solstice solar disc crosses the line 33 feet from a point beneath the aperture. The winter solstice solar disc crosses the line 188 feet from the point beneath the aperture. Thus the *meridiana* line is about 155 feet long – that’s a half of a football field.

With such a grand astronomical device, Danti could accurately count the number of days between two spring equinoxes and have accurate data to present to Cosimo.



But something unfortunate happened. Cosimo died. His son Francesco wanted nothing to do with his father or his projects and banished Danti from Florence. The *meridiana* line project had to be abandoned.

Danti moved to Bologna and built a small *meridiana* in chamber of his convent. The hole was only 12 feet above ground and the line was 25 feet long. The room wasn't quite large enough as the "winter solstice end" of the line had to run up a pillar.

Danti got permission to build a larger *meridiana* the largest church in town – the basilica of San Petronio. The church was not oriented exactly on a north-south axis, so Danti had to settle for a meridiana line that squeaked between several massive pillars. There were other problems as well. The floor of the church was not exactly level, and in the course of the year of the careful counting of days, the metal plate with the hole in it slipped. Any small movement of the aperture made a big movement of the solar disc below.



The meridiana line  
in the Basilica of San Petronio,  
Bologna, Italy



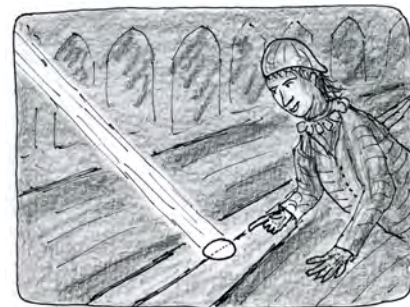
meridiana hole is in the upper right

In 1581, the calendar reform issue was coming to a head. Pope Gregory XIII ordered Danti to move to Rome. On the top floor of the "Torre dei Venti" (**Tower of the Winds**). Danti made a small *meridiana*. The hole was only about 20 feet above floor level. In the Biblical fresco later painted on the south wall, Danti had the hole put in the mouth of the God of the South Wind, depicted as a man in a cloud blowing a small ship around with tempest winds.

Again, the room was too small to accommodate the "winter solstice end" of the line, but it was the equinoxes that most interested Danti. Where the equinox solar disc fell, he inserted a large flat piece of marble in the wooden floor. (Heilbron, p. 79)

Dante's data would not have been as accurate measurements made in a grand basilica, but the Pope was pleased to commemorate his reform with this exhibit. This room was more for show than anything else. As emphasized earlier, astronomers had been aware of the 10-day discrepancy much earlier.

Finally, the change was made. The last day of the Julian calendar (October 4, 1582) was followed by the first day of the Gregorian calendar (October 15, 1582).



Ignazio Danti studying the solar disc  
as it crosses the meridiana line





The obelisk and winter solstice marker in the plaza in front of Saint Peter's Basilica

The Pope made Danti the Bishop of Alatri (a suburb of Rome). But the next Pope, Sixtus V, called Danti back to Rome to oversee the erection of an 80 foot-tall obelisk in the grand plaza in front of Saint Peter's Basilica.

Dante's job was to build a north-south meridian line on the plaza with the solstices, equinoxes, and signs of the zodiac marked. After the obelisk was erected in September 1586, he was riding back to Altari, caught pneumonia, and died. (Heilbron, p. 80)

In modern times, this plaza meridian line has been marked with large stone discs that mark the various signs of the zodiac.

(An obelisk sundial is an "inside out" camera obscura church interior, where the tip of the gnomon acts like the aperture.)

Since Danti's time many other cathedrals throughout Europe have been adorned with meridian.

For example, in 1703 the Pope inaugurated a *meridiana* inside Santa Maria degli Angeli in central Rome. (The Basilica of Saint Mary of the Angels was originally designed by Michaelangelo.)

Francesco Bianchini, the designer of the "heliometer," called it "... an image of the heavens serving as a floor in the house of God..." (Heilbron, p.160)

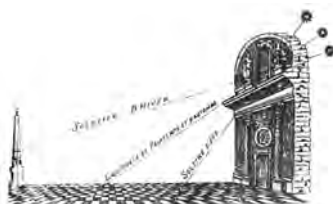


The *meridiana* line in Santa Maria degli Angeli, Rome, (1703)



The *meridiana* line in Saint Sulpice, Paris (1727)

photos by Rus Benson



In 1727, a *meridiana* line was installed in the newly refurbished Saint Sulpice in the heart of Paris.

It is 180 feet long, but the solar disc is projected on the northern wall during the winter solstice, so a wall-mounted obelisk was constructed for that end of the line.

(Heilbron, pp. 220-225)



### ***A monk named Helperic (875 AD) and the solar disc***

This exploration with “meridiana” took place in the same time period that the idea of the “camera obscura as vision” was being contemplated. Toscanelli, in the late 1400’s, was a contemporary of Da Vinci. Ignazio Danti flourished in the mid 1500’s, at the same time as Cardano, Della Porta, Barbaro, and Gemma Frisius.

But the idea of using a “dark room” as a calendar goes back way before Toscanelli. Stephen C. McCluskey, in his 1998 *Astronomies and Cultures in Early Medieval Europe* discusses a monk named Helperic, living at a monastery in Auxerre (central France) around 875 AD who wrote the popular “*Computus Helperici*,” a way of computing the calendar that was used until around 1150.



Helperic marks the position of the solar disc at sunrise

Helperic recommended that the reader should:  
**“note each day at sunrise where sunbeams,  
passing through an aperture,  
fall on the western wall of a room.”**

(McCluskey, p. 151)

Instead of using a noon-time meridiana line, Helperic drew a “sunrise horizon-line” on the west wall of his room.

Helperic claimed the sunrise images reach their northernmost limit on December 22, then start moving southward. A half year later on June 21 they would reach their southernmost limit on the wall then start marching northward again. The point in between these two extremes marked the equinoxes.

McCluskey notes that “Helperic’s observations cannot be described as exact” because by 875 the solstices had moved about 5 days out of phase with the sun. Thus the actual solstice days were around December 16 and June 17. Such a mistake is understandable because at the solstices the place of sunrise barely moves from day to day. But Helperic wasn’t actually basing his *Computus* on this experiment; he was only trying to help his students understand how the solstices and equinoxes divide the year. (McCluskey, p. 152)

So here is a monk who had studied the camera obscura solar disc before the Medieval scientists like Roger Bacon, John Peckham, and Witelo, and even before Alhazen had done his candle experiments.

Unfortunately, this long history didn’t specifically help me narrow down the possible time frame in which Newport Tower was built. From 875 (Helperic) to 1677 (Benedict Arnold’s will) is about 800 years. But the data did seem to indicate there was a huge spike of interest in the camera obscura in Late Renaissance Europe, around 1550.

## *Mo Ti predates them all, by far*

Before moving on, I must add that the ancient Chinese were aware of the camera obscura, long before even Aristotle.

Around 450 BC, the philosopher Mo Ti called it the “**locked treasure room.**” He called the pinhole the “**collecting place**” (where the rays all cross) and observed that the rays from the top of an object produce the lower part of the image, and those from the bottom of the object produce the top part.

Mo Ti was quite ahead of his time. The next reference of the camera obscura was made around 850 AD, when Tuan Cheng Shih described the inverted image of a pagoda in a dark room, explaining that the light behaved like an “**oar in an oarlock.**”

(John Hammond, p. 1-2)



the behavior of light in a  
camera obscura is like an  
“oar in an oarlock”

## *Books on Optics and Horology that Dee owned*

Dee was not simply familiar with optics. He was probably knew more about optics and the history of optics than anyone living in Elizabethan England (and probably among the top 50 most-knowledgeable on those topics living in Europe at that time.)

### The number of books Dee owned by these various authors who wrote about Optics

#### Greek authors who wrote about Optics

Euclid	45	Including 7 copies of <i>Optica</i>
Ptolemy	35	Including <i>de Analemmata</i>
Aristotle	105	
Galen	14	

#### Arab authors who wrote about Optics

Al-Kindi	13	Including <i>De aspectibus</i>
Avicenna	14	
Alhazen	8	Including 5 copies of <i>Perspectiva</i>

#### Medieval authors who wrote about Optics

Robert Grosseteste	26	Including <i>de Luce</i>
Roger Bacon	65	Dee wrote a text defending Roger Bacon around 1555
John Peckham	6	Including 3 copies of <i>de Perspectiva</i> (one of which was Hartman's 1542 edition)
Witelo	3	Including <i>Perspectiva</i>
Arnold of Villanova	11	

#### Renaissance authors who wrote on Optics

Cesare Cesariano	1	His Italian translation of Vitruvius' <i>On Architecture</i>
Giramo Cardano	20	Including <i>de Subtilitate</i>
Giovanni Battista Della Porta	2	Including the 1558 version of <i>Natural Magick</i>
Danielo Barbaro	2	Including <i>de Perspectiva</i>
Erasmus Reinhold	9	Including the Prussian Tables
Reinerus Gemma-Frisius	5	Including <i>de radio Astronomica et Geometrica</i>

Dee was also an expert on Horology and Calendar reform. Here are the key names from my earlier chapter on Calendar reform, along with the quantity of books Dee owned by them, and pertinent works.

The number of books Dee owned by these various authors who wrote about Horology and Calendar Reform			
Medieval authors who wrote on Calendar Reform			
The Venerable Bede	5		
Johannes de Sacrobosco	14		Including <i>Computus</i>
Regiomontanus	8		Including <i>Tabula Primi Mobilis</i>
Renaissance authors who wrote on Calendar Reform			
Nicolas of Cusa	3		<i>Opera (Complete Works)</i>
Christopher Clavius	2		Including his 8 books on Horology (1581)
Ignazio Danti	1		His <i>de Perspectiva</i>

### *The camera obscura in the 1600's*

Clues to Dee's perception of the camera obscura phenomenon can be found by studying observations made by scholars who lived in the 1600's.

In his 1626 *Récréations Mathématiques*, the French Jesuit **Jean Leurechon** drew an illustration of a camera obscura employing a second lens to correct the image.

In 1633, William Oughtred translated Leurechon's book into English. It's description of a camera obscura is strikingly similar to Della Porta's colorful description.

a "**Roome dark [with a] small hole of six pence broad**  
**[that makes a] beautiful and goodly representation**  
**of the Heavens ... birds ... men ... trees ..., but inverted**"

In his 1640 *Of the Advancement and Proficiencies of Learning...*, the Englishman **Francis Bacon** writes,

**"The experiment we see made in a dark room,  
the light being let in thorow[through] a narrow chinck only,  
where the Images of things are without,  
are taken upon white paper, not upon black."**

(Bacon, 1640, pp. 232 – 33) and (Hammond, Mary Sayer, p. 245)

The chemist and physicist **Robert Boyle** (1627–1691) is well-known for his studies of blood circulation, heat, and pressure, but he also studied optics. His earlier writings reveal he knew about the camera obscura, but in 1663 used one to explain how vision works. When an eyeball, extracted from a dead cat or a dead man, is held up to a bright window,

**“ the Panes of glass, Iron Bars, etc., of the window...  
did on the Retina exhibit an inverted posture, according to the Optical laws.**

**The contracted, but lively Pictures of those external objects ...  
became visible through it to my attentive eyes:**

**As in a darkened Room  
the shadows of objects without it project on a fine sheet of paper,  
may, by reason of the thinness of the Paper,  
be seen thorow [through] it by those that stand behind it.”**

(Boyle, 1633, pp. 95-97). (Hammond, M.S. p. 247)

Mary Hammond says it's hard to determine if Boyle was aware of Kepler and Scheiner's use of the camera obscura as an astronomical tool.

In 1664, Robert Boyle wrote *Experiments and Considerations Touching Colours*, in which he uses a camera obscura to explain additive and subtractive color:

**“... In a Darkned Room, I purposely observ'd,  
that if the sun-beams, which came in at the Hole  
were receiv'd upon White ...”**

an image was visible, but when projected onto black velvet,  
the image would be **“Less Enlightened.”** He also did tests using colored paper.

(Hammond M.S. p. 250)

Boyle also clearly describes camera obscura image of the specular light reflected off the surface of choppy waters. This is the effect I call **“Fiery Water”** which would happen every sunny afternoon inside the first-floor room of the Tower.

The inverted projected image of the sun's reflection looks like flames, sparkles, or as Boyle sees them, **“Shining Scales of Fish.**



**“And I have sometimes for Tryals sake brought in by a Lenticular Glass,  
the Image of a River, shin'd upon by the Sun,  
into an Upper Room Darkn'd and Distant about a Quarter of a mile from the River,  
by which means the numerous Declining Surfaces of the Water  
appear'd so Contracted, that upon the Body that receiv'd the Images,  
the whole River appear'd a very White Object at two or three paces distant.**

**But if we drew Near it, this Whiteness appear'd to proceed  
from an Innumerable company of Lucid Reflections,  
from the several Gently wav'd Superficies of the Water,  
which look'd Near at hand like a Multitude of very Little, Shining Scales of Fish,  
of which by the Sun, Wind, and River generated anew ...”**

(Boyle, 1664, p. 105-106) (Hammond, M.S. p. 250)

Because of angle of reflection necessary, location and timing are important to observing Fiery Water. First, the camera obscura must be sited to overlook water. Secondly, in late morning, noon or early afternoon, the sun is too “high in the sky.” The best Fiery Water display for an eastward-viewing camera obscura is in early or mid-morning. For a west-facing camera obscura, mid- to late afternoon is optimal. (The latter describes the Tower’s western vista over Narragansett Bay.)

In the 1680’s Boyle worked closely with his assistant/associate **Robert Hooke**. As the Royal Society’s Curator of Experiments, Hooke invented and constructed equipment for the members’ investigations.

To explain how an eye functioned, he constructed a “rather novel camera obscura.” It’s basically a two-foot long cone with a two foot long cylinder attached. At the tip of the cone is a lens, at the end of the cylinder is a “moveable bottom” that can slide back and forth within the cylinder. This portable ‘lens-camera obscura’ is able to “focus” on objects at any distance. A small hole on the side of the cone, surrounded by leather or cloth to block extraneous light, allows the viewer to peer inside to see the image on the “moveable bottom” projection screen.

In order too simulate the effect of pupil dilation, Hooke also made a variety of “apertures” in cardboard, to hold over the lens.

In 1685, **Sir Isaac Newton** used the beam of light in a camera obscura to explain why a prism made a rainbow of colors. Besides his famous theories on the universe, in his “corpuscular theory of light” suggested that “light was particles moving in rectilinear motion.”



Sir Isaac Newton

In 1690, the Dutch mathematician and astronomer **Christiaan Huygens**, used the camera obscura to come up with his “wavelets” theory of how light worked. (Hammond, M.S. p. 258)

Huygens and his friend, inventor Cornelius Drebbel, made various camera obscuras,

**“by which the images of things outside  
were brought into a closed place onto a white board.”**

He assured his other friends that Drebbel was not a sorcerer doing magic,

**“But I assure you, finding nothing but nature in what he does,  
I do not need to keep my distance.”**

(Hockney, p. 210)



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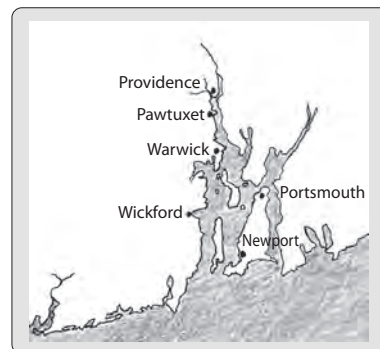
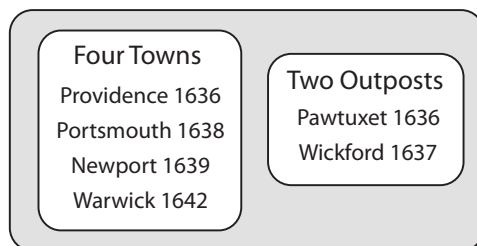
# CLUES ABOUT THE TOWER FOUND IN EARLY COLONIAL RHODE ISLAND HISTORY

Anyone who has studied Rhode Island colonial history knows the names of Roger Williams, Ann Hutchinson, William Coddington, John Clarke, and Samuel Gorton.

It's also well known that the first Governor of the chartered state of "Rhode Island and Providence Plantations" (1663) was Governor Benedict Arnold. But few people know the important part Benedict Arnold played in the blossoming of Rhode Island between its formative years from 1636 to 1663. He has never been the subject of a biographical book.

After painting a clearer picture of Benedict's character (based on the historical records) it will become easier to accept my assertion that **Benedict Arnold, the first Governor of Rhode Island fibbed when he called the Newport Tower a "Stone-built Wind-Mill."**

Benedict Arnold played a starring role in the story in the evolution the 4 towns and 2 outposts on Narragansett Bay as well as in their relationships with the local Indian tribes and the other New England colonies.



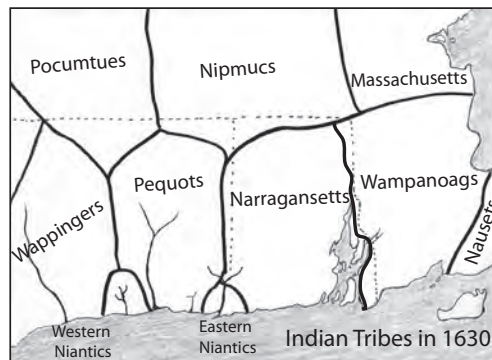
By the time of the founding of Providence, there were already quite a few towns in Massachusetts.

The decade of the 1630's was called the Great Migration. Over 20,000 people set foot in New England the largest mass migration in England's history.

Plymouth 1620	Watertown 1630
Salem 1629	Roxbury 1630
Lynn 1629	Dorchester 1630
Charlestown 1630	Marblehead 1633
Boston 1630	Ipswich 1634
Medford 1630	Newbury 1635
Cambridge 1630	Hingham 1635
	Dedham 1636

### *The Native Tribes, the Dutch Traders and the Pilgrims*

To understand the history of Southern New England in the 1630, we must first remember who was here first – the Native Americans. This map shows the general areas governed by the various tribes. The two largest tribes were the Pequots along what are now the Thames River and the Narragansetts of what is now Southern Rhode Island.



The other people who were here before the English were the Dutch, who traded with most of the coastal tribes. The Dutch were on good terms with the Pilgrims who, in a sense, were their comrades. The Pilgrims were of British birth, but they had organized their church in Leyden, in the Netherlands. The Dutch sold the Pilgrims wampum and explained how to trade with the Indians.

In 1631 the Dutch purchased the land at the mouth of the Connecticut River and upriver a ways they built a trading post called "The House of Good Hope." Shortly thereafter, the Pequots discovered that some of their enemies from other tribes had been visiting the fort. After one of these visits, the Pequots laid in ambush and murdered the other tribesmen.

The Dutch retaliated by killing Wopigwoot, the Great Sachem of the Pequots. This incited Wopigwoot's son, the fierce Sassicus, to declared war on the Dutch.

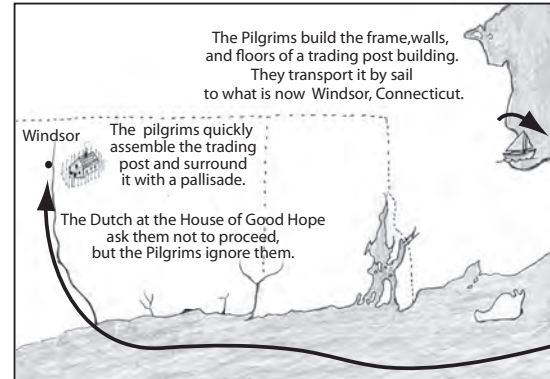
Some of the Pequots didn't agree with the way Sassicus was governing the tribe. Uncas and his followers left camp, moved upstream and formed the Mohegan tribe, (which is one reason there are two Indian Casinos in southern Connecticut today). Sassicus built two forts at the mouth of the Thames River, one on what is now the New London side and the other on the Groton side.

In 1631, the small tribe of Podunk Indians living along the Connecticut River were being challenged by the hostile Pequots. The Podunk Sachem Waahginnacut traveled to Boston to ask Governor Winthrop to settle a plantation between the Podunks and the Pequots to serve a "buffer zone." He offered eighty beaver skins, food supplies for one year, and trading opportunities. Winthrop refused.

So, Waahginnacut traveled to Plymouth and made the same offer to the Pilgrim leaders. Governor Bradford knew the most lucrative business around was buying beaver pelts from the Indians for sale back in Europe. The Pilgrims already had an outpost in Maine that was proving to be profitable, so he told the sachem he'd think it over.

Two years later, in 1633 the Pilgrims prepared the framing timbers, the wallboards, and floorboards for a trading post. They transported the pieces around Cape Cod and up the Connecticut River.

As they passed the House of Good Hope the Dutch demanded they proceed no further. But the Pilgrims ignored them and sailed on by. Near what is today the town of Windsor, they quickly assembled their building and surrounded it with a tall palisade fence. Being further upstream, the Pilgrims now had first opportunity to buy for from all the Indians to the north.



As a counter ploy, the Dutch ventured even further upstream sent their traders directly into the Indian villages. Three Dutch traders actually spent the winter in one of the larger Indian villages. Unfortunately, one of them was a smallpox carrier. By spring, 950 of the 1,000 Indians had died. The disease spread east, killing 700 Narragansetts, then further devastating the tribes of Massachusetts and southern New Hampshire.

In 1633, the rambunctious Captain Stone from Boston skirmished with the Pequots. The Indians killed Stone and set his boat on fire.

Over the next year, a treaty was signed between the Pequots and the Mass Bay Colony. The Pequots agreed to trade only with the English and not the Dutch. By 1635, the several English towns in Connecticut elected John Winthrop Jr. as their Governor. In 1636, the notorious English Trader John Oldham was killed while trading with the Indians of Block Island. In response, John Endicott of Boston burned all the Indian villages on Block Island and had skirmishes with the Pequots at Saybrook.

In retaliation, 200 Pequots attacked the English settlement of Wethersfield, just south of Hartford. The Pequots were on the offensive. They even asked their rivals the Narragansetts to ally with them against the English.

Let's pause this stirring story to see what was happening around Narraganset Bay at this time.

### ***Roger Williams wasn't alone***

Roger Williams (1603-1683) was the son of a well-to-do member of the Merchant Taylors guild. In his youth, Roger became the protégé of the famous judge Sir Edward Coke, who ruled the Star Chamber in the English Court System for many years. In 1630, Williams left his patron Coke and his post as a family chaplain to pursue his nonconformist religious ideals in the New World.

Arriving in Boston in 1631, he refused to associate himself with the Anglican Puritans and moved to the Separatist Plymouth Colony. After disagreeing with them about the issue of land ownership with the Indians, he moved north to Salem.

In the autumn of 1635, he had a falling out with the Salem church, maintaining that the magistrates had no right to interfere in matters of religion. For spreading "dangerous opinions," the Salem court ordered his imprisonment and deportation on the next ship returning to England. But, in secret, Roger had been trying to convince other members of the Salem community to join him in starting a new, more free-thinking plantation on Narragansett Bay.

In January of 1636, he clandestinely left Salem with four other men: The “then poor and destitute” William Harris had been on the ship *Lyon* with Williams in 1631. Thomas Angell was “a lad [a young servant] of Richard Waterman’s.” John Smith was a miller from Dorchester who had also been banished in the fall of 1635. Francis Wicks was “a poor young fellow,” who had been a servant to John Smith.

With the help of the Wampanoags, Williams and his crew spent the winter at Omega Pond in what is now East Providence, RI. But word came from Plymouth Governor Edward Winslow that this site was still within Plymouth’s bounds, and Williams was not welcome to settle there.

So in the spring of 1636, Williams canoed across the Seekonk River to the western side of what is now the Fox Point neighborhood. Supposedly they were welcomed by a Narragansett Indian with the English salutation “What Cheer,” to which Williams replied, “What cheer, Netop” (Netop is Algonquin for friend).

They set up camp near a spring, now the site of the Roger Williams National Memorial Visitor Center on North Main Street. Roger Williams was not totally unfamiliar with the area. During a trading expedition to Narragansett Bay several years earlier, he had become friends with the two Narragansett sachems Canonicus (died 1647) and Miantonomi (ca. 1665-1643). (Sidney, James, p.7)



The sachems welcomed this group of settlers as they would create a sort of a “buffer zone” between the Narragansetts and Wampanoag, who lately had been skirmishing.

Roger Williams encouraged the Narragansett leaders to ally with the English rather than join forces with the Pequots. It might seem strange that Williams would help the colonists who had just banished him, but Williams had remained friends with Governor John Winthrop. The two corresponded monthly for years. The Narragansett sachems even gave Prudence Island to Williams and Winthrop jointly, for use as a sheep farm.

### ***The Arnold Clan arrived at the same time***

But Roger and his four compatriots weren’t alone for long. In a memorandum, probably written around 1651, Benedict Arnold writes:

**“We came to Providence to Dwell the 20th of April 1636,”**

(Arnold, J.N. p.1) (Arnold, F.A. p.42) (Tompkins, p.1)

Benedict’s term “We” refers to the ten members of the Arnold clan led by William Arnold (age 48) and his wife Christian Peake Arnold.

### ***A brief family history of the Arnold clan***

William Arnold’s father Nicholas had married Alice Gully around 1570. Nicholas was a member of the influential Merchant Taylors’ Guild in Ilchester for fifty years. This small villiage is in Somerset, about 120 miles west-southwest of London. (The Merchant Taylors Guild was originally known as the Guild and Fraternity of St John the Baptist in the City of London.)

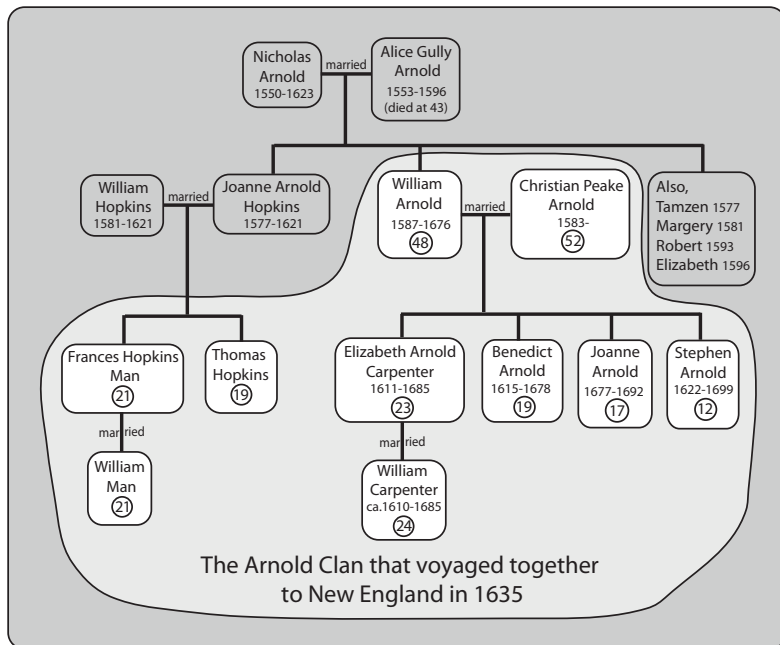
When Nicholas died in 1622, his then 35-year-old son William took over the successful business and gained “considerable wealth” over the next 14 years before deciding to move to New England. (E.L. Arnold, *Arnold Family*, p.5).



The Arnolds had a farm just east Ilchester in a district called Limington. Nicholas lived to be 72, but his Alice had died at age 43. The eldest daughter, Joanne (then only 19) became responsible for raising her younger brothers and sisters, Margery (age 15), William (age 9), Robert (age 3), and Elizabeth (age 1).

Sixteen years later, in 1612 Joanne Arnold married William Hopkins. They had a daughter named Frances and a son named Thomas. About the same time William Arnold married Christian Peake. They had four children, Elizabeth, Benedict, Joanne, and Stephen.

Around 1621, Joanne and William Hopkins both died. William Arnold repaid the debt to his kind sister by raising her two young children Frances Hopkins (age 8) and Thomas Hopkins (age 6).



As you can see in this chart, Thomas Hopkins and Benedict Arnold were like twin brothers. They were both the same age and grew up in the same household. It appears as though William Arnold waited until Thomas and Benedict had received a good education before transporting his family off on a one-way adventure to the New World.

By then, Thomas and Benedict's older sisters had gotten married: Frances Hopkins to William Man, and Elizabeth Arnold to William Carpenter.

William Carpenter's father was a minister who had given William Arnold a number of books on religion. William Arnold had also been a warden of St. Mary's Church in Ilchester. (Interestingly, the great philosopher Rober Bacon [ca. 1220- 1292] had been born in Ilchester and had attended Saint Mary's Church, where there is a memorial in his honor.)



Modern day  
Ilchester, Somerset



Saint Mary's Church



Memorial to Roger Bacon  
in Saint Mary's Church

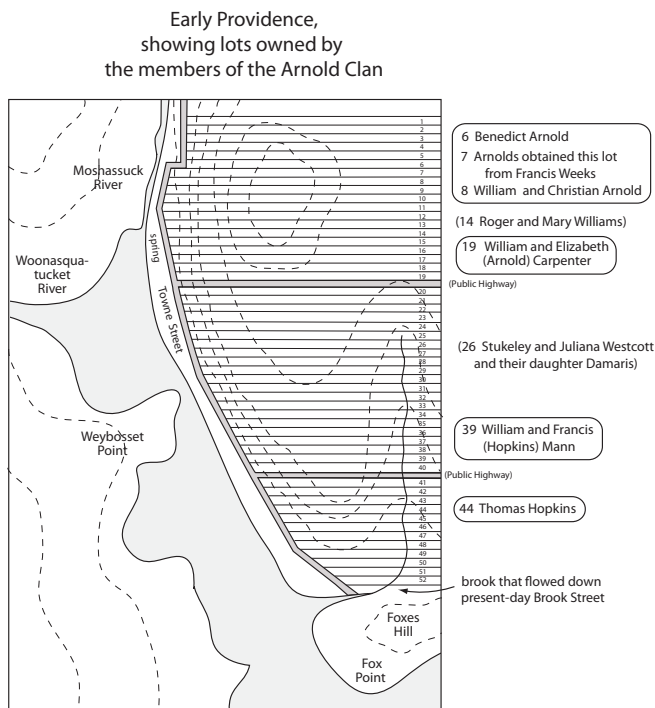
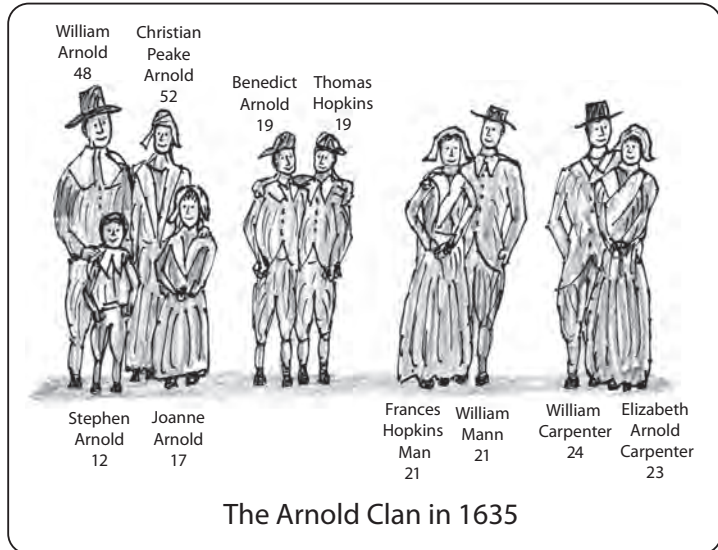
On May 1, 1635, a large group of people who were mostly from Ilchester set sail from Dartmouth on the southern coast in Devon. Also on board the ship was Stukely Wescott's family whose children included Damaris Wescott and her five brothers and sisters. (Benedict and Damaris later got married in 1640).

After a 55-day voyage, the ship finally landed in the Massachusetts Bay Colony on June 24, 1635, William Arnold's 48th birthday. This also happens to be St. John's Day, a much celebrated day in England and throughout Europe. It was "Midsummer" as in Medieval times (in the old Julian calendar) the summer solstice fell on this day.

Here's a family snapshot of the Arnold clan with their respective ages at the time of the voyage:

The Arnold's lived in Hingham for about ten months, but disapproved of Hingham's form of government, which was changing from "West Country Leadership" to "East Anglican Oligarchy."

Hingham's new leaders like Anthony Cooper and Peter Hobart were enforcing strict "presbyterianism and political exclusiveness." William Arnold was more interested in "worldly advancement and godly reformation" (O'Toole, p.275-276).



The settlers of Providence divided the land between what is now South and North Main Street to Hope Street into long sections. Roger Williams' house lot was near the spring.

William Arnold's house lot was further north near where present day Star Street is. A contemporary deed refers to William Arnold's "Wolf Trap" evidently built for the protection of his cattle or sheep.

Benedict Arnold's lot was two lots north of his father's, along where Jenckes Street and Barnes Street are today. The Arnold's obtained the lot between them from Francis Wickes, so they had a large swath of land at the top of the hill, in the area where Prospect Terrace Park over looks the city today.

Others soon joined the new settlement which Roger Williams named "New Providence" (the new was later dropped). In 1637, John Green and John Thrackmorton moved down from Salem. In 1638, Thomas Olney, Richard Waterman, Stukley Westcott, and Francis Weston had separatist views that conflicted with those of the new pastor, Hugh Peter, and they were "authorized" to leave. Soon after, separatists Ezekiel Holliman, Robert Coles and Thomas James, a pastor who had fallen from grace with the people in Charlestown moved to Providence. By 1640 the population of the burgeoning town had reached 100. (Sidney James, p.20).

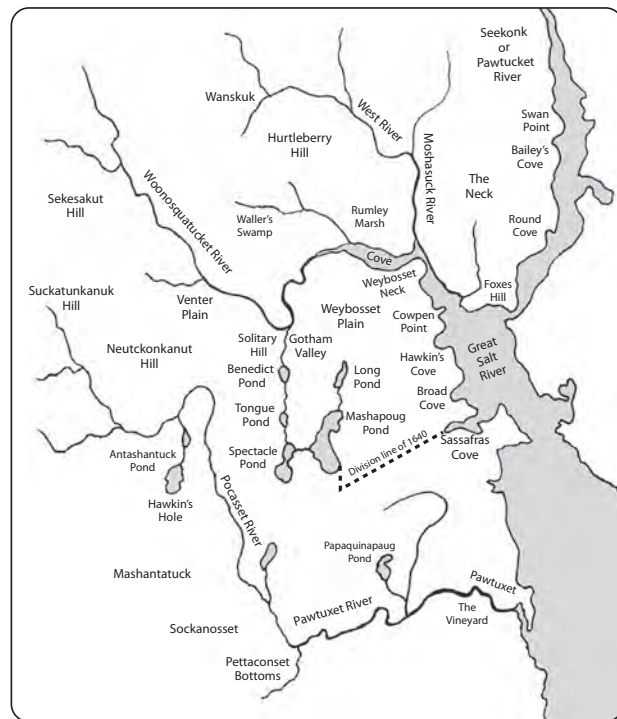
## ***Providence Land Disputes and William Arnold moves to Pawtuxet***

Roger Williams' first agreement with the two Narragansett sachems Canonicus and Miantonomi was a verbal transfer of "the lands and meadows upon the two fresh rivers called the Moshassuck and Woonasquatucket." Several of the residents of Providence voiced concern over Williams' vague agreement. Already settlers were pushing these limits (up into present day Pawtucket to the north and past present day Olneyville to the west). The minor sachems whose people lived in these border areas were complaining of intrusions as well. (Rider, *Lands* p.64)

So Roger Williams and Benedict Arnold met with the two sachems on March 24, 1638 to clarify the boundaries, which were graciously extended. The new deed included the meadows along the Moshassuck and Woonasquatucket as far north as the falls in Pawtucket and as far west as Neutaconkanut Hill and Mashapaug Pond. An addendum was made on June 9th that the settlers could use all the lands up the Pawtucket River and the Pawtuxet River "without limits" to graze cattle. At this time Roger Williams was a 35 year-old father of three (with a newborn child named Providence) and Benedict Arnold was single and only 23 years old. Not only were Roger Williams and Benedict Arnold strong-willed characters, but they both learned to speak Algonquin through their close contact with the Indians.

On October 9, 1638 Williams officially relinquished **"equal right and power of enjoying and disposing the... grounds and lands about the Moshassuck, Woonasquatucket and Pawtuxet to twelve of his 'loving friends and neighbors' and such others us the major part of us shall admit into the same fellowship of vote with us."** These 12 men agreed to pay Williams 50 pounds sterling for tracts in Providence and Pawtuxet.

These original 12 men and Roger Williams also agreed to appropriate all the "meadows at Pawtuxet" to be divided up among only themselves.

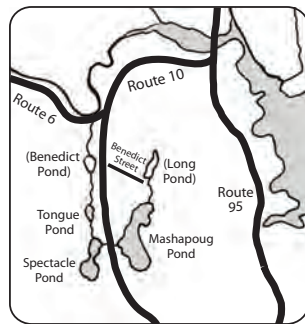


Landmarks around Early Providence  
(from map by C.S. Brigham, 1903)

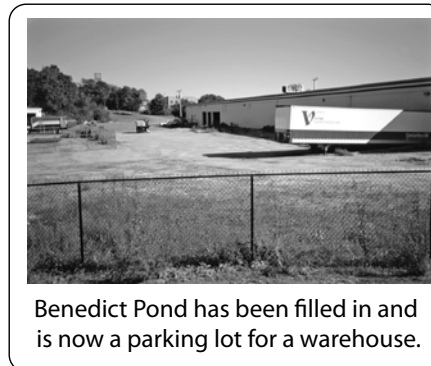
The independent-minded William Arnold had had enough of Providence and Roger Williams. Even though the Pawtuxet meadows were meant for cattle, he chose the best parcel for his clan and built a homestead. Not only did he get the beautiful little harbor at Pawtuxet Cove, he got all the land north of the falls up to the ford where the Pequot Path Indian Trail crossed the river (just east of the bridge where Warwick Avenue or Route 117 crosses the Pawtuxet River).

His eldest daughter Elizabeth and her husband William Carpenter settled just further to the west (a marker in what is now a suburban neighborhood still marks the site of the Carpenter homestead). Later, his the youngest daughter Joanne married Zachariah Rhodes and settled nearby. Joanne's brother, Stephen Arnold, and Zachariah Rhodes built a corn mill at the falls. Free from the discerning eye of the people of Providence, Arnold and his clan started making independent land deals with the Indians.

It appears as though Benedict still lived in Providence, as he married Damaris Wescott in 1640 and was still on the tax rolls of Providence of 1650. They probably lived in a big "stone-ender" house on what is now Prospect Hill, with a grand view of the small town and fine view of the Narragansett Bay to the south.



Benedict Street still goes to Benedict Pond (but it's no longer there)



Benedict Pond has been filled in and is now a parking lot for a warehouse.

Even a modern street map of Providence can show you the choice land that Benedict got to graze his cattle. Benedict Street crosses Cranston Street on the western edge of Providence. On the other side of Route 10 is a low area which was once the site of Benedict Pond. It was a marshy pond that was part of the waterway that emptied Mashapaug Pond, Spectacle Pond and Tongue Pond into the Woonasquatucket at its bend in Olneyville. (This elbow of the Woonasquatucket used to make its pronounced bend in what is now the Olneyville Freight Yard, but that wide turn was later clipped by the canal that runs through Olneyville.)

Benedict's "twin" brother Thomas Hopkins soon headed north instead of south. He settled in an area called Louisquisset, ten miles north of Providence (the Louisquisset Pike still goes there). His sister, Frances, and her husband William Man probably joined them. (Thomas Hopkins later moved twenty miles west of Providence and settled in what is now Foster RI. My wife and I live in a house built in 1726 by Thomas' grandson Joseph Hopkins and have many friends and neighbors who are Hopkins descendants.)

### *The Verin Case*

In May of 1638, Joshua Verin told his wife she was forbidden to attend the religious services that Roger Williams regularly held at his house. For "restraining the liberty of conscience of his wife" the court took away his voting rights. On Verin's behalf William Arnold protested that Verin's "liberty of conscience" had been violated. According to the Early Records of the Town of Providence Arnold and Verin "complotted together many odious accusations in writing, maliciously slandering Williams and Providence. (Early Records, Vol.1, 4, and Lafantasie, pp.156 and 185)



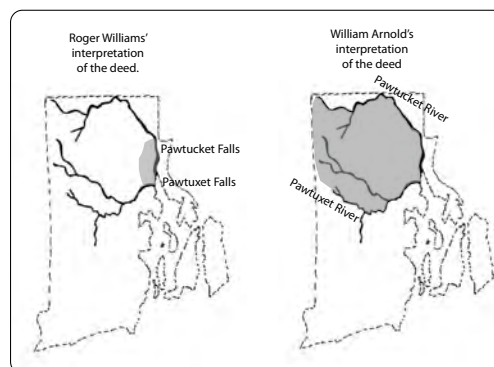
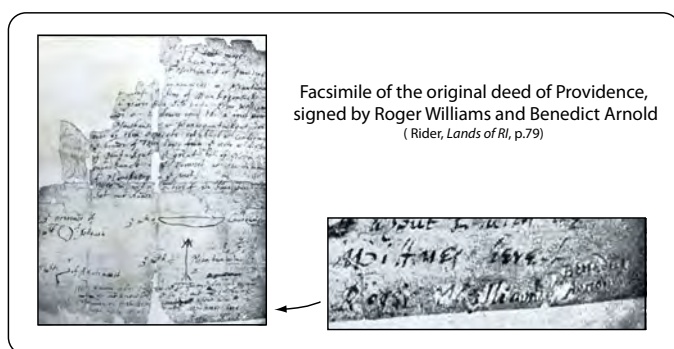
## *Roger Williams vs. The Arnold Clan*

A great rift divided Providence. Roger Williams felt the settlers should be content with the gift of land the Indians had generously allowed them to use extending from Pawtucket (north) to Pawtucket (south) to Neutaconcanutt Hill (west). William Arnold felt the Narragansetts had given the settlers all the land between the Pawtucket River (now the Blackstone River) and the Pawtuxet River. This means most of the present-day northern Rhode Island, from Providence to Woonsocket and as far west as Foster and Gloucester!

William Harris and William Field agreed with William Arnold's interpretation. They both moved south, near Pawtuxet, but on lands outside of the limits specified in the original deed. (This dispute continued for many years. William Arnold was even accused of making a forgery of the original deed saying all those lands were "freely given" by the Indians, and not just for cattle grazing.) (O'Toole, p.301) (Rider, *Lands*, p.81-112)

Williams and Arnold attempted to reconcile the direction of the colony by founding a Baptist Church in 1638. But in this society of independent thinkers, it fell apart after four months.

Providence had its characters: William Blackstone, who had lived alone in the woods north of Pawtucket for years, rode to Providence on his ox and preached occasionally. Some were over spirited, like Hugh Buitt, who insisted "what he spake, God spake." And some, like William Arnold, "displayed little interest in the life of the spirit." (O'Toole, p.303)



## *A New "Hubbub" in Providence*

At the end of 1640 a catalyst arrived in Providence. At first it united Arnold and Williams, but eventually split them apart even more. That catalyst was the fiery Samuel Gorton.

Gorton didn't believe in baptism, communion, or that any religious training was required for someone to be a preacher. Fearing persecution in London, he sailed to Boston in 1636. Not seeing eye-to-eye with the Puritans he travelled to Plymouth. He argued with the Pilgrims and then moved on to Newport. There he was ridiculed the town leaders and they voted to have him whipped in public.

In the fall of 1640, he and six followers moved to Providence. Again he insulted the town officials and spoke out against any kind of church hierarchy. A half-dozen townsmen sided with Gorton. It's not that his ideas were outlandish among the freethinking residents, but Gorton's "railing and turbulent" presentation was agitating the townspeople. As William Arnold puts it, Gorton's conduct brought the "**Towne into a hurrey** [commotion or agitation], **almost one halfe against the other**," making any kind of leadership impossible.

(William Arnold, in Winslow's *Hypocricie Unmasked* p. 60, and O'Toole, p.312)



When Gorton and his men submitted petitions to join the town, suddenly Roger Williams and William Arnold became “two unlikely allies.” They both spoke out against Gorton at the town meeting, and the petitions were denied. Even though they had no voting rights, the Gortonists stayed in Providence, creating more “Hubbub”.

The Providence officials appealed to Boston for help, but were refused, unless, of course, they were to choose submission to the Massachusetts Bay Colony.

Several of the townsfolk who sympathized with Gorton gave him their shares of the “meadow lands” on the Pawtuxet. William was infuriated that these “beasts in the shape of men” would be his close neighbors. So he went into negotiations with the local Indian tribes to buy the lands surrounding his Pawtuxet enclave. Arnold felt he had first-come, first-served rights being among the few who five years earlier had **“laid the first foundation, of the place, and even bought it even almost with the loss of their lives, and their whole estates.”** (O’Toole, pp.310-4)

He had his son Benedict negotiate a deal with Miantonomi. In December of 1641, Benedict and his brothers became owners of a huge tract of land south of the Pawtuxet River. In terms of modern day landmarks, they bought all the land from the Warwick Mall west to Pawtuxet Village and southward all the way to Green State Airport.

One month later, on January 10, 1642, William Arnold, William Carpenter and Robert Cole bought from Socononoco (the local Narragansett chieftain) all the land between the Pawtuxet and the Woonasquatucket as far west as the Pocasset River. In modern terms, this is a huge chunk of northern Cranston and eastern Johnston. Its eastern boundary is approximately from Warwick Mall up Route 95, then up Route 10, to Olneyville. Its western border is essentially Route 5 that winds up through Cranston and Johnston. The north boundary is Route 195-West; the south boundary is Route 37.

### ***The Arnolds submit their lands to the jurisdiction of the Massachusetts Bay Colony***

These deeds did more than prevent Gorton from grabbing these lands first. William Arnold, Benedict Arnold, William Carpenter and Robert Cole took the deeds to Boston and presented them to the town officials. As John Winthrop puts it, they **“offered themselves and their lands, etc. to us [of Massachusetts], and were accepted under our government and protection.”** (O’Toole, p.315)

William Arnold was named justice of the peace of this new Massachusetts Bay Colony outpost. Arnold also considered all the “Pawtuxet lands” north of the river as part of his jurisdiction, ignoring what the residents of Providence thought about it. (O’Toole, p.136)

The Arnold clan also obtained a warrant from the Governor and the Assistants of the Mass. Bay Colony giving notice that Gorton was living in the jurisdiction of Massachusetts and all disputes would be settled in the Bay courts. The warrant ends with the warning: “if you shall proceed to any violence, you must not blame us, if we shall take a like course to right them.” (O’Toole, p.316)

Roger Williams saw his young colony faltering. He and the townsmen decided the only way to have powers of enforcement for their government and legal system was to obtain a patent for the colony from the King of England. So he sailed to England and, with the help of his friend Sir Henry Vane, he applied for a charter.

Gorton had made his next chess move. On January 12, 1643 he purchased the “Shawomet Lands” from Miantonomi. Shawomet is the early name for Warwick, now the second largest city in Rhode Island after Providence. Not only did his purchase include the land Benedict and his brothers had bought from the local chieftains, but also included all of what is now West Warwick and Coventry. That’s a swath of land extending 5 miles (north-south) by 20 miles wide! Gorton subjected his Shawomet to the “Government of Old England.” Now he felt confident ignoring the demands made by Providence, Pawtuxet or the Mass. Bay Colony.

The Arnolds made the next powerful chess move and called “checkmate.” In May of 1643, Benedict Arnold brought Socononoco and Pomham (the two local chieftains of Shawomet) to Boston. With Benedict acting as interpreter, Pomham explained that Miantonomi had forced him to sign the deed to Gorton. Furthermore Pomham claimed he didn’t acknowledge Miantonomi as his chief anyway. The two Indians signed a document submitting their subjects and land to the jurisdiction of the Massachusetts Bay Colony. (McLaughlin, p.17 and Dunn, p.325).

Meanwhile, Gorton and his dozen disciples wrote a scathing four-page tract about Massachusetts Bay and its magistrates, which he later published as *Simplicities Defence against Seven-Headed Policy* (London, 1646). In it, Gorton compared himself to Jesus and John Winthrop to Pontius Pilate. (Dunn, p.233). The Gortonite Randall Holden also wrote Winthrop a letter, addressed to “**the great and honored Idol General**” and his “**generation of vipers.**”

Massachusetts Bay was fed up with this behavior. They sent three militia captains: Captain Cook (Cambridge), Lieutenant Humphrey Atherton (Dorchester), and Captain Johnson (Woburn) along with 40 soldiers down to Shawomet to apprehend Gorton.

On October 13, 1643, the Gortonists were holed up in a heavily fortified house. All day long insults and bullets were fired back and forth.



Finally, realizing they were outnumbered and trapped, the Gortonites surrendered. They were forced to walk to Boston in manacles and chains. After their day in court, Gorton was charged as being a “**blasphemous enemy of the true religion.**” Almost all of the assistants and elders “**were of the opinion that Gorton ought to die,**” but most of deputies dissented. The court sent each of the seven to a different town to do hard labor, wear irons upon one leg, and to remain silent upon “pain of death.”

Over the winter, the prisoners were found to be “corrupting” some of the Bay brethren, so they were all released, but banished from the Massachusetts Bay, Pawtuxet, and Shawomet.

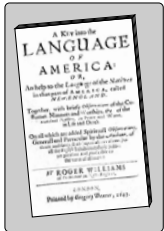
They returned to Aquidneck in the spring of 1644, “not crushed, but strengthened” by their experience. Gorton’s next move was to appeal to Miantonomi, but tragically the great sachem had just been killed by the Mohegan chief Uncas, “with the connivance of Massachusetts Bay.”

Instead, Gorton met with the grieving Canonicus and convinced him to sign a submission to the “King and State” of England. Gorton then informed the Mass Bay Authorities that now all Indian disputes must be settled in the courts of their mutual sovereign, the King of England.

(O’Toole, p. 325-6)

## Roger Williams and the Charter of 1644

Meanwhile, Roger Williams faced numerous challenges when he arrived in England during the summer of 1643. The country was in the midst of a Civil War. The King's forces had just captured the Parliamentary Army's stronghold in Bristol, as well as most of the West Country. The Parliamentary Army controlled the East Counties, the Midlands and were about to join forces with the Scottish Army.



While biding his time trying to meet with the proper authorities, Williams wrote and published “A Key into the Language of America” the first written compilation of the Algonquin language and various Indian customs.

Finally in early November of 1643, Parliament appointed Robert Rich, the Earl of Warwick, as “Governor in Chief and Lord High Admiral of His Majesty’s Plantation in America,” along with 17 commissioners.

The Massachusetts Bay agent in England, Thomas Weld, argued that his colony was becoming so over populated it should be given jurisdiction of Narragansett Bay. The vote was tied 9 to 9, so it failed to pass. But that didn’t stop Weld. He sent back to back Massachusetts saying he had succeeded, and the Mass Bay authorities started using it as proof of ownership.

With his authoritative book in hand, Williams networked around London. His influential friends introduced him to Oliver Cromwell. In March of 1644, he proposed a Charter for the “Providence Plantation, in the Narragansett Bay, in New England” to the Warwick Commission. It was approved by a vote of 11-8. (O’Toole, pp.355-358)

The charter granted jurisdiction over all the land from the ocean (on the south) to the Massachusetts boundary (on the north) and from Plymouth lands (on the east coast of Narragansett Bay) westward for 25 miles to the Pequot River and Country (the Pawcatuck River that winds northward from present day Westerly, RI).

In June of 1644, Williams published “*The Bloody Tenet of Persecution for Cause of Conscience*,” without signing it. In early August, Williams’ set sail for New England with his brother Robert Williams and printer Gregory Dexter. The House of Commons, feeling Williams’ ideas were too inflammatory, ordered that his new book be “**burned by the public hangman.**”

(O’Toole, p.360)



Roger Williams returns to Providence with the Charter of 1644

When the boat arrived in Boston, Williams was allowed to pass freely to his home in Providence. Upon his return he found himself “**hemmed in the middle of the Cannoes**” of his joyous Providence neighbors.

Most of the residents of Aquidneck Island were delighted to be part of the new charter. Everyone except was William Coddington. He envisioned Aquidneck Island as a separate colony and was appalled by the idea of having to share its governance with Providence.

Coddington refused to attend any more meetings of the Providence Plantations and petitioned the United Colonies to admit Aquidneck Island into their group. The United Colonies (or the New England Confederation) was a coalition of the Mass. Bay Colony, Plymouth, Connecticut, and New Haven under the leadership of Herbert Pelham.

The officials in Plymouth were miffed as well. They wrote the Warwick Commission claiming they were entitled to the Shawomet Lands because of a claim they had to the peninsula at Cowesett. Plymouth's John Browne even ventured to Newport to plead his case, but he retreated when he was almost tossed into the jail. (O'Toole, p.363-4)

For several years, from late 1644 to 1647, there were two general governments, the old regime with Coddington and the new regime of the colony of Providence Plantations.

The Massachusetts Bay also sent missions to other leaders of small tribes (the tribal neighbors of Pomham and Socononoco) to encourage them to submit to the protection of the Massachusetts Bay Colony. The talented translator and negotiator Benedict Arnold was probably recruited for this project.

### ***Intertribal conflict and discord between the Indians and the English***

The United Colonies was a political and military alliance that had been formed to unite the colonial settlers against the Indians. The quirky government of Providence Plantations was not a member. They negotiated with the Indians on their own.

After Uncas had killed Miantonomi, the Mohegans and the Narragansetts were on the brink of an all-out war. The United Colonies sided with Uncas who had been their ally in the earlier Pequot War. Their first approach to "neutralize the Indian Threat" was to encourage other local Narragansett chieftains to submit to the protection of the Massachusetts Bay.

Roger Williams negotiated a neutrality agreement between the Narragansetts and the Providence Plantations (which included Newport). When the United Colonies got wind of this agreement, they voted to raise an army of 300 men to wage war on the Narragansetts if they didn't agree to a truce with Uncas.

The Connecticut forces under John Mason made preparations to attack from the west. Captain Miles Standish and a small contingent of Plymouth soldiers came from the east. They arrived in Providence in early August. The Massachusetts troops were on their way from the north.

In a last minute effort to stave off fighting, the United Colonies voted that Benedict Arnold be their interpreter in negotiations. But when the Commissioner's messengers reached Providence, Benedict was nowhere to be found. They learned that he "durst not adventure himself again amongst the Narragansett Indians without a sufficient guard."

(Plymouth Records IX p.42-43, in O'Toole 369 and p.412 note 43)

As a replacement, they asked for Roger Williams to take on the mission. As O'Toole puts it, this decision "probably spelled the difference between war and peace at this time."

(O'Toole, p. 412, note 43)

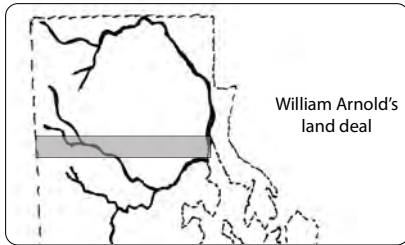
Just as John Mason's Connecticut troops were closing in, Williams persuaded the Narragansett sachem Pessacus and the Niantic sachem Mexano to travel to Boston and make peace. On August 27, 1645, with Benedict Arnold acting as interpreter, the United Colonies signed a peace treaty with the Narragansett and Niantic sachems. The sachems agreed not to fight the Mohegans and to submit legal authority to the United Colonies. (O'Toole, p. 370)

This treaty hardly kept the Narragansetts and the Mohegans from skirmishing, but it "justified Massachusetts Bay's further advances in the Narragansett country and its continued defiance of Providence Plantation's charter rights in that area." (O'Toole, p. 370)



Two months later, in October of 1645, The Massachusetts Bay General Court ordered ten men to proceed to Shawomet to construct and garrison “a strong house of pallizado” (meaning with a palisade fence surrounding it) for the protection of Benedict’s friends Pomham and Socononoco. The Mass. Bay had a group of 32 settlers eager to form a town where several Gortonite houses stood “abandoned,” so Benedict was asked to purchase Shawomet for them. However, Plymouth objected, maintaining both they and the Gortonites still had claim on Shawomet. (O’Toole, p.376)

Despite these protests, the Mass Bay pressed onwards and completed the fort. (The rectangular raised embankment that supported the palisade around the fort area can still be seen today as the corner of Progress Street and Paine Street in the northwest shore of Warwick Neck.)



In August of 1645, William Arnold was able to purchase a huge parcel of land from the Wampanoag sachem Osamequin. This sachem had previously subjected himself to Plymouth, but apparently Arnold made a better offer. All this land was west of the bay, all the land is in Narragansett territory.

It included all the land from Sassafras Cove (just north of the present day Port of Providence), south to the Pawtuxet River, and “westwards all and General.” (This idea of “westwards and all General” is important to remember when we later examine Benedict Arnold and the Tower.) (O’Toole, p. 421 and *Providence Town Papers* XV, p.74)

Sassafras Cove is located just north of where the present day Port of Providence juts out into the bay. It is about 2½ miles north of the mouth of the Pawtuxet River. Basically Arnold obtained a deed to a swath of land 2½ miles north-south by about 20 miles east west that was bordered by the “Shawomet” swath to the south. (That’s 50 square miles.)

Arnold’s deed includes parts of present day South Providence, most of northern Cranston, the part of the Scituate Reservoir where the long dam is located, as well as Foster Center, and all the way to Connecticut.

### ***John Winthrop Jr. visits Benedict Arnold in 1645***

Let’s push the pause button in this riveting adventure of the birth of colonial New England to focus on a few details of Benedict Arnold’s personal life.

On November 30, 1645, John Winthrop Jr. was travelling on foot from Connecticut to Boston through present day South County, Rhode Island. At Pesicus Fort (near the intersection of present day Kingston Road, Route 138, and Plains Road, Route 110) he barely missed getting his leg caught in a trap. That evening he and his companions stayed in Cacomsqusset at Mr. Wilcox’s house (near present day Wickford where Richard Smith and Roger Williams had trading posts).

The next day, December 1st, his journal entry explains they walked “**15 miles**” north to “**William Arnold’s house in Pawtuxet.**” That night there was a “**great storme and rain.**”

The next entry reads: “**Dec. 2. I came to Providence lodged at Benedict Arnold’s house, being 5 miles from Patuxet. Mr. Williams brother.**” (Winthrop Papers, vol 3, p.54)

John Winthrop Jr. was trying to hold together the various towns of Connecticut and start his new town, later named New London, on the mouth of the Thames River.



So the Arnolds and John Winthrop Jr. had similar interests, especially through the common bond of John Winthrop Sr., the governor at Boston. These guys were power brokers, the movers and shakers of early southern New England.

John Winthrop Jr.'s reference to Benedict Arnold as "Mr. Williams brother" suggests that Benedict and Roger were on friendly terms, despite Benedict's political alliance with Boston. This idea is supported by the fact that Benedict still lived in Providence.

As the Arnold's property was only a few house lots north of Roger Williams, their houses were probably only a few hundred yards apart. (As mentioned earlier, Roger's house was located just east of where the memorial spring is on North Main Street and Benedict probably had a grander stone-ender on the hill to the northeast, near where Prospect Terrace is today.)

### ***Benedict and Damaris Start a Family***

Benedict and Damaris Wescott were married on December 17, 1640. On February 10, 1642 their first child, Benedict, was born. On December 19, 1644 their second son, Caleb, was born. While Benedict was off on his adventures, Damaris was hard at work keeping the household and caring for the toddlers.

### ***Benedict the Businessman***

Benedict was not only a skilled interpreter, he was also a savvy businessman. When the Arnold clan moved to Pawtuxet in 1638 they opened a store where they sold all kinds of trade goods (cloth, tools, kitchen utensils, nails, etc.) that had been imported from London by way of Boston.

Many of the early settlers (like Roger Williams and the Antinomians) had been banished from the MassBay Colony and couldn't even go there if they wanted to. Benedict had no such restrictions.

Interestingly, we gain insight into Benedict's trading practices in the rantings of Samuel Gorton, in his vindictive text "*Simplicities Defence*." In the chapter entitled "*Innocency's Defence against a seven-headed church government united in New England*," Gorton writes:

**"There was also one William Arnold,  
and his son Benedict who subjected themselves unto the Massachusetts,  
which Arnold was a great professor of religion in the West of Old England;  
but in the time of his subjection, was known constantly to employ himself in servile work  
upon the Sabbath day and professed it to be his excellency  
above that which his neighbor had attained unto;**

**his son Benedict constantly trading with the Indians on the Sabbath day,  
being a factor for them of the Massachusetts,  
being supplied with commodity from them,  
having toleration to sell powder to the Indians,  
but denied to be sold unto us, unless we would subject ourselves,  
as they had done;"**

(Samuel Gordon in his *Simplicities Defence*,  
in William R. Staples, *Collections of the RI Historical Society* Vol. 2, 1885; pp. 51-52)

Historian Sidney Rider interprets "commodity" as meaning "liquor," specifically "rum."

(Sydney S. Rider, *Book Notes*, Mar. 28, 1903, Vol. 20, No. 7)

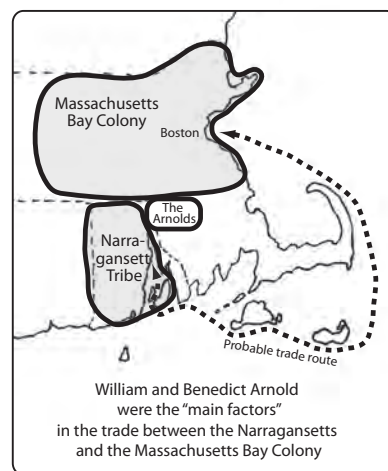
When William and Benedict submitted to the Mass Bay Colony, they became the main trading factor between Boston and the Narragansetts. Boston (and its neighboring towns) now had thousands of people, and was the port of call for all boat traffic to England, Virginia, and the West Indies.

Wampum was the main currency of the Indians in the New England area, and subsequently became the currency for the settlers, as English coinage was scarce. These strings of cylindrical beads are made from quahog shells. And any Rhode Islander that has ever watched Family Guy knows that quahogs are abundant in Narragansett Bay. Being wampum “mintmasters” helped the Narragansetts grow to the largest and perhaps the richest tribe in New England.

Benedict and William were the middlemen between the largest tribe and the largest English port. They undoubtedly made a profit on the goods travelling both ways. The Indians traded corn, furs, and wampum in exchange for goods like cloth, guns, ammunition, sugar and rum.

All these goods are quite bulky. Benedict probably had a few horses, but the road to Boston would not have been developed enough for wagons or carts. The easiest way to transport heavy or bulk goods would be by boat. I contend Benedict had a small group of shallops with which he or his workman regularly shuttled from Pawtuxet Cove, down the Bay to Newport, around Martha’s Vineyard and Nantucket, around Provincetown and into Boston, and back again.

Benedict might have had a pinnacle, but it’s more likely he had a fleet of shallops. A shallop is a wooden boat that can be rowed or sailed. They usually had one mast, but some more seaworthy shallops had two.



The component parts of a shallop could be made in English ship yards, transported in pieces by the trans-Atlantic ships, then assembled upon arrival. But after the first few years, ship carpenters were sent to New England. In 1624, boat building had begun at Plymouth. In 1625 there is a report that one of the shallop was cut in half and lengthened by about six feet by adding more framing in the mid-section.

These shallops were useful as trading vessels because they could get close to shore, but they were also used in the fishing industry. Recently, the Pilgrim John Howland Society built a replica of a single-masted 1600’s shallop called the Elizabeth Tilley which they have sailed all along the New England coast.

### ***Benedict Arnold has a Heart***

In the winter of 1647, the Narragansetts and Eastern Niantics were close to starvation. There had been a steady decline in the game in the woods and they had sold off too much of their winter’s corn supply to the English. By March, they asked Benedict for corn, which he sold them. Benedict’s request for permission to sell corn for “an unspecified amount of wampum” is in the Massachusetts Bay Records. (LaFantasie, p.254) and (Massachusetts Bay Records II, p.231)

Whether this was humanitarian or self-serving (selling back their own corn at a profit), it is not known, it does indicate that Benedict kept a lot of inventory on hand. By 1651, Benedict was tired of being United Colony's emissary, negotiator, and interpreter with the Indians, claiming it took too much of his time. (LaFantasie, p.286)

### *Now back to the story*

On September 13, 1646 the Gortonite Randall Holden sailed into Boston with two decrees written by the Warwick Commission. The first required that Holden and his party were to be allowed safe passage through the Massachusetts Bay Colony. The second was a grant for Shawomet. When the jubilant Gortonites returned to the homes from which they had been evicted two years earlier. They renamed their town Warwick, after the Earl of Warwick, Robert Rich.

In December of 1646, the furious United Colonies voted to send Edward Winslow of Plymouth to England to plead their case for Shawomet. Winslow compiled a tract titled *Hypocrisie Unmasked* that exposed Gorton's "blasphemous ideas." William Arnold wrote a acrimonious letter about Gorton's character. Benedict Arnold and a group of the younger settlers from Providence, Pawtuxet and Portsmouth also wrote a scathing letter about the Gortonites.

Immediately, Pomham and Socononoco complained to the Mass. Bay that the Gortonites were trespassing. The Mass Bay asked the United Colony Commissioners to have "someone in those parts," (most likely referring to the Arnolds) assess the damages and demand "satisfaction." But John Coggeshall of Newport arrived on the scene and forbade the Arnolds to "intermeddle."

In March of 1647, the Mass. Bay sent three messengers from Boston demanding the Gortonites "depart the place, as belong to us." The Gortonites, with the support of the leaders of the Providence Plantation's rebuffed the Mass. Bay's claims, showing documents from the Earl of Warwick and declaring their lands were within bounds of the 1644 charter Roger Williams had obtained.

On May 16, 1647, representatives from the four towns, (Providence, Warwick, Portsmouth, and Newport) assembled to form a government and legal system that was "democratical." They decided to have one President, four Assistants (one from each town) and 24 members of the General Court (6 from each town).

"Swearing of an oath" was not required, as it went against some of the representative's ideas about complete liberty of conscience. There were to be "no laws against blasphemers, Anabaptists or miscreants of any variety."

Prudence Island was to be part of Portsmouth. The trading posts at Cocumcussant (present day Wickford) were designated to be part of Newport.

The Arnolds at Pawtuxet were "left their choice, whether they will have Providence, Portsmouth, or Newport."

Each town was to organize its own road-maintenance crew, trained band, and local court. The charter and colony records were to be kept in a strong chest with four locks, a key for each Town.

John Coggeshall was elected president.

William Coddington was elected Assistant for Newport. Though it seems he was "reconciled with the new order," in fact he was opposed to the government of which he was now a leading officer." (O'Toole, p. 392-396 and p.424)

Coddington had been the Governor of Rhode Island (which was comprised of Portsmouth and Newport) for the seven previous years. He was rich and power hungry. In 1648, Coddington managed to become elected President of the Providence Plantations.

But four men from his own town of Newport (Jeremy Clark, Nicholas Easton, John Clarke, and William Dyer) charged Coddington with “disloyalty to the colony” because he refused to “govern and all men who fell within its territorial limits.” The Gortonites had asked Providence Plantations to defend their claims to their land against the Mass. Bay’s claims. There was no way Coddington was going to defend his despised, archrival Gorton. (O’Toole, p.427)

The Presidency was taken away from Coddington.

In September of 1648 the Gortonites took their complaints against the Mass Bay Colony to the Commissioners of the United Colonies who were meeting in Plymouth that year.

Coddington showed up at the meeting with his own agenda. He claimed that the majority of people on Aquidneck Island wanted to separate from the Providence Plantations and be recognized as a separate entity among the United Colonies.

The Gortonies argued that such a move would be a defiance of a Parliamentary order, thus risking the newly acquired status of everyone else in the Providence Plantations. (O’Toole, p.428)

The United Colonies were not willing to mess with Parliament. They told Coddington that he would have to get the Providence Plantation’s charter annulled, and a new one written, before they would recognize the Island. (O’Toole, p. 429)

Furthermore, it was ordered that Pomham and Socononoco needed to approach the United Colonies, not the Mass Bay Colony with their complaints and claims of damage.

The Gortonites were delighted. Coddington was so irritated, three months later (in January 1649) he set sail for England to petition Parliament for his own governmental control of Aquidneck Island.

Meanwhile, in the 1649 meeting of the Providence Plantation, John Smith of Warwick (the newly-elected president) decreed that a letter be written to “Benedict Arnold and his father, and the rest of Patuxit, aboute thear subjecting to this collonie.” (O’Toole, p.436)

The year 1649 marked a changing of the old guard. In March, John Winthrop the great leader of the Mass Bay Colony died. In June, the great sachem of the Narragansetts, Canonicus died. His powers were distributed to Pessicus (Miantonomi’s brother), Mexano (son of Canonicus) and Ninigret (Sachem of the Niantics).

In May, New England received word that the King Charles I and his Lords were beheaded following the triumph of Parliament in the Civil War. Would this jeopardize the validity of the Providence Plantations charter?

John Clarke, Nicholas Easton, William Dyer and Captain Jeremy Clark of Newport were concerned that William Coddington would negotiate a deal in London that would give him power over Newport and Portsmouth. They needed a leader strong enough to counteract any of Coddington’s ploys. The man they turned to was Benedict Arnold. Roger Williams reports that Benedict was considering moving to Newport in 1649. (O’Toole, p.484)

Providence 2nd Sept. 1650  
A Towne Rate

[Providence]	£.	s.	d.
Arthur ffennor	01	- 13	- 4
William Wickenden	00	- 10	- 0
Thomas Sucklinge	00	- 05	- 0
Thomas Roberts	00	- 13	- 4
William Hawkings	00	- 13	- 4
James Austine	00	- 10	- 0
Joshua Winsor	00	- 03	- 4
Robert West	00	- 13	- 4
Thomas Hopkings	00	- 13	- 4
Widdow Sayers	00	- 16	- 8
Nicholas Powers	01	- 00	- 0
Nathaniell Dixings	00	- 13	- 4
Widdow Man	00	- 06	- 8
William Barrowes	00	- 13	- 4
Adam Goodings	00	- 03	- 4
Thomas Harris	01	- 00	- 0
George Sheppard	00	- 10	- 0
John ffeild	01	- 00	- 0
William ffeild	03	- 00	- 8
George Ricketts	00	- 05	- 0
Widdow Browne	00	- 06	- 8
Robert Williams	01	- 00	- 0
Stew: Westcote	00	- 13	- 4
Hugh Bewitt	00	- 06	- 8
Richard Waterman	02	- 10	- 0
Tho: Angell	01	- 00	- 0
Tho: Olnye	01	- 13	- 4
Edward Manton	01	- 00	- 0
Peter Greene	00	- 01	- 8
Henry Right	01	- 00	- 0
Roger Williams	01	- 13	- 4
Richard Scotte	03	- 06	- 8
John Throckmorton	01	- 13	- 4
John Elderkine	00	- 03	- 4
<b>Benedicke Arnold</b>	<b>05</b>	<b>- 00</b>	<b>- 0</b>
Pardon Tillinghurst	00	- 03	- 4
Grigory Dexter	01	- 00	- 0
John Browne	00	- 03	- 4
Ch Smith	00	- 03	- 4
William ffenner	00	- 06	- 8
Widdow Smith	02	- 10	- 0
John Jones	00	- 03	- 4
	41	- 8	- 4
[Pawtuxet]			
Tho: Clements	00	- 06	- 8
Tho: Slowe	00	- 13	- 4
William Harris	01	- 06	- 8
William Arnold	03	- 06	- 8
Robert Coles	03	- 06	- 8
William Carpenter	03	- 06	- 8
Stephen Arnold	01	- 00	- 0
Zachery Rodes	01	- 00	- 0
Ch: Hawkhurst	00	- 10	- 0
	14	- 16	- 8
[Total]	56	- 05	- 0

The Providence tax roll for 1650 reveals just how successful Benedict Arnold's trading business was. He was the only citizen who was charged 5 pounds (apparently the maximum). Even though there were 50 other men and women on the tax roll, Benedict paid almost 10 percent of the total.

But as Dylan sings, "The times they are a-changin'." In the 1640's, much money was to be made in the fur trade. But beavers, who don't migrate very far and are not highly reproductive, soon became extinct in many locales. The local fur trade declined in the 1650's and was "practically defunct by 1660."

(Bernard Bailyn, *The New England Merchants of the Seventeenth Century*, p.56-59)

Benedict Arnold and other merchants looked for other opportunities like iron mining and trading with other colonists from places like Virginia and the West Indies. For ocean trade, Benedict knew that Newport was the place to be.

In April of 1649, Benedict was a main player in a controversial Newport business deal. Along with Newporter Captain Jeremy Clarke and several others, Benedict purchased the contents of the Spanish vessel the "Saint Lewis" that the Dutch had seized in the West Indies. The Dutch Captain Philip Vander Euiden sold them the cargo of Campechey wood (Mexican logwood), West Indies hides, and Cochineal (a red dye made from Central American insects).

This infuriated Peter Stuyvesant, the Governor of New Netherlands (the early Big Apple). The prize had been taken after Spain's treaty with the Dutch and could blow up into a huge diplomatic blunder. Stuyvesant appealed to the United Colonies for restitution of the cargo, but to no avail.

### *Benedict moves to Newport*

In May of 1650, Roger Williams wrote in a letter to John Winthrop Jr. "Benedict having now bought house and land at Newport purposing thither to remove."

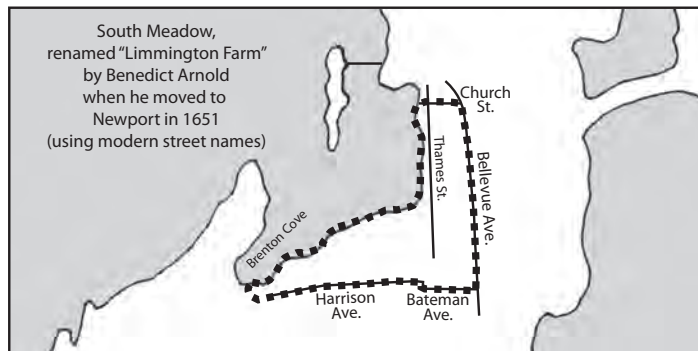
In April of 1651, the Warwick Commission in London made William Coddington Governor of Aquidneck and Conanicut (Jamestown) Islands for the rest of his life. By August, Coddington was back in Newport, taking control of its governance and claiming rights to all the undivided land on Aquidneck.



Within a few weeks, Roger Williams had set sail for London to defend the chartered lands of Providence and Warwick. A few months later, ninety percent of the Freemen in Newport and Portsmouth signed a petition to send John Clarke to fight Coddington's commission in London.

In November of 1651, The General Court ousted Portsmouth and Newport from the colony because of Coddington's commission.

On November 19, 1651, Benedict Arnold moved to Newport with his wife Damaris and their four children Benedict (9), Caleb (6), Josiah (5), and Damaris (3). It appears that Benedict was quite welcome by all the citizens (except Coddington) as they made they made a huge section of what had been common land available to him. (Or perhaps he had staked his claim earlier.)



Using modern-day names, northern boundary of his property was Church Street, his eastern boundary was Bellevue Avenue, his southern boundary was Bateman Avenue and Harrison Avenue. The western edge included all the waterfront from Brenton Cove to the harbor's corner near King's Park, and up to past Bowen's Wharf.

The southern part of the property had been common land called "Southmead" (or The South Meadow).

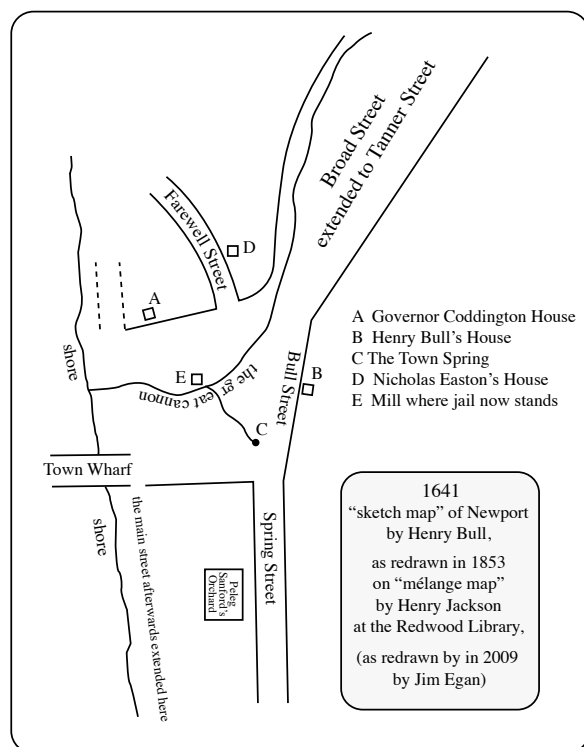
The northern part includes an area currently jam packed with houses and stores. But in 1651 it looked entirely different. The whole area between what is now Thames Street and Spring Street was at that time an "**impenetrable swamp**." (*Bull's Memoirs*)

Clues in two early maps of Newport suggest that water drained down the whole side of the hill east of Spring Street making all the lands down to the harbor water-saturated.

Benedict (in his will) referred to his land in Newport as "my Limington Farm" after his birthplace, Limington, on the outskirts of Ilchester, in Somerset. To this day, Limington England is still a rural hamlet with pastures, marshes, and plenty of sheep.



## What did Newport look like back then?



The Henry Bull sketch map of Newport in 1641 (taken from a redrawing by Reverend Henry Jackson in 1853) shows Spring Street existing southward only to approximately where Church Street is today.

The town spring was at the northern end of Spring Street, almost in front of Henry Bull's house. A commemorative plaque marking this site can be seen in a small patch of garden near the door to the Texaco Gas Station wedged into the triangle between Spring Street and Court House Street.

A small stream flowed from this spring northeast to where the "Jailhouse Inn" now stands on River Lane. There it met a larger stream flowing southwest down Broad Street, past the "Jailhouse Inn" and emptying into the harbor near Long Wharf. This stream still flows today, but it's all underground in a large culvert, the end of which is visible at the harbor's corner across from the Brick Marketplace.

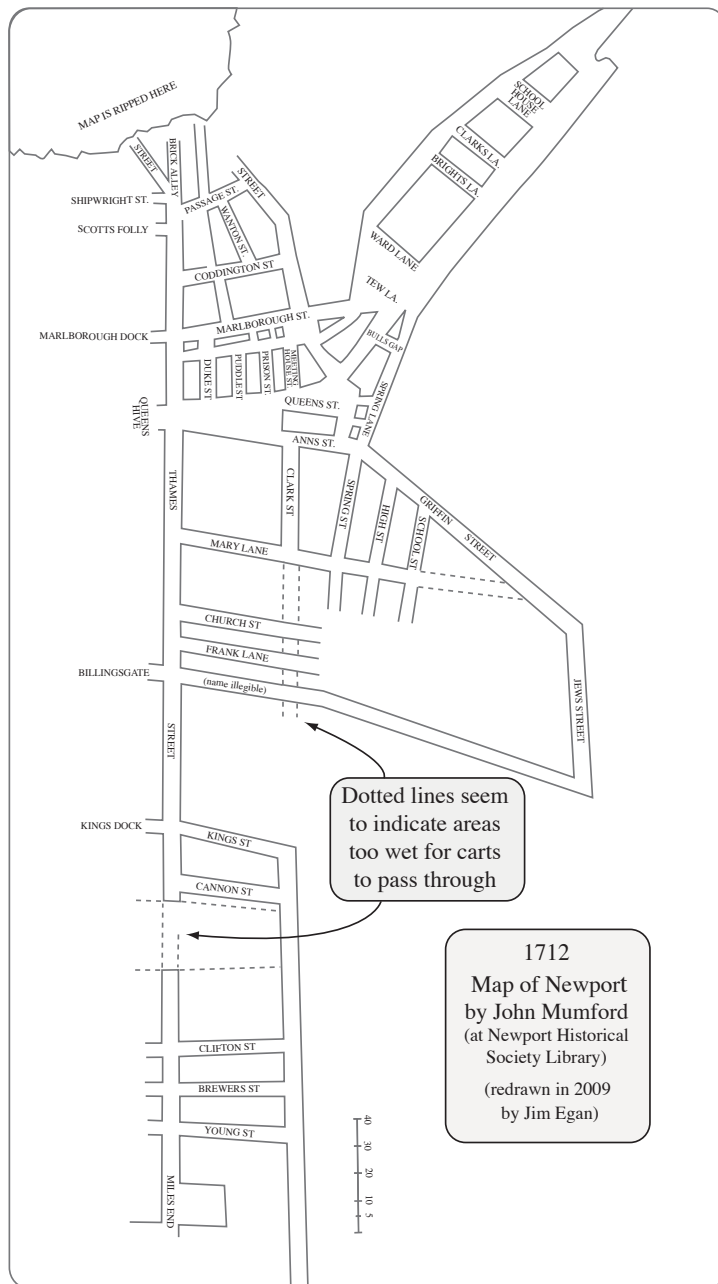
Henry Bull called the confluence of those small streams "the great cannon." *Kanna* (Greek) or *Canna* (Latin) means a reed. And reeds only grow along marshy borders of bodies of water. Similar reedy areas can be still seen on Aquidneck Island (for example, just north of Third beach).

On the next page is a redrawing of John Mumford's "Map of Newport" made in 1712. It shows Thames Street, but notice that a section of it is missing. Also much of Spring Street is missing, as they were only marked with dotted lines.

From these maps and from Henry Bull's term "impenetrable swamp," we can get a picture of what Newport originally looked like. "Impenetrable swamp" doesn't mean the ground is so wet your boots gets stuck. It means an area so thick with bushes, briars brambles, pricklers, and vines that you can't even hack your way through it.

Along what is now Spring Street, the whole side of the hill constantly seeped water allowing all this vegetation to proliferate. To make way for Thames Street, the bushes and vines had to be cut down foot-by-foot and the drenched areas had to be infilled with cartloads of dry soil.

To make this low-land useful, the rivulets probably had to be consolidated and to some degree rerouted. Some flowed north from the town spring to "the great cannon." But most of it had to be rerouted to flow south along current-day Spring Street.



One of the cross streets on Mumford's map is also called Cannon Street, suggesting it ran beside a stream bed overgrown with reeds. Cannon Street doesn't exist today, but it ran where the westernmost end of Memorial Boulevard now runs (near the skating rink). Even today this low area has been kept open for surface drainage that flows westward down Memorial Boulevard

Nowadays the hill still seeps water constantly, but it all runs through underground culverts and to the harbor. Many of the east-west streets have pipes under them that empty water into the harbor underneath the wharves. Even today you can put your ear to certain manhole covers along Church Street and hear water flowing 365 days a year.

But the most important thing that Benedict acquired was the Old Tower. I suspect Clarke, Easton, Dyer, Benedict Arnold and Coddington all knew it was built in a Elizabethan colonizing effort 70 years earlier, but they didn't want it known that it still was standing. If word got out, might have become the basis for a counterclaim to the newly settled lands. They had enough internal "ownership" and "governance" issues to deal with never mind having to fight someone else's claim.

### ***The 4 towns reunite***

In April of 1652, a long internal struggle between Samuel Gorton and John Warner was threatening to split Warwick in two. Warner even asked William Arnold to write Mass Bay Colony's new governor John Endicott on his behalf. In Providence as well, various factions were fighting. In Newport, the general populace turned against Coddington. Even though his powers were fading away, he still refused to "lay down his commission."

In February of 1653, William Dyer returned from England with letters from the Warwick commission revoking Coddington's commission and authorizing the four towns to proceed as previously organized.

By May of 1653, all four towns expressed interest in "reunification." Newport elected to send Benedict Arnold as their representative. He crossed the Bay to negotiate with the leaders of Providence and Warwick. It's clear that the independent-minded Benedict no longer considered himself a part of the Mass. Bay Colony, despite the fact that his father maintained ties with the Bay until 1658.

On May 17, 1653, Benedict Arnold's name was at the top of a list (with 8 others) who were officially admitted as freemen in the town of Newport.

In February of 1654, Roger Williams, still in England, had Sir Henry Vane write a letter to the four towns urging reconciliation before you become "Prey to Common Enemies" Vane implores, "Are there no wise men amongst you?" adding, "...arise... put a stop to your growing breaches." (O'Toole, p.522)

In June of 1654 Roger Williams returned and visited all four towns, acting as both cheerleader and referee. Soon the colonists of Providence Plantations restored the four towns' charter government.

### ***Benedict Arnold defends Rhode Island's freedom of religion***

On September 12, 1654, Benedict Arnold was elected to be the Assistant for Newport. He was re-elected for the next nine years and for 4 of these years he served as President of the Colony (1657, 1658, 1659, 1662).

As President of the Colony in 1657, he responded to his old comrades in Massachusetts when they demanded that Quakers not be allowed to settle in Newport:

**"We have no law among us whereby we punish any  
for declaring by words their minds and understandings concerning  
the things and ways of God as to salvation and external condition."**

In 1659, Major Atherton from Massachusetts was purchasing large tracts of land in what is now East Greenwich and North Kingstown, hoping to annex it with Massachusetts. In 1660, Benedict Arnold wrote to John Clarke, still representing the Providence Plantations in London, to put a stop to Atherton's plans.

In the early 1660's, John Winthrop Jr. sailed to London to present his case that the Narragansett Bay and all the lands to the west of it should be part of Connecticut.

With resolute determination John Clarke was able to defeat these challenges and on July 8, 1663 obtained a charter for "The Colony of Rhode Island and Providence Plantations."

It was not merely a land grant, but a grant for freedom of conscience:

**"Our royal will and pleasure is that no person within said colony,  
any time hereafter, shall be in any way molested, punished, disquieted,  
or called into question for any differences in opinion in matters of religion,  
and that do not disturb the civil peace of our said colony;**

**but that all and every person and persons may,  
from time to time, and at all times hereafter, freely and fully have and enjoy  
his and their own judgments and consciences in matters of religious concerns."**

(My modernization of the English spelling in the R.I. Charter of 1663)

**The charter specifically named Benedict Arnold to be the first Governor.** William Brenton was appointed to be the Deputy Governor. Benedict did such a good job managing state affairs in the first General Election under the new charter, he became the first elected Governor (1664). He was re-elected in 1665.

From 1666 to 1668 William Brenton took over the reigns, but Benedict was still quite involved in legal affairs of state.

In 1669, 1670, and 1671 Benedict Arnold was chosen again as Governor. During these years, John Winthrop Jr. and the people of eastern Connecticut were still claiming rights to the area around what is now Westerly, RI.

Benedict Arnold sent his old friend Winthrop an emphatic letter demanding they leave the area and desist from making claims to it. Arnold was chosen to go to England to "vindicate the Charter before His Majesty against Connecticut claims." He never went, but he encouraged Rhode Islanders to settle in Westerly.

So many Quakers had come to Newport and so many of the townspeople converted, that Quaker Nicholas Easton was elected Governor in 1672 and 1673. William Coddington, now with tempered ambitions, but with great wealth and leadership abilities became Governor in 1674 and 1675.

### ***King Philip's War***

But in June of 1675, the Wampanoag leader Metacom (called by the English "King Philip"), frustrated by English expansionism, attacked the town of Swansea in Plymouth Colony. Soon other towns were attacked. By August, towns in Connecticut were burned to the ground. In December, the United Colonies forces retaliated by attacking King Philip's winter quarters in the Great Swamp in what is now Richmond, Rhode Island.

The Quaker-led colony of Rhode Island and Providence Plantations chose to not become involved in the war. Aquidneck Island became a safe haven. But when the Indians sacked and burned all the houses in Providence despite the pleas of Roger Williams, the people turned to Benedict Arnold "whose force of will made him a power in the Colony in dealing with the Indians." (Tompkins, p.13)



Presidents  
of  
Providence  
Plantations

1654 Nicholas Easton and  
Roger Williams  
1655 Roger Williams  
1656 Roger Williams  
1657 Benedict Arnold  
1658 Benedict Arnold  
1659 Benedict Arnold  
1660 William Brenton  
1661 William Brenton  
1662 Benedict Arnold

Governors  
under the  
Royal Charter

1663 Benedict Arnold  
1664 Benedict Arnold  
1665 Benedict Arnold  
1666 William Brenton  
1667 William Brenton  
1668 William Brenton  
1669 Benedict Arnold  
1670 Benedict Arnold  
1671 Benedict Arnold  
1672 Nicholas Easton  
1673 Nicholas Easton  
1674 William Coddington  
1675 William Coddington  
1676 Walter Clarke  
1677 Benedict Arnold  
1678 Benedict Arnold

In the 1677 elections Benedict Arnold was once again elected to be Governor. However, Arnold, now 62 years old, started to have health problems. On December 24, 1677 he wrote his will. In 1678, he was elected again despite the fact he was so weak he couldn't leave his house.

On June 19, 1678, he died. Nearly 1,000 people came from far and wide to attend his funeral. (The total population of Rhode Island was only several thousand) Per his specification, he was buried in the northeast corner of his family cemetery located halfway between his house and his "Stone-built Wind-Mill." This summarizing chart speaks for itself. His fellow citizens repeatedly voted for Benedict Arnold to steer the ship of state.



Biographer (and descendant) Samuel G. Arnold summarizes Benedict's life: **"Throughout his long and useful life he displayed talents of a brilliant order which were ever employed for the welfare of his fellow men."**

J. Earl Clausen adds: **"Brilliant no doubt he was, and strong-willed, a main chancer and perhaps a share overbearing. But he served the colony well."**

(J. Earl Clausen, Prov. Journal Bulletin, Feb 12, 1936)

### ***Benedict Arnold was land hungry***

The Indians respected Arnold not only because he spoke their language, and traded with them, but because they knew he was a great leader among the English. Arnold respected the Indians as well, but he still felt Indians should share their lands with the English.

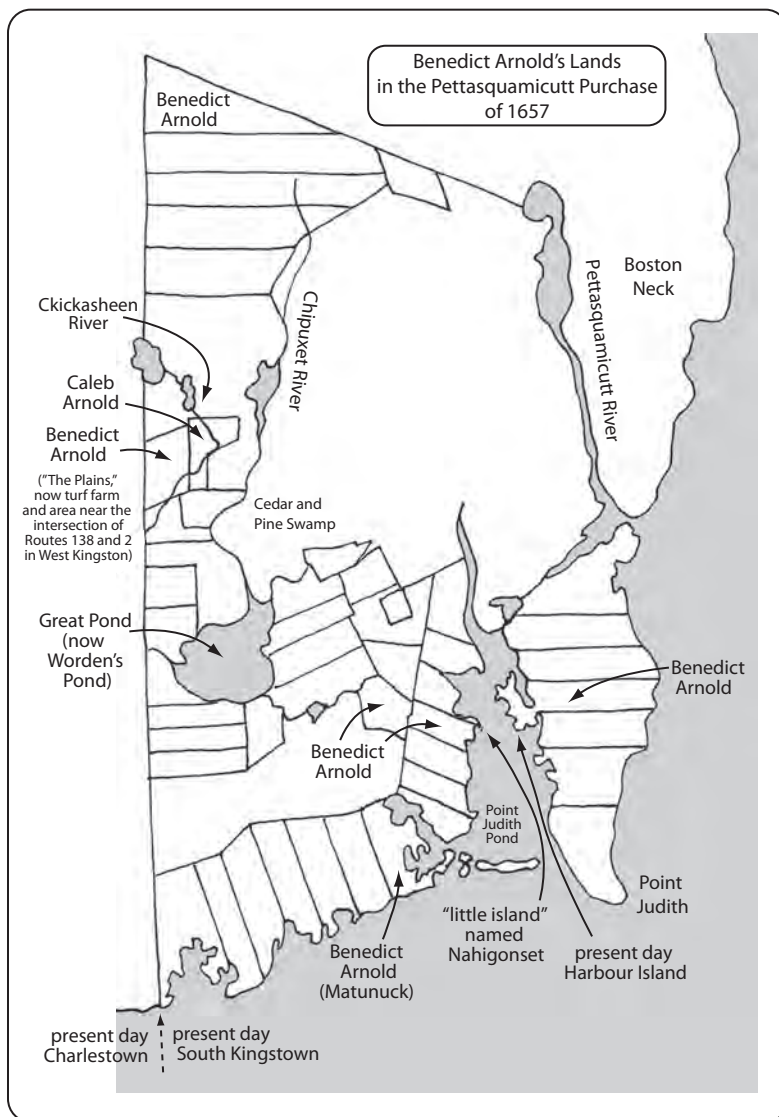
As a descendant, James N. Arnold, writes in his historical magazine *Book Notes* (written around 1900), Benedict Arnold "was land hungry first, last, and all the time, he wanted the earth." Historian Sidney Rider called Benedict "an inveterate land grabber" during the "wild craze for land in 1658." (Tompkins, p.16) and (Rider, *Lands*, p.289)

In England, the wealthiest most influential men owned large estates. Benedict wanted to acquire land not only for his descendants, but for the future prosperity of the growing colony over which he presided. If he and his colleagues didn't acquire it first, wealthy investors from Boston or Connecticut move in and purchase it.

On April 17, 1657, Benedict Arnold, William Coddington, William Brenton, and 100 others bought Conanicut Island (Jamestown, Island). Arnold got almost half of the Island—over 1,400 acres. His portion includes what he called "Cajaset," (most of the land south of the present-day town of Jamestown) and all of Beavertail (so-named because it is in the shape of a beaver's tail).

That same month, Benedict Arnold and William Coddington bought Dutch Island, just north of Beavertail.

On May 22, 1657, Benedict Arnold and John Green acquired Goat Island (in the middle of Newport Harbor) and Coaster's Island, (now the site of the Naval War College). The southern part of Goat Island was lengthened in the 1900's, but the middle and northern parts were always there. The island was an ideal location for fortification, and later, Fort George was built there.



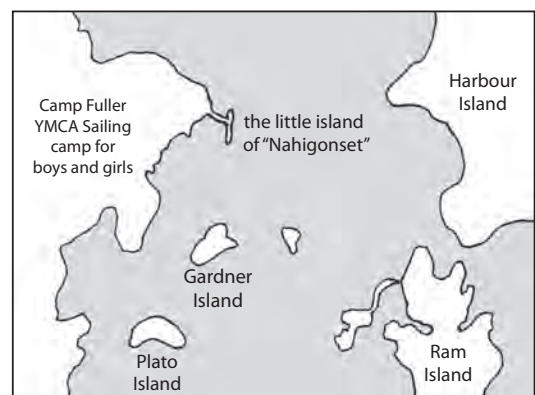
But it didn't stop with islands. In 1657 a group of men from Newport and the wealthy mint-master John Hull from Boston bought a huge chunk of the mainland called the Pettisquamicut Purchase. This included all of the present towns of South Kingstown and Narragansett. Benedict was not one of the original group but a few years later owned one-seventh interest in the company.

One of his parcels was a large ranch, now a turf farm in West Kingstown, (near where Route 138 crosses Route 2). Several other parcels border what is now called Point Judith Pond, including all of present day Matunuck and Jerusalem, Harbor Island, and Buttonwood Point (buttonwood is another name for the sycamore tree).

The ever-curious Roger Williams wrote: **"I also profess that being inquisitive of what "roote" or title or denominative, Nahigonset should come, I heard Nahigonset was so named from a little island..."** Around 1900, following clues in William's description, Sidney L. Rider located the "little island."

It is currently on the grounds of Camp Fuller, a YMCA sailing camp for boys and girls. The small island (at the north end of the camp) is only about 200 feet long by 40 feet wide. (And it's no longer an island; a small sandy peninsula connects it to the mainland).

(Rider, "Names" and *Early RI Records*, 1637, p.27-8)



Benedict's parcels of Buttonwood Point (with its little island "Nahigonset") Matunuck, and Harbor Island were among the most favorite summering grounds of the Narragansetts. It appears as though Benedict put them in his name to ensure the Narragansetts could continue to use them forever, as these lands are not mentioned in his will. (Though taking 99% of someone's land and give them back 1% is hardly a grand gesture).

On June 29, 1660, Benedict Arnold and a group of Newport men purchased from Sousa, a Pequot Captain among the Narragansetts, a large tract called Misquamacock, at the mouth of the Pawcatuck River, near present day Watch Hill, south of Westerly.

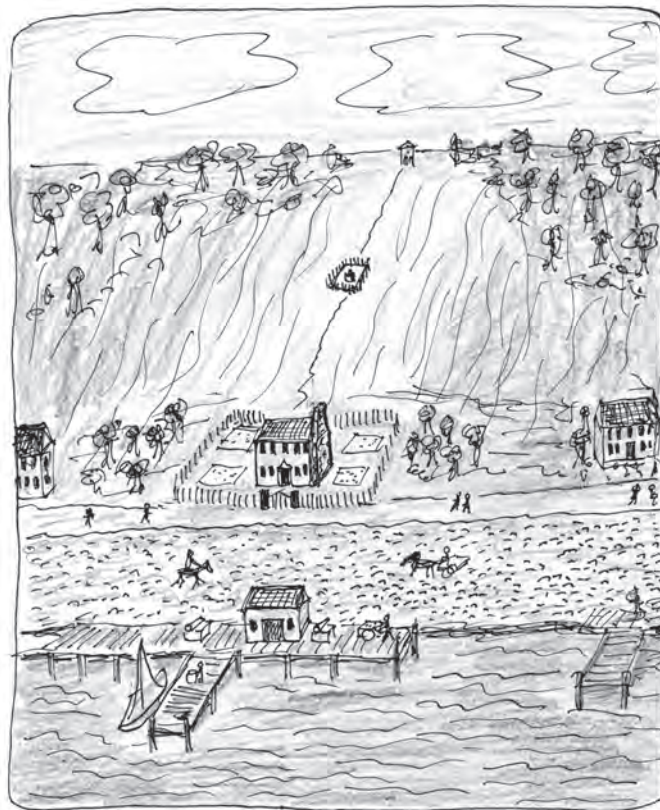
In the early 1550's, the town of Newport hired Indian and colonial workers to clear out the "impenetrable swamp" bordering the waterfront. It was ordered that Thames Street be constructed "one mile long" from Market Square southward almost to the corner of the harbor where King Park is presently located. The wealthiest Newport residents built their house about 50 feet west of where Thames Street runs today. This "**old wide line**" of Thames Street is slightly uphill, making the homes seem even grander.

Benedict Arnold's mansion stood on this "old wide line" between what is now Mill Street and Pelham Street. It was a classic Rhode Island style "stone-ender." George Mason reports that the whole south end of the house, which included a massive chimney was all made from stone. (The house was probably 2 ½ stories tall.)

(Mason, in Downing and Sculley, p.28)

Hamilton B. Tompkins reports that it had a "stately fence in front of it, with tall images on the gate posts." (Tompkins, p.18)

From his windows he had a clear view of the activity in his warehouses and wharf, which were just across Thames Street.



Conjectured view of Benedict Arnold's Mansion  
on the "old wide line" of Thames Street

On his 1853 map of Newport, Reverend Henry Jackson includes a short paragraph that describes the mansion:

**“Benedict Arnold caused Thames Street to be laid out 100 ft. wide and built his house a stone building upon the east side of the street where now [1853] the Rhode Island Union Bank Building stands. His land extended from near Frank Street to the Coggeshall lands in the neck. The windows of his house were guarded by grates of iron similar to our jails.**

**He caused a stone fort to be erected opposite to his mansion upon land where R. Carr now owns and where a Commercial Bank is, and two cannons were kept therein for its additional defence, and it is said there is a small cannon now in existence which was stationed at his door.”**

Antoinette Downing and Vincent Sculley put the house site “just at the back of this building, (RI Union Bank), set on the old wide line of Thames Street.” Only one house still exists today that was built on the old wide Thames Street line. That is the Cotton House, on Cotton’s Court, a small lane east of Thames between Mary Street and Church Street. (Downing, p.512 and 28)

George Mason in *Reminiscences of Newport* writes about its demolition ( in 1780) as witnessed by one of Newport’s oldest inhabitants:

**“The chimney and the whole south end were built of rough stone and coarse mortar, and plastered outside with the same.**

**The stone and mortar were so strongly cemented together that they could not take it down by commencing at the top, without great labor; for that reason the house was finally pulled down, then guys were made fast to the chimney, -- it was undermined, and fell in one mass, and was afterwards broken up with sledges**

(Downing, p.28, Mason, p.404-5)

Henry Bull in his *Memoirs* writes that the “mansion was built of stone.” (Bull, p.24) But he might have been referring to the massive south wall. Colonial Rhode Islander’s didn’t generally build entire houses of stone.

### ***“Go west, young man”: The “Benedict Arnold east-west line”***

Because the Plymouth Pilgrims claimed all the lands east of Narragansett Bay, the four towns in the Providence Plantations (plus William Arnold in Pawtuxet) set their sights westward.

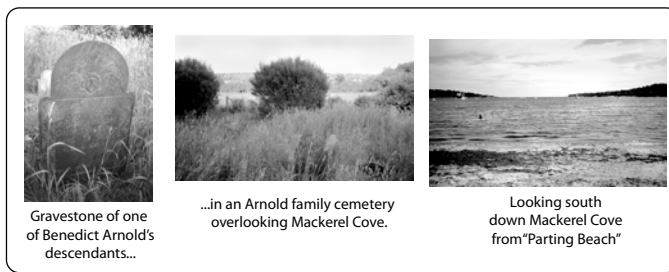
Samuel Gorton’s Warwick settlement was on the Bay, but included a great swath of land westward 20 miles. William Arnold negotiated a similar swath westward, right above Gorton’s.

Benedict Arnold and his wealthy Newport associates expanded westward. First Goat Island, then Jamestown, then the Pettasquamicutt Purchase, then Westerly.

Benedict Arnold seems to have pushed this westward vision to a conceptual level in what I call the “Benedict Arnold east-west line.”

In his will, Benedict bequeathed Beavertail on Jamestown to his eldest son, Benedict II, who was 37 years old, married and was raising a family. Presumably he already lived at the northern end of Beavertail, near what his father called “Parting Beach” on “Macrel [Mackerel] Cove.” (The word “parting” means “dividing”; as a “dividing line” used to be called a “parting line.”)



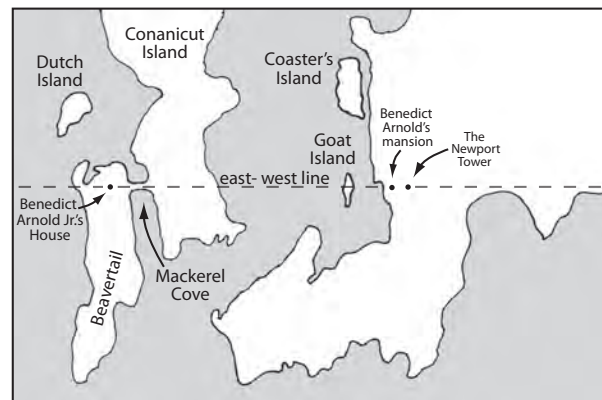
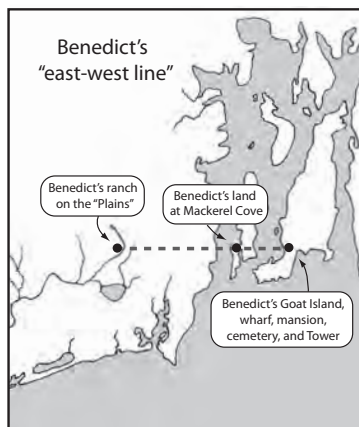


His original house no longer exists, but an Arnold cemetery is located in the field just south of a house later built on the same foundation. Three of Arnold's sons and one daughter spent their lives on Jamestown, and "the Arnold name still remains there today." (Lippincott, *Jamestown*, p.109)

Even though it sounds like an Indian name, Sidney Rider suggests that Benedict Arnold got the name Cajaset from a classical source. Rider asserts, "This name is not a Narragansett word. The presence of the letter j makes it certain that it came from some other language." (Narragansetts had a "g" sound, but not a "j" sound.)

Rider posits it came from Book 7 of Virgil's *Aeneid*: "**Then in a straight course to Cajeta's Bay, Along the coast he swiftly made his way.**" (The town Gaeta, Italy on the huge Gulf of Gaeta between Rome and Naples was also named after Virgil's character, who had been the hero's beloved nurse when he was young.) Rider adds, "Possibly Benedict Arnold learned this from the schools in England before he came here, for he was twenty years of age when he left England." The phrase "in a straight course" is especially pertinent here. (Rider, *Lands*, p. 142-3)

On a current RI map, I noticed that this house, just west of what is now called Mackerel Cove, is almost exactly west of Benedict's mansion in downtown Newport.



I extended that east-west line further and found it went right through Benedict Arnold's cattle ranch in what is now North Kingstown.

Starting with the Tower, all these things seemed to fall on "Benedict Arnold's East-West Line": his Tower, his family cemetery, his mansion, his warehouse, wharf, and dock, his Goat Island, his property on the southern end of Jamestown, and his West Kingstown cattle ranch.

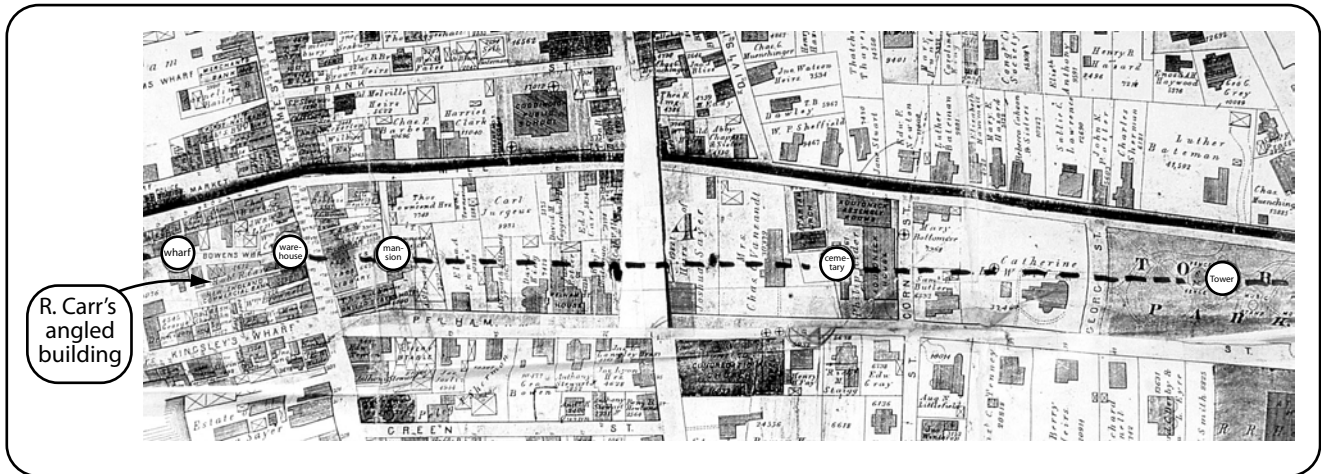
Benedict refers to part of this line in his description of his burial place in his will:

**"...in or ye line or path from my dwelling house leading to my Stone-built Wind-Mill."**

Not only is his cemetery on the direct line from house to the tower, it's almost exactly halfway between these two landmarks. (This line is parallel with Pelham Street, but not Mill Street.) It is very close to being a true east-west line, only off by a few degrees.



If the line is continued westerly past Benedict's Mansion, it runs straight down today's "Bowen's Wharf." In his will, Benedict refers to "my wharf house and wharf." (Arnold, B., p.5) On this bay side of Thames Street is where Rev. Henry Jackson located Benedict's stone fort (on land of R. Carr and Commercial Bank). This map from the 1800's shows these properties. Note that several of R. Carr's buildings are angled to accommodate the unusual angle that Bowen's wharf makes with Thames Street. In his will Benedict mentions "my wharf house and wharf." (Arnold, B., p.5)



Most of the other wharves built in the 1700's and 1800's run into the harbor from a perpendicular angle to Thames Street. Reverend Ezra Stiles, on his 1758 Map, in a detail showing 13 "wharves to the ferry wharf" depicts two short wharves that have angle which is different from all the rest. Charles Blascowitz map of 1777 shows several wharves in the vicinity with this unusual angle.

This angle of Bowen's Wharf can be seen in today's Newport, despite urban renewal. America's Cup Avenue has wiped out the buildings of R. Carr and the Commercial Bank that fronted Thames Street. But the western end of Bowen's Wharf still exists and creates a quaint triangular dock area, a popular thoroughfare for summer tourists.

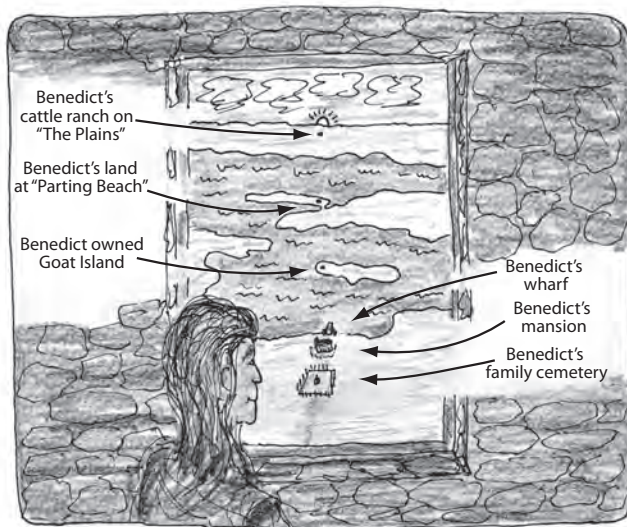
The Robert Stevens house at 261 Thames Street is at the corner of Bowen's Wharf and America's Cup Avenue. To accommodate the angle of Bowen's Wharf the ground plan of the building is not square, but a parallelogram. The angle of the corners in the rooms are not right angles. Two are wider than 90 degrees, two are less than 90 degrees. Even on the second floor, the room feels "crooked."



On Bowen's Wharf, the brickwork next to the building shows the remnants of the angle. A modern stone walkway has been made with a gentle curve to try and "straighten it out" with the other wharves that are perpendicular to Thames.



(In Benedict's day compasses were pretty good, but not perfect. It wasn't until the 1900's that compasses were filled with oil to steady the needle. With all the previous "dry card" compasses, the needle moved rapidly and erratically. William Gilbert (1540-1603) had written a book on *The Great Magnet of Earth* in the late 1500's, but the first map showing the error caused by magnetic poles appeared in the late 1700's.)

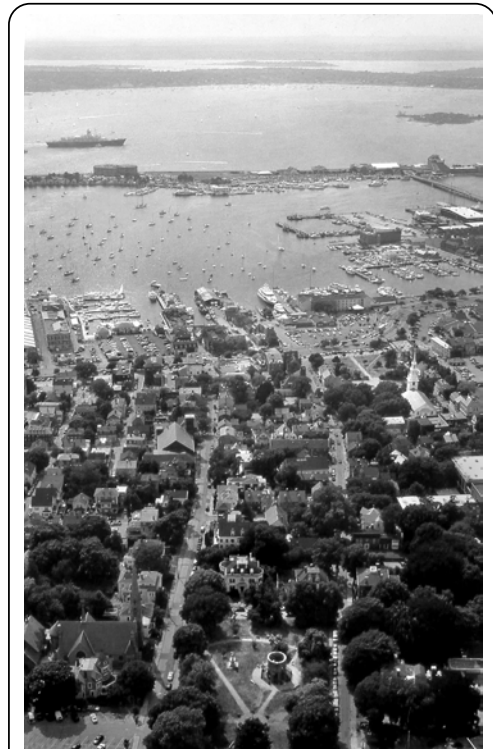


Benedict looking at his properties out the West window of the Tower

Let's visualize this line as it appeared looking out the West window of the Tower. Just down the hill was Benedict's family cemetery, beyond that his mansion (ca. 1654). Across Thames Street, his warehouse and wharf pointed towards Goat Island (Benedict owned from 1658-1672). On the other side of Newport Harbor was his "Cajacet" land and Beaver-tail (1657). And off on the distant horizon was cattle ranch in West Kingstown. And if happened to be the equinox, the setting sun could also be seen on this line, directly west.

### *A "garrison" on what I call the "Benedict Arnold east-west line"*

In 1996, NEARA Connecticut State coordinator, Doug Schwartz, was exploring the woods of southeastern Connecticut and came across a tall rock construction that he felt was built by the Indians. Jim Whitall heard about the discovery, and visited it in the spring of 1997.



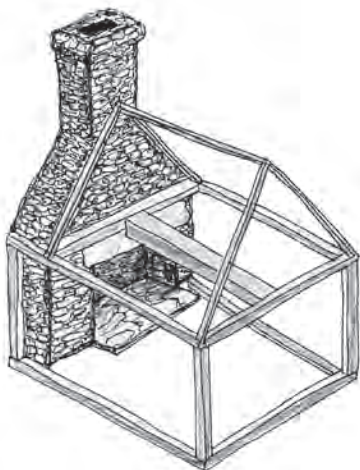
Helicopter view looking west at the Tower, Goat Island, Jamestown, and the mainland of "South County"



Whitall immediately recognized that it was the remnants of a “stone-ender,” a building with the chimney at one end. Stone-enders were the most popular early-colonial building style in Rhode Island, but they were rarely built in Connecticut or Massachusetts, where the center-chimney style was preferred.

The four examples illustrated here are among the dozen or so that are still standing today. They were built with thick oak beams, held together with wooden pegs in mortise and tenon joints. The frame was tied into the solid chimney.

Not only were stone-enders unique to Rhode Island, they were “phased out” around 1700 and no longer constructed after 1750.



Typical design of a 1½ story Rhode Island Stone Ender

In November of 1997, the Early Sites Research Society did a preliminary excavation of the site in southeastern Connecticut. All the wood of the building was long gone, but the 21-foot-wide by 40-foot-long stone foundation was still visible.

As the house was built on the slope of a hill, the massive stone end (which is about 8 feet thick ) rises about 16 feet from the ground. Originally it probably rose to twice that height—a bold, impressive facade at the western end of the building.



Thomas Clemence House,  
Johnston,  
ca. 1680



Roger Burlingame House,  
Foster,  
1709



Thomas Fenner House,  
Cranston,  
1677



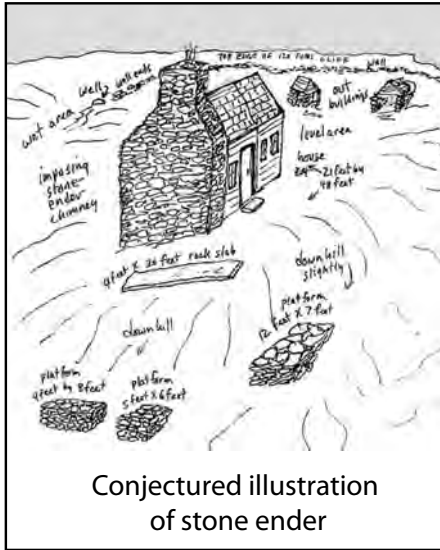
Eleazer Arnold House,  
Lincoln,  
1687

I happen to be pretty familiar with stone-ender construction because I restored one in 1994. My wife and I purchased the rafters, beams, wallboards, floorboards and chimney-stones of a 1709 stone-ender that had been saved from demolition by creative consultant Tom Monahan and his wife Audrey.

With the help of historical preservationist Bob Major and stonemason Mario Pinmentel, I painstakingly reassembled it as an addition to our 1726 house. The small 1½-story stone ender had originally been built by Roger Burlingame of Gloucester, RI.



The tall exterior face of the Chimney



Whitall and his crew cleared the fallen rubble from the hearth revealing a well-constructed fireplace 6 feet wide in front, tapering to 4 feet wide in the back. The massive hearthstones were still intact, and the stonework shows the firebox was built by a stonemason who knew what he was doing.



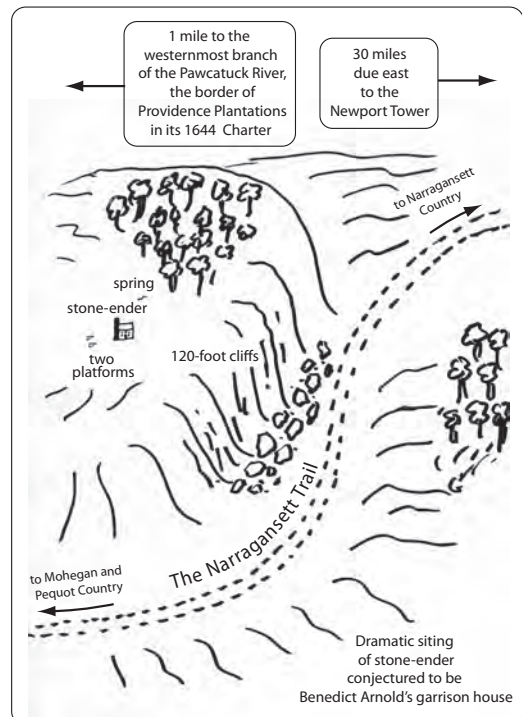
Two stone piers built into the hillside

Just downhill from the structure, are two unusual “stone piers” built into the hillside. They are poised facing west and could possibly have been constructed as level platforms for cannons.

Whitall’s group dug six 1-meter-square test pits to a depth of 5 inches. Of the 70 odd artifacts found, unfortunately none seemed to have dated back to the 1600’s: a 1737 Higley Copper (locally made copper coin) and an 1849 English Florin (silver coin), an old fork, an iron hoe, and plenty of glass and ceramic pottery shards. They are all now are in the collection of the local Historical Society.

Perhaps the most significant feature of this stone ender is its location. It is located on the Narragansett Indian Trail that runs from the Mohegan and Pequot country (Lantern Hill, near the Casinos) and winds its way east into the heart of Narragansett Country (the present-day towns of Hopkington and Richmond, and South Kingstown.)

At one point the trail passes through a ravine with 120-foot-tall cliffs on one side. The stone ender is dramatically located near to the top of the cliff.



Furthermore, the stone-ender is located only a few miles **east** of the westernmost branch of the Pawcatuck River. Not only was the Pawcatuck River the western boundary of Roger Williams' charter of 1644, but it was also the understood boundary between the Mohegans and the Narragansetts.

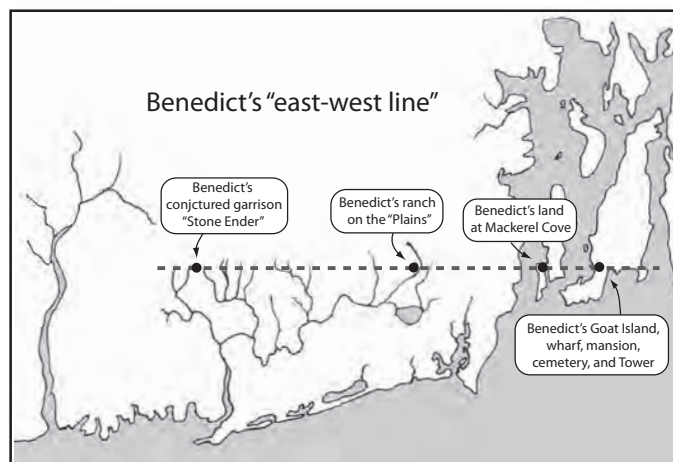
In a 1997 site report assembled by the capable Rick Lynch, Jim Whitall writes:

**“Is it at all possible that the ruins which seem so mysterious today  
are the remains of Arnold’s secret trading post in Connecticut,  
which did its part to make him the richest man in the Rhode Island colony?”**

I think Whitall was on the right track, except for a few minor details. In 1663 the RI-Connecticut border was changed to be the “middle stream” of the Pawcatuck River. **So the area land where the stone-ender stands was actually a part of Rhode Island from 1644-1663.**

Also, Whitall calls it a Trading Post. Indeed it probably functioned as a trading post in times of peace. But I contend it was constructed by Benedict Arnold (probably sometime in the in the 1650's) to assert to the settlers and Indians of Connecticut that this was part of Providence Plantations as per the Charter of 1644. It also served as protection (a buffer) for his friends, the Narragansetts against other tribes. Except during King Philip's War, Benedict wanted to peacefully co-exist with the Narragansetts.

Here's the clincher. Not only is this “garrison” constructed in a “Rhode Island style” of architecture, and built on what was “Rhode Island Charter ” land, but it's also on what I call the “Benedict Arnold east-west line”! And at the other end of the line is the Newport Tower!



### ***Benedict probably raised sheep, cattle, and horses***

Benedict Arnold made purchases not just to give to his heirs, but to develop as livestock farms. William Harris stated in 1675 that there were more sheep in Rhode Island than anywhere in New England. And that didn't happen overnight. Apparently Arnold and Coddington had sheep production in mind when they secured Conanicut Island. (Miller, p.32) and (White, p.11)

William Coddington is recorded to have shipped numerous horses to the West Indies in 1656. Joseph Hull, before 1672, was raising horses on his Pettasquamicot Purchase land. He wrote to Benedict Arnold about plans for “a very good breed of large and fair mares and stallions that no mongrel breed might come amongst.” He recommends a choice breed of “coach horses for the saddle” and draught horses for shipment to “Barbados and Nevis.”

The location of what I call Benedict's garrison, near a steep ravine in hilly country, is suitable location to raise sheep, but not cattle or horses. It's doesn't appear to have been built not for livestock production. Benedict's farm on the Plains is much more suited for horses and cattle and even for sheep, and he had plenty of acres for plenty of animals.



***Benedict Arnold was a strong-willed “wheeler-dealer”***

Two characteristics of Benedict Arnold that can be gleaned from historical record: He was strong-willed and he was a “wheeler-dealer.” These can be seen as positive or negative traits depending if he is “on your team” or against you. But the records show one thing for certain: he could get things done and people knew it.

In a Providence Journal article written in 1936  
(exactly 300 years from Providence’s founding in 1636),  
J. Earl Clauson writes of Benedict Arnold:

**“It’s hardly to be gainsaid that he was one of the self-seeking settlers.  
So were they all self-seeking in one way or another;  
some were after enlargement purely on the spiritual side and some after this world’s goods.  
The latter was Arnold’s line.  
Though a brilliant negotiator he must have been,  
he was also a ‘wheeler-dealer,’  
who had no qualms of twisting the truth slightly for his own purposes.”**

As Glenn Lafantasia puts it:

**“Arnold, who was fluent in local Algonquian dialects,  
was often asked by the Commissioners of the United Colonies  
to act as interpreter and messenger in their transactions  
with the Indians of Narragansett Bay.  
The Narragansett sachems, however,  
suspected Arnold of distorting their meaning in his translations,  
and preferred to rely on Roger Williams’ services whenever they could.**

(Lafantasia, p. 253)

J. Earl Clauson’s assessment is a bit harsher:

**“Indians kept their knives ground to a keen edge  
for the time when they should meet up with Benedict...  
he gave inaccurate and unfavorable translations of their speech...  
[and]...gypped them in land deals.”**

(Clauson, 1936)

Perhaps now it’s easier to accept my original assertion:

**“Benedict Arnold, the first Governor of Rhode Island, was fibbing  
when he called the Newport Tower a ‘Stone-built Wind-Mill.’”**

Without understanding Benedict’s character and the times he lived in, the above statement might sound highly conjectural. But based even on this brief biography it’s clear that Benedict was not above distorting the truth a bit, as a means to an end.

## ***Benedict Arnold, his son Benedict, and the Taunton Iron Works***

Elizabethan times the manufacturing of iron was big business and it helped raise the standard of living. But each ton of iron required 35 cords of wood. On top of that there was an increased demand for wood for heating, as well for the construction of houses and ships (a large ship required 2,000 oak trees). By the 1600's there was an acute shortage of timber in England.

(Innes, p.242)

But in New England timber was plentiful. The early colonists led by John Winthrop Jr. started ironworks in Braintree and Saugus (where there is wonderful in a modern-day replication of the foundry) .

A group of West Country Puritans who settled Taunton, Mass. also started a foundry. In 1656, Benedict Arnold became a shareholder in this project (the only investor from Providence Plantations). He must have become actively involved, as his first-born son, Benedict Arnold II, married Mary Turner. She was the daughter of John Turner, the foreman of the forge for 34 years from 1656 to 1690.

(Hall, p.265-274)

Benedict II and Mary owned land in Taunton from which ore was harvested for the forge, but the couple resided at the Beavertail farm on Jamestown Island. He left his son, Benedict III 140 acres of land as well as his watch, which was "my grandfather Arnold's." (Very few New Englanders were wealthy enough to buy a watch, but William Arnold apparently was.)

Benedict III's son was a cooper (barrel maker) in Providence.

His son Benedict IV became a sea captain and moved to Norwich, Connecticut.

His son, Benedict V (1741-1810) was the Revolutionary War hero, then traitor.

(Martin, pp.15-19)

## ***Governor Benedict Arnold's Chair***



The first Governor's chair,  
before restoration

I had read that the chair King Charles II gave Benedict Arnold when he appointed him the first Governor of the colony, was in "dilapidated" condition. When I found out it was in a storage room at the Redwood Library, Cheryl Helms and Lisa Long were kind enough to bring it into the spacious Harrison Room and allow me to photograph it.

It was far from dilapidated. It is a sturdy, Jacobean-style chair with simple, but interesting detailing. The hand-carved arms swoop down to rounded fist holds. The 4 solid legs, part square and part lathed to roundness, are stabilized at the feet by 4 decorative rungs.



The Governor's chair  
given to Benedict Arnold  
by the King Charles II in 1663

As the pre-restoration photo shows parts of the chair were missing. The center back-panel had to be replaced. The carved headboard above that panel needed to be replaced as well. But the two outer side-panels (to which the arms are connected) were both original.

At the top of the right side-panel is a curious design, carved deeply into the wood. Three circles, each about 2 and one-eighth inches in diameter, had been inscribed by carpenter's compass. (It appears as though a scribing compass with two metal tips was used, as the deep pivot points in the center of the circles are still visible). One deeply incised straight line cuts diagonally across the 3 overlapping circles.

The chair had been in various homes of Arnold's descendants over the centuries. One idea was that these marks were made by mischievous children. (There are also some smaller circles inscribed on the inside surface of the chairs arms.) Lisa Long suggested it looked like a "masons mark" or a "merchants mark," someone's personal symbol.

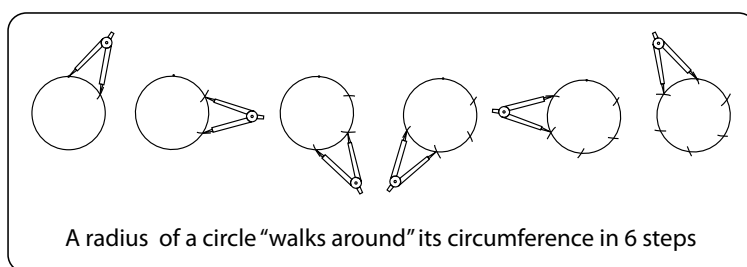


The inscribed mark on the upper right part of the chair

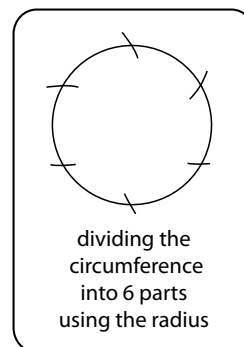
I took a close-up photo of the mark and upon returning home tried to duplicate it using a strong carpenter's compass on a piece of hard wood. It took a lot of pressure and quite a few turns before the wood was sufficiently grooved. This didn't seem like child's play. This was done by an adult. And it seemed as though no one would have the gall to hand-carve a historic gift from the King of England (a symbolic "throne") except for the bold Benedict himself!

Replicating the design on paper using a geometer's compass (the type with one point and a pencil) I discovered 3 hidden clues in the design.

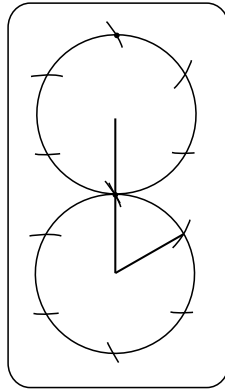
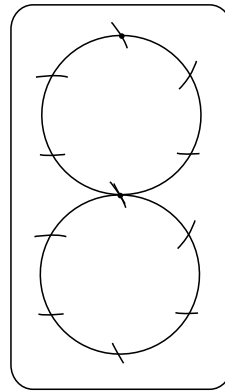
**Clue1.** I realized the person who inscribed this symbol had a basic grasp of geometry.



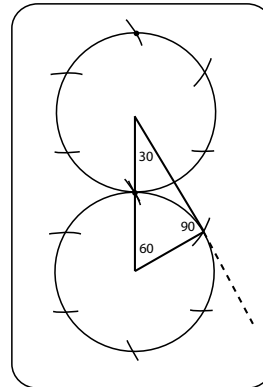
First, the designer knew that if you draw any circle, using the same radius, you can "walk around" the circle exactly 6 steps, dividing the circumference into 6 equal parts.



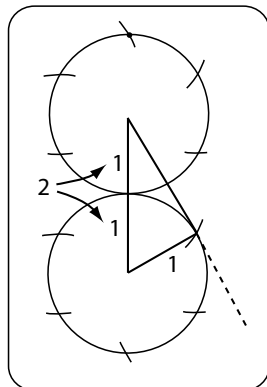
The upper and lower circle of the design are tangent to each other. So let's make another circle, and divide it into 6 parts as well.



Next, let's connect the center points of the two circles and draw a radius out to the upper right point of the lower circle.

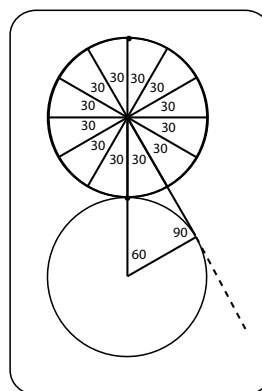


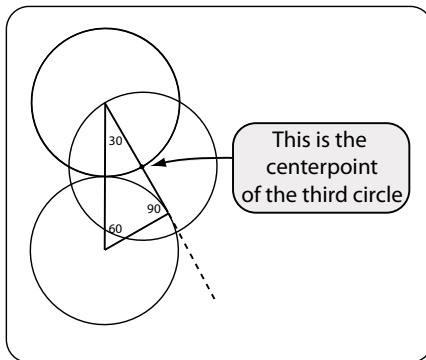
Adding a "tangent line" drawn from the center of the upper circle and tangent to the lower circle, makes a 30°- 60°- 90° triangle.



In any 30°- 60°- 90° triangle, the sides are in the ratio of 1: 2:  $\sqrt{3}$ . The carving does a simple job showing the 1:2 part of this ratio. One side of the triangle is a **radius** of the lower circle. And another side of the triangle is the **radius** of the lower circle **plus** an equal-sized **radius** of the upper circle.

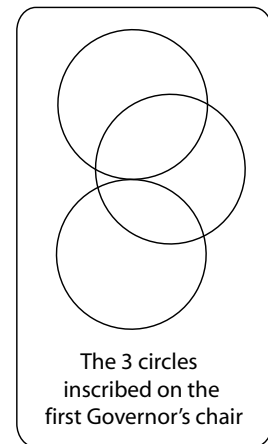
In other words, the upper 30° angle of the triangle represents 1/12 of the upper circle (as  $30^\circ \times 12 = 360^\circ$ ).





Using the point where the “tangent line” crosses the upper circle as a center point, let’s draw one more same-sized circle.

**Voila!**  
**We have the three circles**  
**in Benedict’s mark.**



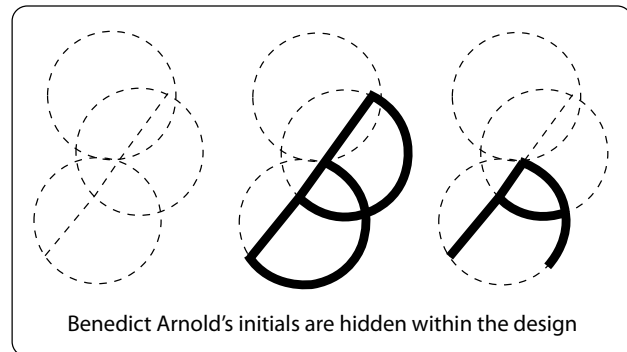
In the actual mark, the first two circles are not oriented vertically (the lower one is slightly to the left and even runs off the edge of the sideboard). However, the geometric analysis just shown still applies. The **whole** geometric assembly of the 3 circles is simply rotated a few degrees clockwise.

So my first conclusion was that the inscriber of these marks knew his geometry. A simpler approach would be to divide the upper circle into 6 pieces of pie and then bisect one of the pieces. However it was done, it’s clear that the inscriber knew how to divide a circle into not just 6 parts, but 12 parts as well.

**Clue 2.** My second conclusion involves the line which slashes diagonally through parts of the circles (adding to the confusion). The line not perfectly straight. It’s a little crooked in places, suggesting it was inscribed freehand and not with a straightedge.

But with a little imagination it can be seen as the vertical stem of a capital letter B, (the rounded parts being made from the two lower circles).

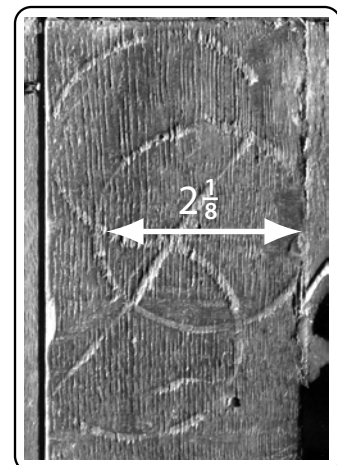
In another way, the lower half of it might be seen as the left leg of a capital letter A. The rounded left leg is made from the lowest circle and the cross-arm being made from the middle circle.



Benedict Arnold seems to have cryptically hidden his initials, B.A., in his mark!

**Clue 3.** My third conclusion has to do with the scale of the mark. If Benedict had started with a smaller radius, three smaller circles would have expressed the same geometric relationships and fit in the area of the panel much more comfortably.

Instead, these circles, each about two-and-an-eighth inches in diameter, awkwardly extend beyond the edges of the wooden side-panel. It seems as though the 3 circles were drawn this size on purpose. (Can you figure out what that reason might be?)

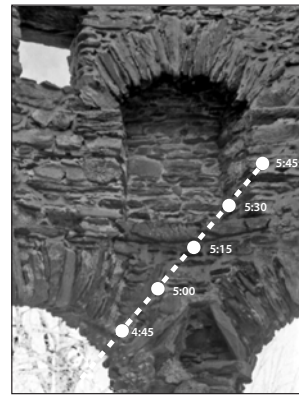




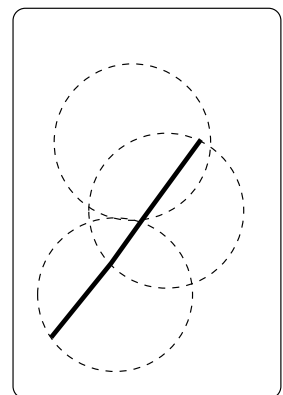
This is the size of the solar disc in a camera obscura room in which the projection wall is about 18½ feet from the aperture hole. **And the diameter of the first-floor room of the Tower approximately 18½ feet!**

Furthermore, the inscribed “mark” is about 4 feet above ground level and on the right hand side of the chair. Recall that on the equinox, the solar disc sets on the right hand edge of the fireplace, about 4 feet above floor level.

On the equinox, the setting sun approaches the horizon at a slight angle (it doesn’t drop vertically down to the horizon). So inside the Tower, the solar disc moves upwards at an angle as well. This appears to be the same slight angle as the line in Benedict Arnold’s mark. (It’s also the angular relationship between the two lower circles in the mark.)



The angle made by the setting the solar disc during the Equinox sunset...



...is similar to the angle of the straight line inscribed on Benedict's chair



My conjectured illustration of Governor Benedict Arnold and fellow leaders watching the solar disc on the Governor's chair during an equinox sunset.

It seemed to me thatthat Benedict Arnold knew that the first floor room functioned as a solar-disc-at-sunset calendar room.

Could it be that on the equinox Benedict actually situated the chair facing the west window, with his back to the fireplace? Perhaps he even shared his knowledge with his fellow leaders.

Here is conjectured illustration of what might have transpired during an equinox sunset some time after after 1663.

I doubt Benedict would have inscribed the chair in 1663 when it was brand new. But between 1663 and 1678 he was Governor for 11 years, and would have considered the chair to be his own. It,s more likely he did it around 1677, in his old age, when he wanted to convey a clever yet cryptic symbol on something that would last for a long time. (I find a similarity between this mark and the 5 asterisks he used in his will, marking the sentence describing his burial place and the “stone built windmill.” They are both emphatic expressions made by a bold person.)

All this seems to support the therory that Benedict Arnold built the Tower. But to me, the architecture and astronomy of the tower **still** seemed designed by someone with more scientifically sophisticated than Benedict Arnold. (It takes more smarts to design and construct a car than to drive one). I needed more clues.

## *The Arnold Children*

When Governor Benedict Arnold died, Benedict II, Josiah, and Oliver inherited the land in Jamestown. Caleb inherited the ranch on the Plains of what is now West Kingston.

Most of the Governor's daughters (except the youngest) married influential Newporters.

### The 9 Children of Benedict and Damaris Arnold

#### *Born in Providence:*

Benedict II	Feb. 10, 1641	(named after Benedict Arnold I)
Caleb	Dec. 19, 1644	
Josiah	Dec. 22, 1646	
Damaris	Feb. 23, 1648	(named after Damaris Wescott Arnold)
William	Oct. 21, 1651 – Oct. 23, 1651	

#### *Born in Newport:*

Penelope	Feb. 10, 1652	
Oliver	July 25, 1655	(probably named after Oliver Cromwell, Lord Protector of England at that time)
Godsgift	Aug. 27, 1658	
Freelove	July 20, 1661	

## *Freelove snags Edward Pelham*

Benedict and Damaris Arnold's youngest daughter had a name that might have been given to a hippie-child in the psychedelic 1960's: Freelove.

She was 16, when her father died, and 17 when her mother died. In days of primogeniture the eldest son usually inherited the most of the estate. But Benedict gave his mansion, the Tower, the wharves, and surrounding farmland to his youngest daughter, apparently in hopes that she would be able to attract a good husband. And indeed she did. She married the Harvard educated, Edward Pelham, one of the few men in New England with a Royal bloodline.

To learn about Edward, let's first look explore his father, Herbert Pelham III.

## *The Pelham Royal Bloodline*

Walter Lee Shepphard, Jr.'s book *Ancestral Roots of Sixty Colonists Who Came to New England between 1623 and 1650* is now in its sixth edition. In it, he traces the Royal lineage of over 60 New England Colonists.

The very first line traced in the book is that of Herbert Pelham. Shepphard remarks that, "**few early New England settlers may be traced so far down in Complete Peerage**" (a historical record of England's Kings, Queens and their relatives). Here's Herbert Pelham III's lineage starting around 1200 AD.

### The Pelham Royal Bloodline

Henry III, King of England, 1216 - 1272  
Edward I, King of England, 1272 - 1307  
Edward II, King of England, 1307 - 1327  
Edward III, King of England, 1327 - 1377  
John of Gaunt (Ghent), b. 1340 – d. 1399  
John Beaufort, Earl of Somerset, b. 1370 – d. 1409  
Edmund Beaufort, Duke of Somerset, b. 1406 – d. 1455  
Eleanor Beaufort, Countess of Wiltshire, b. ca. 1450 – d. 1501  
Margaret Spencer, b. 1472 – d. 1490  
William Cary, b. 1495 – d. 1528, m. Mary Boleyn, sister of Queen Anne Boleyn  
Mary Cary, m. Sir Francis Knollys  
Anne Knollys, m. Sir Thomas West, Lord Delaware  
Penelope West, b. 1582 – d. ca. 1619, m. Herbert Pelham II (father)  
Herbert Pelham III, b. ca. 1600 – d. 1674 (the one that came to America)  
Edward Pelham, m. Freelove Arnold

(compiled by Walter Lee Shepphard, Jr.)

## *Herbert Pelham*

Edward's father Herbert Pelham III (ca. 1600-1674) married the great heiress from Sudbury, Lincolnshire named Jemima Waldegrave. Herbert was involved in the colonizing effort early on, as Jemima was related to John Winthrop. Herbert did not cross the ocean in the first decade of the settlement of New England, but he was an enthusiast and facilitator on the home front. On April 19, 1637 he wrote John Winthrop a letter complimenting him on his "great work"

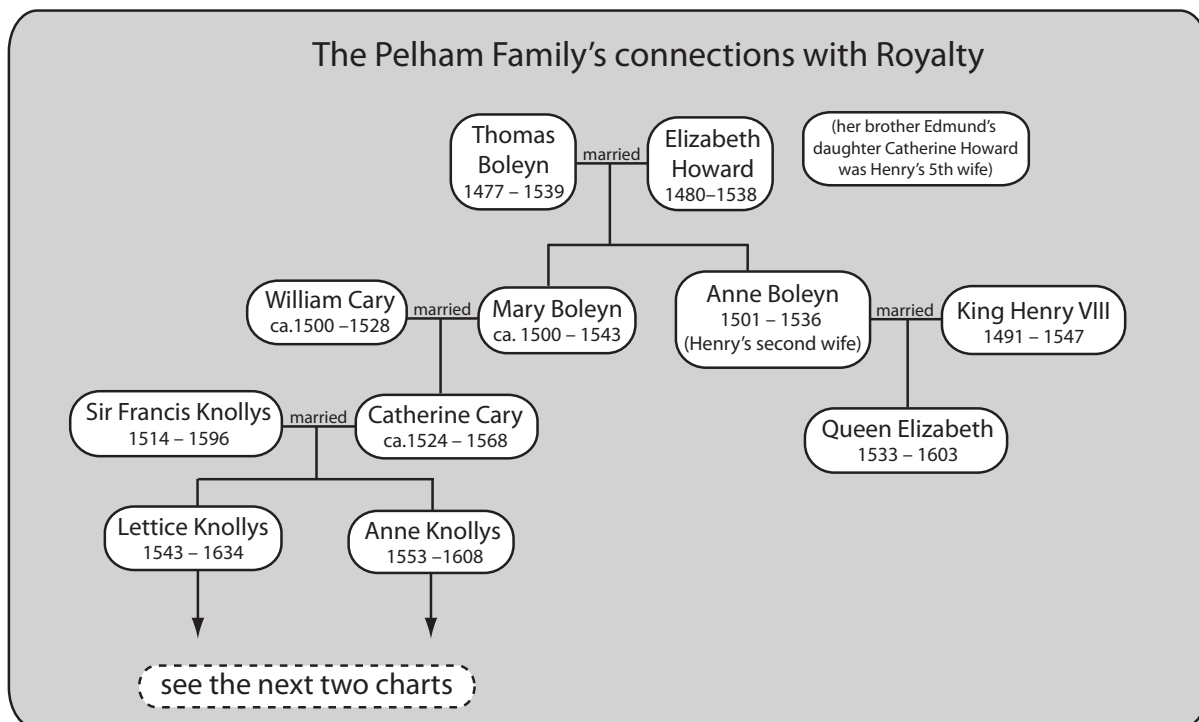
(Colket, 3, p.140)

After Jemima died in 1639, Herbert invested £3000 for a voyage and sailed from Gravesend, to Boston. (His younger brother William had already founded the town of Sudbury, Mass. named after his hometown.) His sister Penelope was married to Josiah Winslow, later Governor of Plymouth Colony. (MHSC, 5,1, p.242)

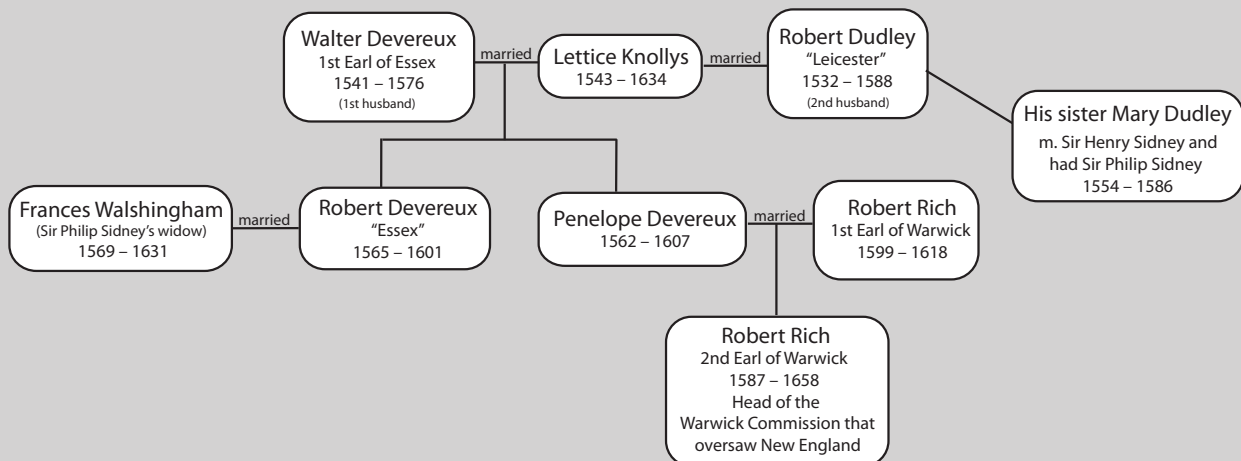
When he arrived in Boston, Herbert found out that his friend Roger Harlakenden had just died of smallpox. Shortly thereafter, Herbert married his widow and became one of the largest landowners in Cambridge. His estate included Pelham's Island. (After years of filling in marsh-land it is no longer an island, but today includes all the land north of the Charles River from Central Square to Kendall Square.)

In 1643, he was elected Treasurer of Harvard College. In 1646, he was chosen as one of the two Mass. Bay Commissioners of the United Colonies. (In this position he worked with Benedict Arnold, the interpreter for the peace treaties with the Narragansetts.) Around 1647, he returned to England to help "attend to the service of the Countrie of England" in the fermenting Civil War. In 1654, he represented Essex in Cromwell's Puritan Parliament. (Colket 3, p.142)

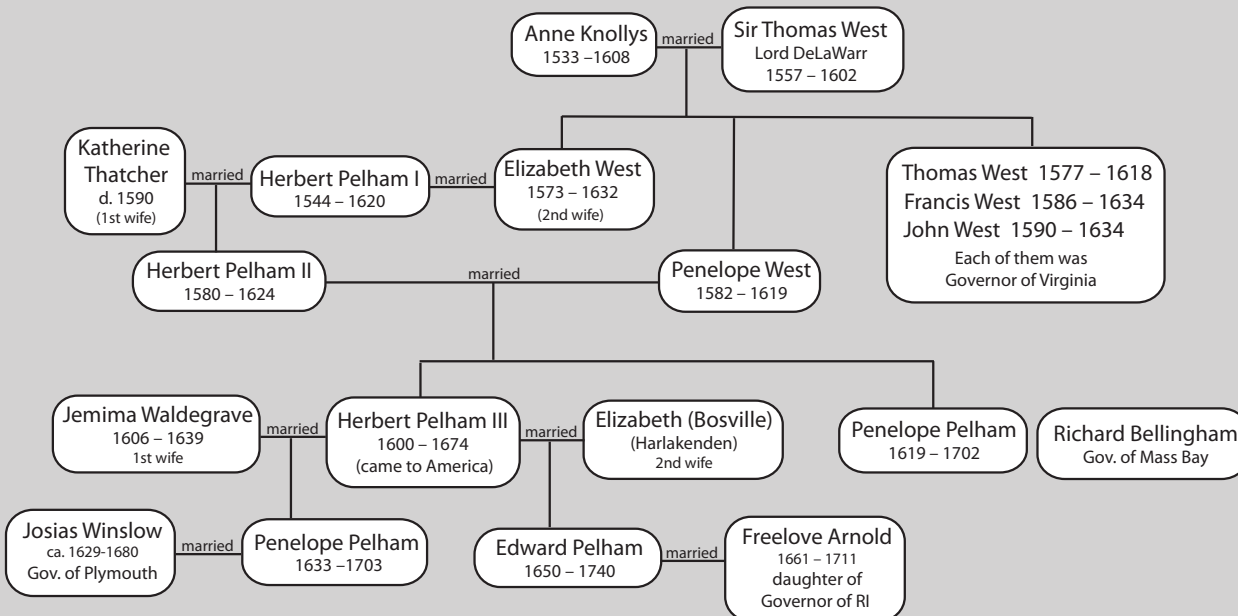
He continued to help the colonies through his efforts in the "Society for the Propagation of the Gospel in New England." Later called the "New England Company," these 16 wealthy Puritans helped John Eliot establish numerous "praying villages" in an attempt to convert the Indians to Christianity.



### Descendants of Lettice Knollys



### Descendants of Anne Knollys



(Colket, 3, p.138; and Weir, p.510; and Kirkpatrick, p.78)

## *Edward Pelham*

During his years at Harvard (Class of 1673), Edward Pelham was a bit wild. After he and his buddies poached a turkey from a local farm, he almost got expelled. His father Herbert, who died in 1674, gave Edward's share of the inheritance to Edward's older brother Winslow, who lived in England. Winslow was only to give it to Edward if Governor Winthrop and the Massachusetts Bay Magistrates agreed that he had become "Serious, Sober, and Solid, And followeth his study, and avoid all Idle and Profuse Company and that they Verily Conceive there is a Real Change in him for the better..."

(Biographical Sketches of Graduates of Harvard University, By John Langdon Sibley, Clifford Kenyon Shipton, Conrad Edick Wright, p.416-418)

Did Benedict tell his daughter Freelove what he knew about the Tower? Did Freelove tell her new husband Edward Pelham when they married on April 18, 1682 and he moved into her inherited mansion in Newport?

John Comer of Newport wrote briefly about Edward Pelham "he was a witty man and great scholar," but "never engaged in any business but live on his inheritance." (Brayton, p.59)

In his 1730 will, Edward Pelham calls the Tower the "Old Stone Windmill." If Benedict Arnold had constructed it in 1660's, it doesn't seem that Pelham would have selected the adjective "Old." It seems to me that Edward was simply perpetuating the fib that Benedict Arnold used in his will.

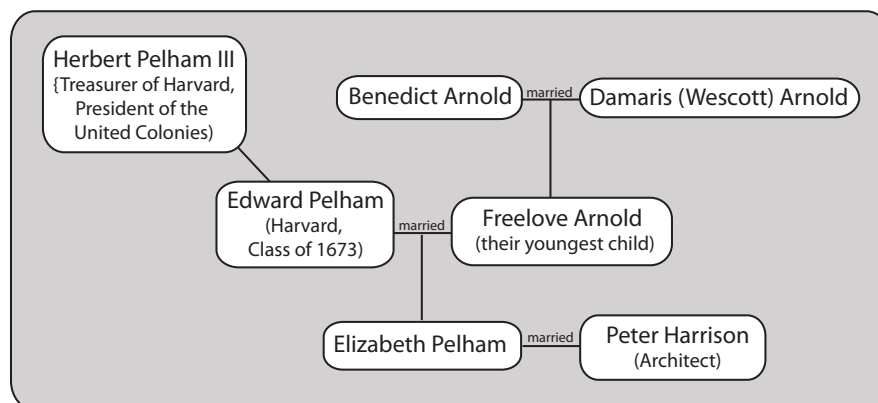
## *Edward and Freelove's daughter marries architect Peter Harrison*

Their eldest daughter Hermione Pelham married John Bannister. (Today the western extension of Pelham Street is still called Bannister's Wharf. Bannister Street was also an early name for upper Mill Street.)

It is thought that they named their next daughter Elizabeth after Edward's great-grandmother Elizabeth West, who herself had been named after Queen Elizabeth I. (There is also a panoply of Penelope's in the Pelham family, named after Penelope Devereux.)

Their second daughter **Elizabeth Pelham** married a dashing young merchant who had sailed into Newport on business – **Peter Harrison** (1716-1775). In his youth he apprenticed with a successful merchant and learned how to captain a ship. At 27 an English Lord tutored him in architecture and he became a skilled draftsman. He travelled all across Europe studying classical architecture as well as the neo-classical works of Italians like Andrea Palladio (1508-1580).

When he moved in Newport to marry Elizabeth Pelham, his business was located on Bowen's Wharf. He was so successful as a merchant, he never charged for his architectural designs. He provided architectural plans for the homes of dozens of his friends from Boston to the mid-Atlantic colonies of Virginia and South Carolina, and even in the West Indies.





Carl Bridenbaugh wrote a biography of Harrison calling him the “First American Architect.” His most notable local works include: King’s Chapel, Boston (1749); Redwood Library, Newport, (1749); Touro Synagogue, Newport, (1759); The Brick Market Building, Newport (1762). In his later years he took over his brother’s position at the Royal Tax Collector in New Haven. (Miller, Peter Harrison, and Carl Bridenbaugh, *Peter Harrison, First American Architect*)

### ***Anglicans build two Trinity Churches***

In the mid 1680’s, English customs officials suspected American merchants of smuggling goods to avoid paying taxes. In 1685, King James II appointed Sir Edmund Andros as the Governor of the Dominion of New England (which included Pennsylvania and New Jersey as well as the New England colonies). Andros’ “Dominion” introduced the Anglican Church into New England. In 1686, The King’s Chapel (28 feet wide x 54 feet long) was built on Tremont Street in Boston.

In 1700, the Trinity Church was built in Newport. The original church is not the magnificent Trinity Church we see today, but a smaller church that stood immediately to the north of it. According to the preservationist Norman Isham, the first church was just to the north of the large 1704 gravestone of Thomas Mallet and extended nearly across the lane leading up to it (present-day Church Street). (Isham, p.27 and Hattendorf, p.24)

Historian John B. Hattendorf, in his comprehensive book *Semper Eadem: A History of the Trinity Church in Newport 1698-2000* found evidence that the original church was 30 feet wide by 40 feet long.



Trinity Church



Trinity Church

In 1726, the original church was torn down and a grander one (46 feet wide by 70 feet long) was built in its present location. In 1762 it was lengthened (on the Spring Street end) by 26 feet. This made it 46 feet wide x 96 feet long, “one of the largest houses for public worship in New England.”

(*Rhodes Papers*, in Hattendorf, pp.102 and 135)

Among the parishioners who financed the expansion were the wealthy merchants Peter Harrison and John Bannister. (*Diary of Ezra Stiles*, in Hattendorf, pp.100, 135)

## *Harrison hides clue in his design for the Redwood Library*

In 1730 Reverend James Honeyman, an Irish Anglican clergyman named Dean George Berkeley, and a wealthy Quaker named Abraham Redwood started a “Literary and Philosophical Society” in Newport.

In 1750, Honeyman came up with the idea of creating a library, feeling that being well read and learned “would confirm intelligent readers in the ways of Anglicanism.” The wealthy Abraham Redwood donated 500 pounds sterling to buy books for the library. Each member of the newly formed “Company of the Redwood Library” contributed to raise 1200 pounds to construct the library. Peter Harrison agreed to develop the architectural plans for free.



Redwood Library,  
designed by Peter Harrison

### **Religious affiliations of the Company of the Redwood Library**

44 Anglicans
18 Quakers
16 Congregationalists
13 Baptists
2 Jews
<hr/>
93 Total Members

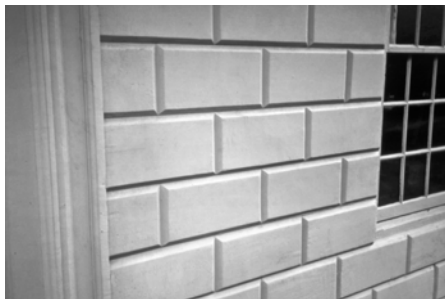
(Ezra Stiles in Hattendorf, p.83)

Even though Redwood gave the land and the largest amount of money, most of the members were Anglican. Ezra Stiles made a tally of the members’ religious affiliations.

Carl Bridenbaugh, in *Peter Harrison, First American Architect* explains that Harrison was an expert in the fields of cartography, navigation, woodcarving, surveying, and he had an extensive collection of books on architecture.

Fiske Kimball, in *Colonial Amateurs and their Models: Peter Harrison* suggests Harrison’s design for the Redwood Library was inspired by a similar design for a “rusticated Roman Doric temple” in Edward Hoppus’ 1735 text on the great Italian architect Andrea Palladio (1508-1580).

( Downing and Scully, pp. 78-80)



“Rustication” of the exterior walls  
(looks like stone, but it’s really wood)

Rusticated means “made from large blocks with sunk joints and a roughened surface.” From a distance, (and even from up close) you would swear the building was constructed with solid blocks of stone. But it’s not. All the exterior walls are wood. Even the stately columns are made from wood. But not tree trunks—they’re hollow.

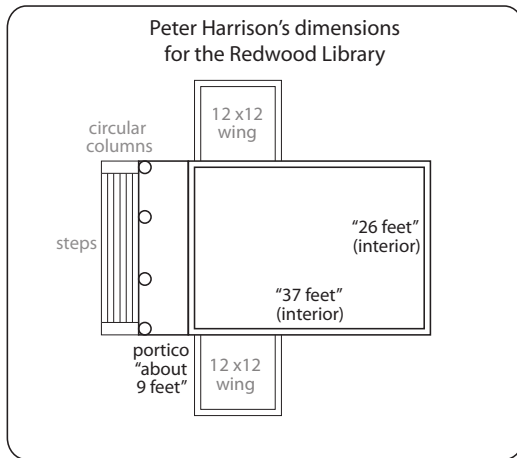
Here are the specifications of the Redwood Library in Peter Harrison's own words:

**“The large Room to be thirty-seven foot long, and twenty-six broad in the inside, and nineteen foot high.**

**At the west End (which is the principal Front) is to be a Portico of four Columns according to the Doric Order, with a Pediment [the triangular gable] over it, with Pilasters to suit the Columns.**

**The Projection of the Portico from the Outside of the Building to be about nine foot, and the Roof to be continued out so much as to form the Pediment.”**

(Downing and Sculley, p. 81)



He also called for two small wings, each 12 feet square.

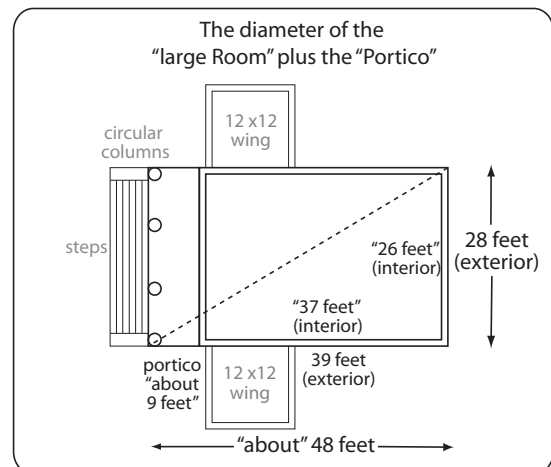
In the past three-and-a-half centuries, the Library has expanded several times, but the original “Harrison Room” and the 2 wings have been wonderfully preserved (along with many of the original books that Abraham Redwood financed.)

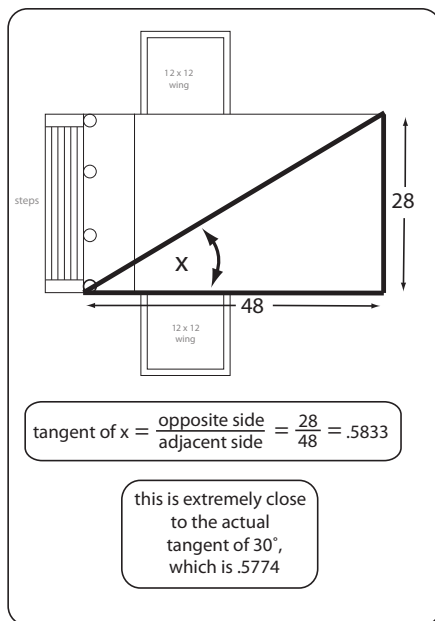


Another view of the Redwood library

Harrison was so specific about most of the dimensions, it was curious that he would specify the Portico to be “about 9 foot.” It smelled like a clue.

Harrison also refers to the “interior” dimensions of the room, so I added a foot on all 4 walls, making it 39 by 28. Thus, the “Portico” plus the “large Room” is “about” 48 feet. I wondered kind of a story the diagonal of such a rectangle might tell ?

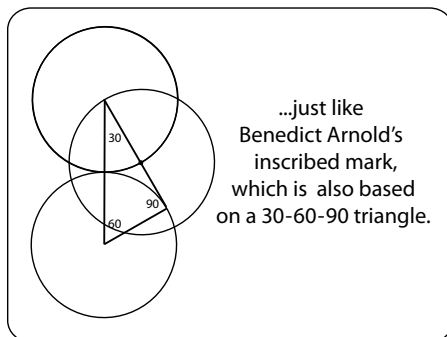
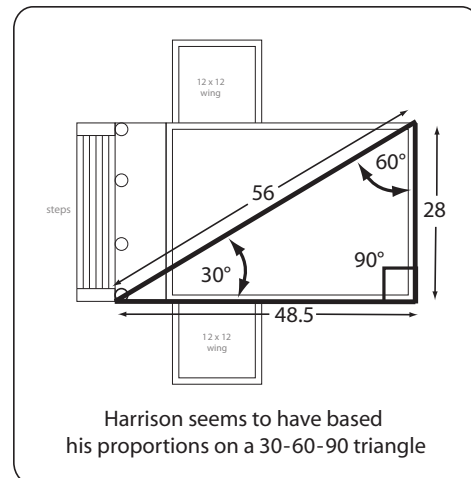




For the sake of calculating, I called it exactly 48 feet by 28 feet. Using trigonometry, I found the tangent of angle “x” to be .5833. This is quite close to being the tangent of a 30 degree angle, which is .5774.

For angle “x” to be precisely 30 degrees, the Portico would have to be 9.493 feet (or just under 6 inches longer). This seems to be the reason Harrison wrote “about 9 feet.”

The 30-60-90 triangle appears to be the starting point of Harrison’s floor plan. (As the sine of 60 degrees is 2, the diagonal of the plan is 56 feet.)



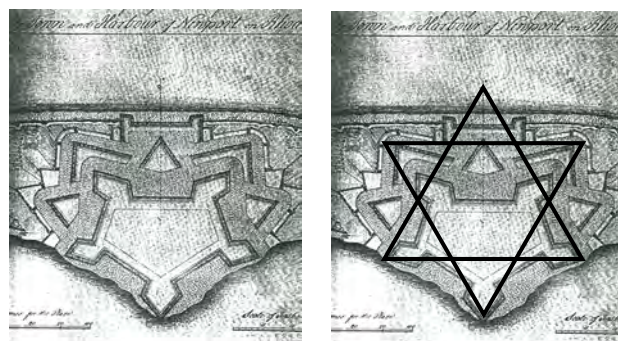
This was the same geometric shape that Benedict Arnold used for the basis of his inscribed mark on his Governor’s chair.

It seemed like Arnold and Harrison were on the same wavelength, but this was hardly proof that Harrison knew what Benedict knew about the Tower

### *Peter Harrison’s design for Fort George on Goat Island*

Peter Harrison’s love of geometry can be seen in his design for Fort George on Goat Island, just west of the Tower. Though his version of the fort was never built, his design seems to have been based on a hexagram star. He had to fit it into the actual shape of the island, but he drew a dotted line into the water where the tip of the star would be.

Peter Harrison’s plan for Fort George on Goat Island appears to be based on a hexagram star





## ***The American Revolution chases the Anglicans away from Newport***

In Harrison's time, almost half of the merchants in Newport were Anglican, and for the most part they favored "closer ties with Britain." They were "royalists." In 1764, several of them (Dr. Thomas Moffat, Martin Howard Jr., and George Rome) even petitioned the King to revoke the colony's 1663 charter and establish Rhode Island as a royal colony directly ruled by Parliament instead of local government. (Hattendorf, p.108)

During the next 20 years of political turmoil of the American Revolution, all of these royalists who stayed loyalists were either dead or had retreated from Newport. Peter Harrison who had moved to New Haven to become the Royal Tax Collector remained loyal to the crown. He died in 1775 of natural causes, shortly afterwards angry revolutionaries burned down his library including all his original drawings.

For 60 years after the American Revolution, Newport's prosperity steeply declined. Most of the wealthy Anglicans and Jews had fled. Maritime trade dwindled. When trading by roads and later by railroads increased, mainland Providence's economy prospered while Newport's economy dwindled. (Hattendorf, p.165)

It wasn't until the late 1800's when the super-rich businessmen from New York and Philadelphia started building "cottages" (mansions) along Bellevue Avenue, that Newport's star started to shine brightly again.

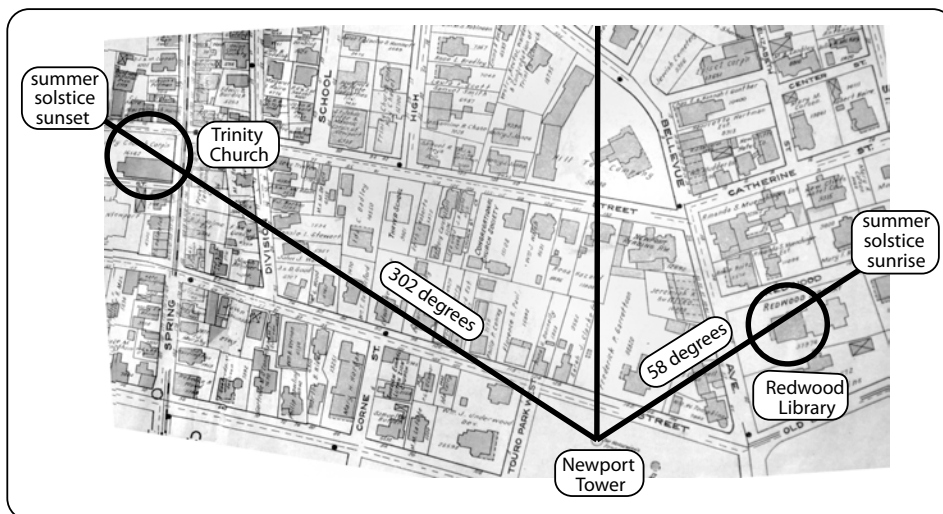
## ***Another clue Peter Harrison knew what Benedict knew about the Tower***

As we've seen, homes around Touro Park block the Tower's view of the Bay. The Redwood Library, once referred to as the "acropolis," also apparently had a clear view of the Bay.

So it occurred to me that these two structures were once in sight of each other. (Commercial buildings on Mill Street and Bellevue Avenue now obstruct the view)

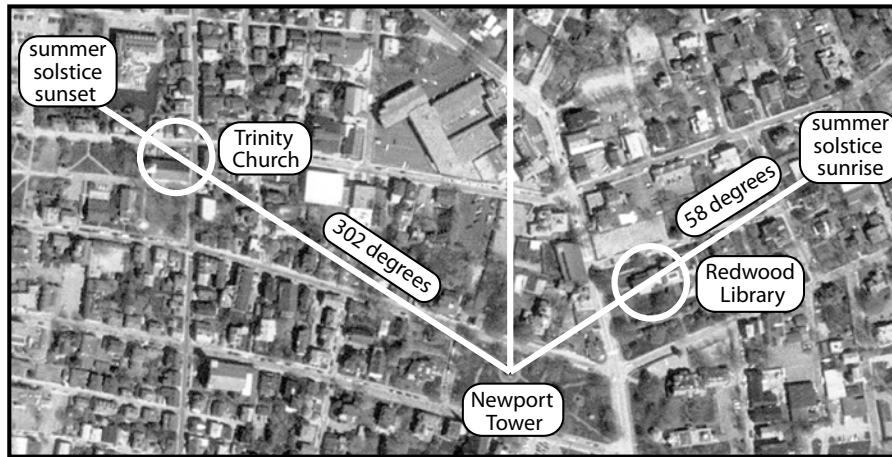
On a copy of an old map of Newport I drew a line connecting the two structures and was quite surprised that the Redwood Library is northeast of the Tower by an angle of approximately 58°. Did Peter Harrison intentionally situate the Library on the Tower's summer solstice sunrise line? Could this be why the Library is "set back" so much from Bellevue Avenue?

I drew another line from the Tower to the northwest at 302°, the summer solstice sunset line. It went right through the Trinity Church—not only the large 1762 church, but also the site of the original church (1700), which stood just to the north of it. (Peter Harrison was not the architect for either of these churches, but later was one of the parishioners that funded the 1762 expansion.)

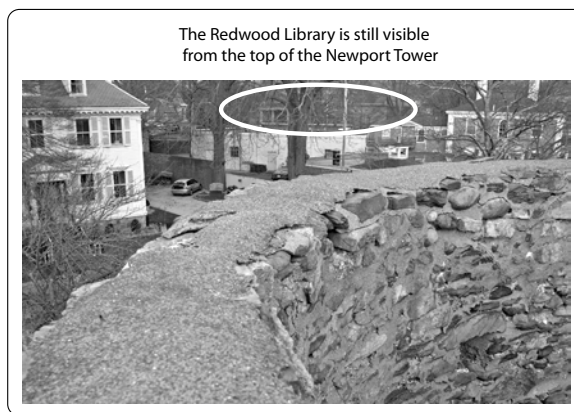


Did the early Anglicans, like architect Richard Mundy, the architect of the original church, know what Benedict Arnold knew about the Tower?





To double check this finding, I overlaid these lines on US Geological Suurvey aerial map of Newport.



The Redwood Library is still visible from the top of the Newport Tower

These alignments are certainly a lot more apparent on maps and aerial photos than they are from Touro Park, but from the top of the Tower, the Redwood Libray is still visible today.

### *Was the Tower in Newport meant to be like the Tower of the of the Winds in Athens?*

It was beginning to seem like the Newport Tower was once a symbolic city-center, a place that also kept track of time for the community. The Tower of the Winds in the Plaka district of Athens is a octagonal building made from white marble. It was built around 50 BC as a horologium. Metal gnomons project from the outer walls with sundial marks below them. In the interior was a clepsydra or water clock. The peak was surmounted with a weathervane that points to bas-relief sculptures of the 8 main dieties of the winds.

Vitruvius describes the Tower of the Winds in Book 1, Chapter 4, on planning the orientation of streets in a new city. In Chapter 6, he writes that temples should be built “on the highest point commanding a view of the greater part of the city.”



Tower of the Winds, Athens



The Tower of the Winds still stands

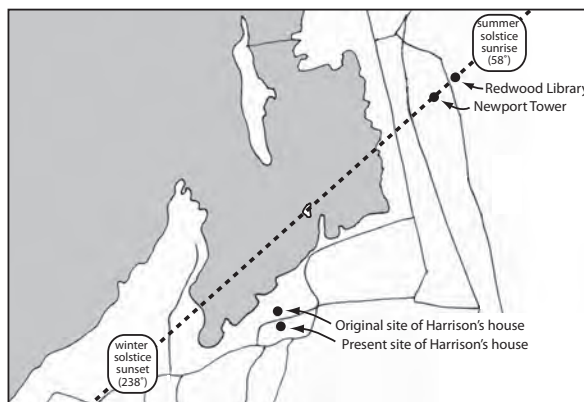
## *Peter and Elizabeth (Pelham) Harrison's House overlooking Newport Harbor*

Peter Harrison designed a large classical house for himself and his wife Elizabeth Pelham. It was on land that had been part of Benedicts' Limmington Farm and had a stunning view of Newport Harbor.

Peter Harrison expert John Millar, author of *The Architect of the American Colonies or Vitruvius Americanus* (with drawings by Suzanne Carlson), told me that Harrison's house still exists. It had been moved to the southern side of Harrison Avenue when Stewart Duncan (who made it rich selling Lea and Perrins Worcestershire Sauce) built his mansion he called Bonnie Crest in 1925 (which is now all condominiums). Millar said all the classical features of the house were gone, only the frame was original. It had been broken up into 4-5 apartments; it didn't even have its classical front entryway. I inquired at a few of the residences along Harrison Avenue, but they had never even heard of Peter Harrison.

So I went to the Newport Historical Society Library where Bert Lippincott helped me to locate Harrison's house on a map and to find its street address.

I thought it might be on the 238° winter solstice sunset line from the Tower, but it's not. That line passes cuts through the beach near Brenton Cove in Fort Adams State Park (But Harrison could probably see the Tower and the Redwood Library from his house).



I share this piece of non-evidence to show how creative research is done. There are a lot of dead ends, but exploring them might lead to a breakthrough. And if nothing else, this groundwork puts you in a position to you recognize a clue when it does pop up. Persistence pays off. Suddenly the clouds will part and the sun will shine through.

The subtle clues about Benedict Arnold's life story, his mark on the Governor's chair, and his grandchild's husband's Library design and its location, suggested the Tower was an important focal point for Newport. But if so, why wasn't it more well known? What were these guys being so surreptitious about?

## *A serendipitous clue in an old book*

As I was browsing the Newport Historical Society bookshelves looking for more information about Benedict Arnold and Peter Harrison, I happen to pull out a book written in 1958 called *Newport Begins* by Lloyd Robson.

From various maps and documents, Lloyd Robson had compiled a list of the various names people have called Narragansett Bay over the years:

Historical Names for Narragansett Bay  
(from Lloyd Robson's 1958 *Newport Begins*)

Refugio (Maiollo, Maggiolo, 1527)  
Gulf del Refugio (Verrazano, 1529)  
Bay de Sanct. Baptista (Chavez, 1537)  
Port de Refugio (Gastaldi, 1548)  
John Dee Bay and River (1583)  
Bay of Nassaw (Delaet, 1630)  
Narragansetts Bay (William Wood, 1634)

One name caught my eye: **John Dee**.

Where had I heard that name? Hey, he's the guy John Hammond mentioned in his *History of the Camera Obscura*. John Aubrey in *Brief Lives* had quoted Goodwife Faldo as saying John Dee had shown the Polish ambassador an eclipse of the sun in a darkened room.

**But what did John Dee have to do with Narragansett Bay?**

Eagerly I started to do research on John Dee. Unlike researching Benedict Arnold, where I had to piece together bits of clues to get a picture of his life, finding info on Dee was easy.

There were older biographies like:

(1968) Richard Decon	John Dee
(1972) Peter J. French	The World of an Elizabethan Magus
(1909) Charlotte Fell Smith	John Dee (1527-1608)
(1842) J.O. Halliwell-Phillips	The Private Diary of Dr. John Dee
(1969) Frances Yates	Theatre of the World

But also newer books about Dee like:

(1978) Wayne Shumaker and J.L. Heilbron	John Dee on Astronomy – Propaedeumata Aphoristica
(1981) Graham Yawbrey	John Dee and the Sidney Group (thesis paper)
(1988) Nicholas H. Clulee	John Dee's Natural Philosophy: Between Science and Religion
(1995) William H. Sherman	John Dee The Politics of Reading and Writing in the English Renaissance
(1996) Gerald Suster	John Dee: Essential Readings
(1999) Deborah E. Harkness	John Dee's Conversations with the Angels: Cabala, Alchemy and the End of Nature
(1990) R.J. Roberts and Andrew G. Watson	John Dee's Library Catalogue
(1998) Dr. Robert Poole	Time's Alteration: Calendar Reform in Early Modern Europe
(1998) Edward Fenton	The Diaries of John Dee
(2001) Håkan Håkanson	John Dee and Renaissance Occultism
(2001) Benjamin Woolley	The Queen's Conjuror, The Science and Magic of Dr. John Dee, Adviser to Queen Elizabeth I
(2003) Joseph H. Peterson	John Dee's Five Books of Mystery
(2004) György Szonyi	John Dee's Occultism

and more books were published as I began to study him:

(2004) Ken MacMillan and Jennifer Abeles John Dee: the Limits of the British Empire  
(2007) Stephen Clucas, ed. John Dee Interdisciplinary Studies in Early Renaissance Thought  
(2009) James Geoffrey Enochian Evocation of Dr. John Dee

Dee was also a popular character with modern fiction writers:

(1927) Gustav Meyrink The Angel at the West Window  
(1993) Peter Ackroyd The House of Doctor Dee  
(2002) Lisa Goldstein The Alchemist's Door

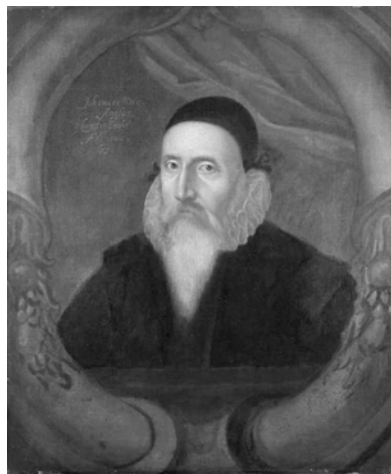
“Oh no! What am I getting into?” I thought, “Angels, alchemy, cabala, occultism!” What could all this strange stuff have to do with Narragansett Bay? or with the Tower?

The more I read about this fascinating Elizabethan who lived from 1527 to 1608, the more I realized that his life seemed to be divided into two parts.

In his later life, from 1583-1608, he delved into occultism. He and his hired crystal ball-reader, Edward Kelley, journeyed to Prague and were involved with all sorts of intrigue involving King Ferdinand.

But in his early life, from 1527 to 1583 Dee was one the most learned and well-respected Elizabethan scholars. He was an expert mathematician and a navigational adviser to the Elizabethan explorers. He had the largest private library in England and was even asked to set the date for Queen Elizabeth I's coronation.

As György Szonyi puts it, “Researchers have been perplexed by the apparent sudden turn which transformed the venerable scientist into as eccentric enthusiast.” (Szonyi, p.11)



John Dee 1527-1608

**What happened in 1583, the year Narragansett Bay was named after him?**

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# GIOVANNI DE VERRAZANNO'S 1524 VOYAGE

THE TRIANGULAR ISLAND  
NAMED CLAUDIA IS THE  
“SIZE OF THE ISLE OF RHODES”

## *A “petite” Royal History of France*

At various times in history, Block Island (10 miles off the south coast of Rhode Island) has been called both Aloysia (French for Louise) and Claudia. To understand why it had two women’s names, let’s briefly review the royalty of the French Renaissance.

Starting in the year 1060, all the Kings of Medieval France from the “House of Capet” were named either Philippe (up to Phillipe the 6th) Jean (up to Jean II), Louis, (up to Louis the 11th), or Charles (up to Charles the 7th).

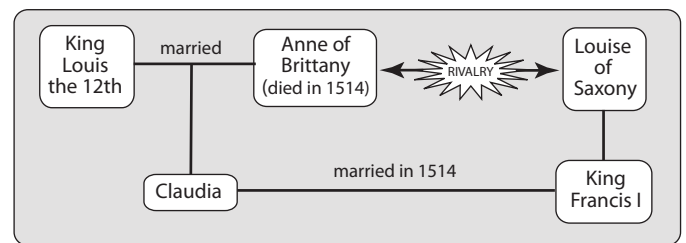
Charles the 7th died childless, in 1498. His widow **Anne of Brittany** married Louis of the “House of Valois” who became Louis the 12th.

Brittany is the large peninsula, which juts out into the Atlantic (250 miles west of Paris). Anne is called Anne of Brittany because, even while married to the King of France, she fiercely defended the independence of her homeland, the duchy of Brittany.

Louis the 12th and Anne of Brittany’s two daughters, Claude and Renee, but no sons who survived. Due to the tradition of the “Salic Law,” a woman could not inherit the Throne of France. Instead would go to her male cousin Francis, the Duke of Angouleme.

Francis’ mother was the conniving **Louise of Savoy**. When she was widowed at age 19 and realized her son had a good chance of inheriting the throne, she moved her family to the court and provided them an education in the spirit of the Italian Renaissance.

Francis became a favorite of the King Louis the 12th. In 1506, the King declared his 7-year-old eldest daughter Claude was betrothed to her cousin Francis. The Queen was dead set against this as it would permanently merge her independent Duchy of Brittany with France. (She had previously promised her daughter **Claudia** to the King of Luxembourg, but her husband Louis the 12th broke off the marriage when it became likely that he and Anne would have no male heirs.)



For 8 years Anne steadfastly refused to sanction the marriage of Claudia and Francis. A great rivalry developed between Anne of Brittany and Francis' mother, Louise of Savoy, who lived in fear that King Louis the 12th and Anne might produce a son.

The tension ended in 1514, when Anne of Brittany died. Later that same year **Francis married Claudia** and became King of France and Brittany.

### ***The Gentle Queen Claudia and King Francis 1 (and his powerful mother, Louise of Savoy)***

Claudia became the Queen when she was only 15 (Francis was 21). She was short in stature and had a small hunched back due to scoliosis (abnormal curvature of the spine). She had no political power, and became "one of the least prominent Queens of France."

Over the next 9 years, she and Francis had 7 children. On July 20, 1524, at age 24 she died suddenly. During those years, Francis had many mistresses, including Mary Boleyn (Anne Boleyn's sister).

During those years Claudia was totally eclipsed at court by the "Queen Mother," Louise of Savoy. Even King Francis I revered his powerful mother so much that he knelt whenever he spoke to her.

Francis I was a great patron of the arts. He convinced Leonardo da Vinci to move to France in his later years (which is why the Mona Lisa is in Paris, not Rome). His purchases of works by Michelangelo, Titian, and Raphael were the beginning of the great collection that can be seen today in the Louvre.

### ***King Francis sends Verrazzano off to explore America.***

In 1523, King Francis helped the citizens of Lyon, France (about 250 miles southeast of Paris) to finance the expedition of Giovanni Verrazzano to explore the seacoast from Florida to Newfoundland to search for a short cut to the Pacific Ocean.

Giovanni was born around 1485 at Castello Verrazzano, his family's castle, about 30 miles south of Florence. But the sea was in his blood and in 1507, at age 22, he moved to Dieppe, France (on the coast, 100 miles northwest of Paris) to pursue a maritime career.

He went on several trips to the eastern Mediterranean (the port of Rhodes, on the Island of Rhodes being a main trading center). He also was a "corsair," attacking Spanish boats, and he even took a trip westward to Newfoundland.

This seasoned Italian navigator, with 50 French crewmen aboard the Dauphine (meaning dolphin, or eldest son of a French King), set off from the island of Madeira on January 17, 1524.



### ***Verrazzano's 1524 Voyage.***

After traveling 400 leagues (100 miles) in 25 days they reached a "new land never seen before by anyone, ancient or modern." He reports being at 34° north latitude, which places him at present day Cape Fear, near Wilmington, North Carolina. He named the new land "Francesa," (a name that never really caught on) in honor of King Francis.

At first he headed south, along what is now the South Carolina coast. But he soon became concerned that he was getting too close to Spanish Florida, so he turned around and headed north.



Passing by the Outer Banks, he could see the 25-mile-wide Pamlico Sound on the west of the long isthmus, and mistook the sound for an open ocean. He carefully searched for a straight through what he named the “Isthmus of Verrazzano,” but could not find one.



After traveling north for about another 125 miles he stopped on what today is called the Delmarva Peninsula. (This long body of land between Chesapeake Bay and Delaware Bay is today the state of Delaware, plus parts of Maryland and Virginia.)

Verrazano, in his journal, wrote about the native population, the flora and fauna. He named several natural features after French dignitaries:

- (1) Coast “diLorenna” (after the Cardinal)
  - (2) Promontory “Lanzone” (perhaps Cape Henlopen, Delaware)
  - (3) Promontory “Bonivetto” (perhaps Cape May, New Jersey)
  - (4) Large river “Vandoma” (perhaps Havesink Highlands, New Jersey)
  - (5) Small mountain “di S. Polo” (after the Count)
- (Wroth, p. 85.)

About 250 miles further up the coast they found a “very agreeable place where a very wide river flowed out into the sea,” thought to be (what is now) Staten Island at the mouth of the Hudson. He named this area “Angleme” after the part of France in which Francis was born as the duke. He named the bay “Santa Margarita” after Francis’ intellectual sister Marguerite.

Incidentally, Verrazzano has been commemorated in the names of two bridges that span two of the harbors he chose to explore.

The Verrazzano-Narrows Bridge connects New Jersey to New York.

The Jamestown-Verrazzano Bridge connects South County RI with the island of Jamestown.

### ***Verrazzano reaches Southern New England***

Let's look a little more closely at his travelogue as he continues north along what is now the coast of Long Island and Southern New England:

**We raised the anchor and sailed eastward since the land turned in that direction,  
and we went 80 leagues, always keeping in sight of land.**

**We discovered a triangular shaped island 10 leagues from the mainland,  
similar in size to the island of Rhodes.**

**If was full of hills, covered with trees and highly populated  
judging by the fires we saw burning continually along the shore.**

**We baptized it in the name of your illustrious mother Alysia (Louise)  
but did not anchor there because the weather was unfavorable.**

**We reached another land 15 leagues from the island where we found an excellent harbor.**

**This country is situated on a parallel with Rome at 40 and two thirds degrees,  
but is somewhat colder, by chance and not by nature, as I will explain to your Majesty elsewhere.**

**I will now describe the position of the previously mentioned port.**

**The shore of the land runs from west to east.  
The mouth of the port, (which we call Refugio, on account of its beauty),  
faces south, and is a half a league wide.**

**From its entrance it extends for 12 leagues in a northeasterly direction  
and then widens out to form a large bay of about 20 leagues in circumference.**

**In this bay are five small islands, very fertile and beautiful, full of tall and spreading trees,  
and any large fleet could ride safely among them  
without fear of tempest or other dangers.**

**Then, going southward towards the entrance of the harbor,  
there are very pleasant hills on either side,  
with many streams of clear water flowing from the highlands to the sea.**

**In the middle of the mouth is a rock of Petra Viva formed by nature,  
which is suitable for building any kind of machine or bulwark for the defense of the harbor.**

**(We called this rock "La Petra Viva" on account of both  
the nature of the stone and the family of a gentlewoman.)**

**On the right side of the harbor mouth is a promontory, which we will call "Jovius Promontory.")**

(Parentheses here and with "Refugio" indicates that this was added to the original text as a footnote or marginalia.)

Note: Petra Viva means a "very hard, nonporous rock," and he could be referring to the promontory where "Fort Dumplings" was built in the 1800's.

Verrazzano named what is now Sakonnet Point for his friend "Jovius."



### ***First, a wrap-up of Verrazzano's Journey (and life).***

Based on this account, most historians feel Verrazzano sailed eastwards along the Long Island coast, past the triangularly shaped Block Island, then veered northeast to the mouth of Newport Harbor, then around the islands of Narragansett Bay.

Verrazzano and his crew were so welcomed by the generous Narragansett Indians that they stayed for 15 days observing their culture. He remarked on how they lived on straw mats in round houses made of bent saplings and that they relocated according to the season.

After making more observations on the types of trees, fruits, animals, and rocks, Verrazzano was off again.

He sailed way around sandy Cape Cod to the rocky shores of Maine. There, the natives weren't quite as friendly. They fired arrows and mooned the boat from the shore.

He skirted Nova Scotia, saw 32 islands off Newfoundland, and then headed back to France. He ended his 6-month trip around July 8, 1524, as that's the date he put on his travelogue, compiled as a letter addressed to King Francis.

Verrazzano later ventured on a voyage to Brazil where he and his men cut down huge trees for French shipbuilders. It's not known where his final voyage was, some historians suggest that he was captured by a Spanish boat and hanged. Others say he was killed (and maybe eaten) by natives in the Lesser Antilles (the area of small islands between Puerto Rico and Venezuela).

### ***Five Versions of Verrazzano's Letter to King Francis 1.***

Verrazzano's original letter to King Francis, was probably written in Italian, then translated into French. This French translation has not survived, however several Italian versions have. In the late 1800's, the Italian historian Alesso Bacchiani tracked down 5 of them (all written in the 1500's).

#### **The Cèllere version**

Lawrence Wroth based his translation in  
The Voyages of Giovanni da Verrazzano (1970) on this manuscript.

#### **The Magliabechian version**

Now in the National Library of Florence.

#### **The Ramusio version**

Giovanni Battista Ramusio, a Venetian scholar,  
published the letter in his 1565 *Delle navigationi et viaggi raccolta*  
(Collection of navigations and voyages)

John Dee had a copy of this book in his library (and it traveled with him to Prague)  
(Roberts and Watson, #273).

#### **The Cimento Fragment**

The Accademia del Cimento (Academy of Experiment)  
was an early scientific society in Florence that only lasted 10 years from 1657 – 1667.  
This fragment has Ramusio's mark on it and includes only the last few pages of the letter.

#### **The Vatican version**

This is Ms Ottoboniano 2202 in the Vatican Library and was never published.  
The details of Verrazzano's story are essentially the same in all these versions,  
but they all "seem to descend from different copies of the original."

(Hatzopoulos and Virr, p. 10.)



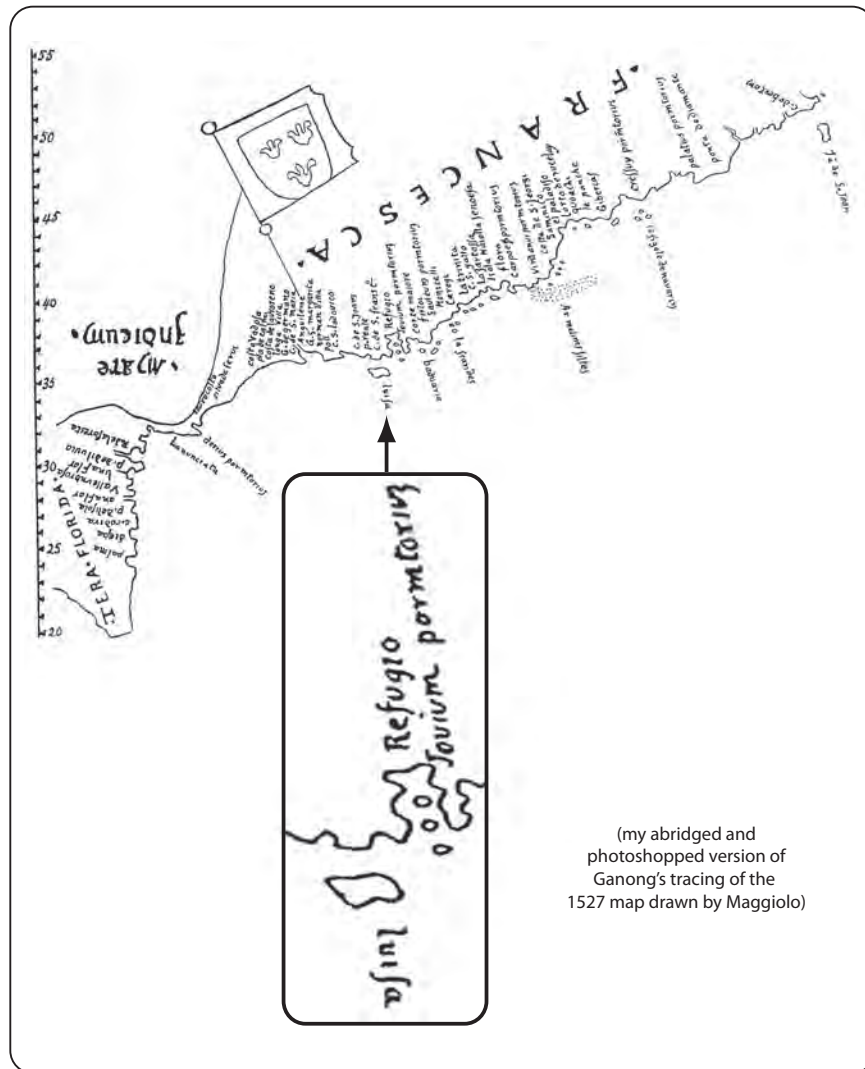
## *Luisa on two Italian Maps*

There are also two maps that were compiled from Verrazzano's data.

### **The Maggiolo Map (1527)**

The Italian cartographer Visconte Maggiolo assembled the details of Verrazzano's trip (and more) on a map of "Francesca."

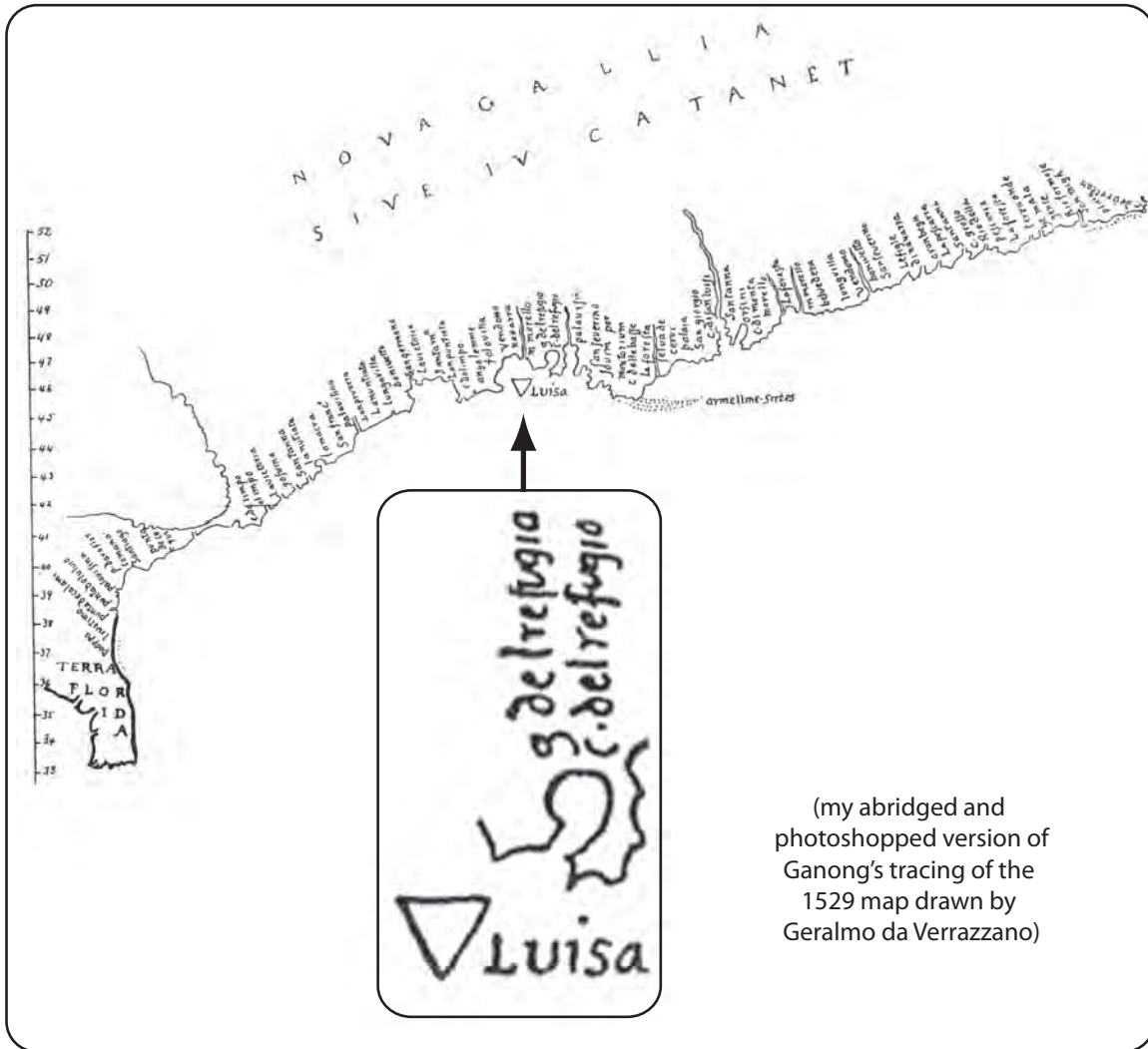
He even shows the Mare Indium (Sea of India) as covering present day South and North Carolina, Kentucky, Tennessee, and points west.



Let's zoom in on present-day Southern New England. On the Maggiolo Map, we can see Refugio (with three islands shown), the Jovium Promontory (Sakonnet Point) and the island of "Luisa" just off shore (but not very triangular).

### The Geralmo de Verrazzano Map (1529)

Giovanni's brother Geralmo reshaped the coastline, added some rivers, and changed a few names, but the 2 maps are essentially the same.



A close inspection of the Geralmo Verrazzano Map shows the “g del Refugio” (Gulf of Refugio), the “c del Refugio” (Cape of Refugio), the Jovium Promontory, and island of “Luisa,” shaped like a perfect equilateral triangle. Even though the tip of the triangle is pointed south instead of north, it stands out as a graphic mark unlike anything else along the entire shoreline from Florida to Newfoundland.

## *The switch from Luisa to Claudia.*

Forty to fifty years later, why did these Dutch and English navigators refer to the same triangular island as "Claudia" ?

Part of Gerard Mercator's  
1569 Map of the World  
(my abridged version)



As early as 1569  
Mercator identified Claudia  
as one of the few islands off  
the coast of North America.

In Dee's 1580 map of North America,  
the very triangular island is not labeled, but the  
round bay, headed in a northeasterly direction,  
is drawn just as Verrazzano described Refugio.

John Dee's  
1580 Map of North America  
(my abridged version)



In 1582, Dee drew a circumpolar projection of the entire Northern Hemisphere and called it Sir Humphrey Gilbert's Chart.

The triangular island labeled "Claudia" is one of the few landmarks listed from Florida to New Brunswick.

"Sir Humphrey Gilbert's Chart,"  
Part of a circumpolar map  
drawn by in 1582 by John Dee  
(my abridged version)



Michael Lok's 1582 map  
of the Northern Hemisphere,  
(my abridged version)



Michael Lok's 1582 Map of the Northern Hemisphere (dedicated to Sir Philip Sidney), the triangular Claudia and bay with five islands are quite prominent.



### ***But why is it called Claudia on these later maps?***

If Verrazzano named the triangular island Aloysia, or Luisa (after the Queen Mother Luise of Saxony), and his brother and Maggiolo both identify it on their maps as Luisa, where does the name Claudia come from?

One idea is that the irascible Queen Mother Louisa (who was probably named after one of those many French Kings named Louis) was less controversial as the humble Queen Claudia. Even by the time of Gerard Mercators map 1569, Queen Claudia had been dead for 45 years.

There is a better reason why the triangular island got switched to Claudia. But before I explain, let's look at 3 more peculiarities in Verrazzano's descriptions.

### ***Three inconsistencies in Verrazzano's description***

First, he says the triangular island was similar in size to the island of Rhodes. This Greek island is approximately 42 miles (north-south) by 15 miles (east-west) or about 630 square miles. Block Island is about 5 miles (north-south) by about 3 miles (east-west) or about 15 miles square.

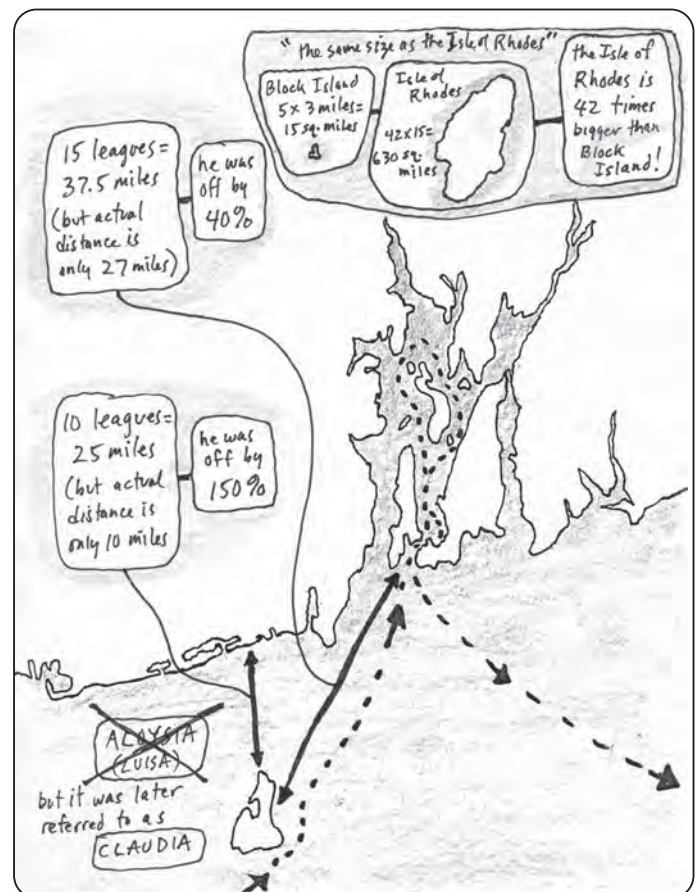
The Greek Isle of Rhodes is about 42 times larger than Block Island! I visited the Isle of Rhodes and hired a taxi to do the circuit of the island. It took all day. I've also visited Block Island and bicycled its circuit in a matter of hours.

Verrazzano had traveled the Eastern Mediterranean, and was a pretty factual writer; he doesn't do much embellishing or romanticizing in the rest of his travelogue.

Second, he states that the island is 10 leagues from the mainland. Even though Verrazzano was Italian by birth, he was based in Dieppe, France, had a French crew, and a French Boat. It's likely that he used the French "Petite lieue marine." This league was being used by the whole French Navy in 1524. It is equivalent to 2.2 English nautical miles or 2.5 English miles. Thus, 10 Leagues is 25 miles.

The inconsistency here is that Block Island is only about 10 miles, not 25 miles from the mainland. Could Verrazzano have misjudged the distance by 150%?

Third, he claims to have sailed 15 leagues to arrive at the month of Refugio. That's 47-1/2 miles, where the actual distance is only about 25 miles. This means he overestimated by almost 100% on course that he actually traveled.



Three inconsistencies  
in Verrazzano's descriptions



### ***New Clues Suddenly Appear in 1992.***

Around 1846, a Canadian mariner and book collector named Captain Henry Edward Napier purchased an original edition of Giovanni Ramusio's 1534 *Collections of Navigations and Voyagers*. When Napier died the book was purchased by Peter Redpath, a Canadian industrialist who later bequeathed it to the McGill College Library in Montreal.

Following the text describing Verrazzano's voyage, bound into the original seam, are an additional 8 pages of a handwritten manuscript.

This hidden manuscript came to the attention of scholars Dionysious Hatzopoulos and Richard Virr, who wrote a 1992 article called *The Voyage of Giovanni da Verrazzano, A Newly Discovered Manuscript*. (in Fontanus V(5), available on the Web)

This becomes the 6th extant Verrazzano manuscript, called the (6) McGill version. This newly-found version has words in it which are missing from or spelled differently than all the other versions. (However, it seems closer to the (2) Magliabechian version than the (3) Ramusio version.) What's interesting is that the McGill version's description of Southern New England *differs from all the other versions*.

### ***The McGill version's description of "Refugio"***

**Sailing forward about what seems to be 100 leagues we found a beautiful River.**

**We had followed the shoreline towards the east  
and proceeded about 50 leagues where we discovered an island,  
which was triangular in shape, lying 50 leagues from a mainland,  
full of mountains, dense with trees, and well inhabited,  
which we named Claudia.**

**Fifty leagues further we found a good port  
where we found very hospitable people who had a King,  
that was dressed in a deer skin, artfully wrapped around him,  
we found among them broken pieces of copper, with which they adorn themselves.**

**This land was already above the latitude of 41 2/3 and so extends eastward,  
We turned towards the meridian at the mouth of the port  
which lies open towards the west, a half a league wide,  
which within heads northeast for 12 leagues,  
it becomes wider and longer becoming a good sized gulf of 20 leagues,  
in which there are 5 small islands, which have very beautiful, fruitful trees,  
in the midst of the port is a very hard rock,  
well purposed for a castle or fortress to defend the port.**

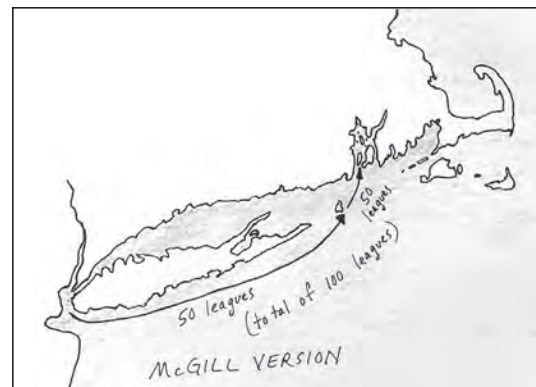
As you might have noticed, there are several differences between the “McGill version” and the “other versions.”

- (1) The inhabited mountainous triangular island is called **Claudia**, not Aloysia (Luisa).
- (2) There is **no mention** of the island being the “size of the Isle of Rhodes.”
- (3) The deer-skinned King and broken copper jewelry are **not mentioned** in the other versions.
- (4) The latitude, measurements, and description of the bay all very similar **except** that the McGill version says the mouth opens to the west.
- (5) Some comments, like the bay being a good place for ships to be protected from a tempest, are **omitted** in the McGill version.

Hatzopoulos and Virr feel that “all the extant versions seem to descend from different copies of the original.” (Hatzopoulos and Virr, p. 10.)

But the most significant difference in the McGill version has to do with the **distances** reported.

The McGill version seems to be saying that the distance from “Angolement” to the triangular Claudia is 50 leagues, then it’s 50 additional leagues to the port on the mainland, (totalling to 100 leagues).



In actuality, the distance from New York City to Block Island is 54 leagues, and it’s only about 11 leagues to the mouth of Narragansett Bay (totalling to 64 leagues).

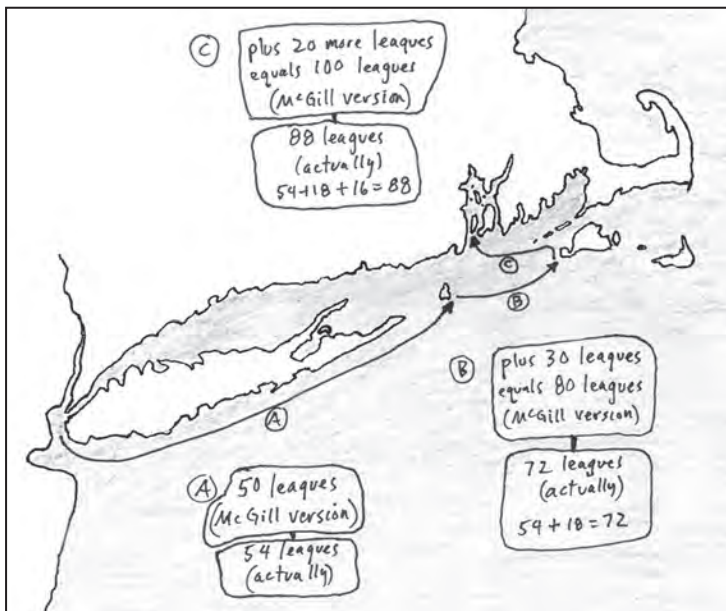
But note that for the first leg of this journey, the McGill version’s “50 leagues” is **remarkably close** to the actual distance of 54 leagues.



(Recall that in the “other versions” the distance from New York to Luisa is **80 leagues**)

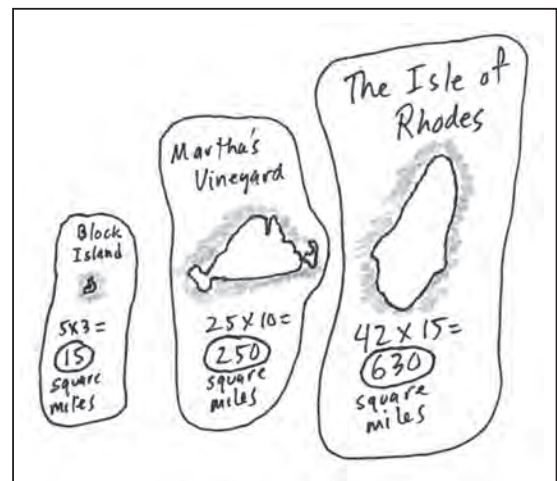
These 3 problems and the Luisa/Claudia switcheroo suggest that there's something else going on here. In 2003, James W. Mavor (1923-2006), naval architect, archaeoastronomer and member of the New England Antiquities Research Association proposed a solution that seems to explain all 4 inconsistencies.

James Mavor deduced, "This may imply that Verrazzano mentioned two islands in his manuscript, one of which was Block Island, and the other was Martha's Vineyard. The scribes who copied the various versions of Verrazzano's letter may have combined the two islands into one or the other."



In other words, Mavor suggests that the "McGill version's New York to Block Island (Claudia) 50 leagues is correct and the "other versions 80 leagues to Martha's Vineyard (Luisa) is also about right. Add another 20 leagues (to get to Refugio) and that makes the 100 leagues that the McGill version refers to. Mavor saw that most of the data agrees with this "single reasonable chain of events."

The Isle of Rhodes is still over twice the size of Martha's Vineyard, but that's a lot closer in size than the Isle of Rhodes is to tiny Block Island.



Mavor's brilliant deduction appears to solve the problem of the names of the islands.

(Mavor, James W. Jr. Bartholomew Gosnold's Voyage to Cape Cod in Verrazzano's Wake, NEARA Journal Volume 36, Number 2, Winter 2003.)

(Hatzopoulos, Dionysius and Richard Virr, The Voyage of Giovanni da Verrazzano, A Newly Discovered Manuscript, Fontana V. 1992.)

Martha's Vineyard might have appeared as large as Rhodes to Verrazzano approached the cliffs of Gay Head and South Beach from the west. The approach to the town of Rhodes, Greece, goes by the northwestern part of the Isle of Rhodes.

Kamiro Cliffs  
Isles of Rhodes, Greece  
(west coast)



Monhegan Cliffs  
Block Island, RI  
(south coast)

Aquinnah Cliffs  
Martha's Vineyard, Mass.  
(southwest coast)



Having seen this view from land a Dodecanese ferry boat, the white sandy bluffs that rise from the sea look a lot like the south coast of Martha's Vineyard. Granted the cliffs on Block Island are just as prominent and dramatic, but that Southern Shoreline is only 3 miles long (east-west), where the Vineyard south shore is 20 miles long.

Verrazzano didn't disembark on Martha's Vineyard because of "contrariety del tempo" (in the Ramusio's version) or "la opposition del Tempo (in the Cellere version), which Mavor sees as "unfavorable or contrary winds or weather."

Even today Nantucket Sound can act as a huge funnel for ocean winds that exit between The Elizabethan Islands and the Northwest shore of the Vineyard. If Verrazzano was inspecting the northern tip of Gay Head these winds from the east would have blown him over to the entrance to Refugio; or as the sailor, Mavor, puts it, "a contrary or easterly wind would have been responded to by a 120 degree turn to port (left) and a fair wind to Narragansett Bay."

### ***In 1582, Hakluyt says Verrazzano's Refugio is "The Country of S.H. Gilbert"***

Richard Hakluyt's 1582 rendition of Verrazzano's letter seems to be a **combination** of the "McGill version" and the "other versions." Like the McGill version, it says they traveled 50 miles east from New York, and doesn't include the name "Refugio," but the details of the description of the Bay and the use of "The Isle of Rhodes" seems in general more like the "other versions."

Curiously, Hakluyt reports that the triangular island is 3 leagues from the mainland, a **distance found in none of the extant manuscripts**. This 3 leagues is 7 1/2 miles, (not too far off from the actual distance of 10 miles).

The descriptiō  
of Claudia I-  
lande.

Claudia was  
wife of King  
Francis.

We wet-  
ed Ancker, and sayled towarde the East, for so the coast tren-  
ded, and so alwayes for 50. leagues being in the sight ther e-  
of wee discovered an Ilande in forme of a triangle, dis-  
tant from the maine lande 3. leagues, about the bignesse of  
the Ilande of the Rodes, it was full of hilles couered with  
trees, well peopled, for we sawe fires all along the coaste,  
wee gave the name of it, of your Maiesties mother, not stay-  
ing there by reason of the weather being contrarie.

Hakluyt also follows the “other versions” by saying that the triangular island was named after “your Majesty’s mother,” but then doesn’t include her name, Aloysia. Instead, Hakluyt writes in the margin of the text “The description of Claudia Island” and “Claudia was the wife of King Francis.”

So it appears that the **Hakluyt knew Aloysia and Claudia were both mentioned by Verrazzano.** He went with the less controversial name, Claudia. This simplified things so that it became a landmark that almost points to the entrance of the port.

It’s dangerous for big ships to cruise the coast looking for a port in uncharted shallow waters. Block Island makes a better landmark because it’s further from the coast than Martha’s Vineyard, which is dangerously close to the Nantucket Shoals.

This certainly makes it seem that Hakluyt had additional insight into the true lay of the land. This, I suggest, he gleaned from Simon Fernandez’ voyage of reconnaissance for Sir Humphrey Gilbert from March 25 to around June 30, 1580. (Recall that Fernandez visited John Dee at Mortlake on November 20, 1580.) Dee, Hakluyt, and Gilbert doubtlessly shared information.

Hakluyt printed one more very revealing comment in the margin of his text describing the “good haven” with the five small islands. He calls it “The Country of Sir H. G. voyage.”

And wee came to another lande being 15. leagues distant  
from the Ilande, where wee founde a passing good haven,  
wherein being entred we founde about 20. small boates of  
the people which with diuers cries and wondrings came a-  
bout our shippe, comming no nerer then 50. paces towards  
vs, they stayed and behelde the artificiallness of our ship, our  
The Country  
of Sir H. G.  
voyage.



Peckham and Dee's agreement about the Dee River and Bay of Five Islands was dated February 28, 1583, but Hakluyt's book was printed in 1582!

David Quinn writes about Sir George Peckham's meeting with John Dee at Mortlake on July 16, 1582 :

**“Eventually, Dee assured Peckham that Spain had no rights in the area;  
on the maps it was but not occupied.**

**Moreover, Dee was able to point out to them on the large map of North America  
he had drawn in 1580 the precise place he thought their settlement should lie.**

**Verrazzano had stayed for some time on Narragansett Bay in modern Rhode Island,  
which he called his “Refugio,”  
and there it was decided that Peckham should lay out his seignory.”**

(Quinn, *England and the Discovery of America*, p. 376.)

Indeed, on page 3 of Hakluyt's book, he lists “The names of certain late travelers, both by sea and land, which also for the most part have written of their own travels and voyages.”

Note that final entry  
on the list :

1582

Humphrey Gilbert Knight,  
Edward Heyes,  
Antonie Brigham,  
Englishmen

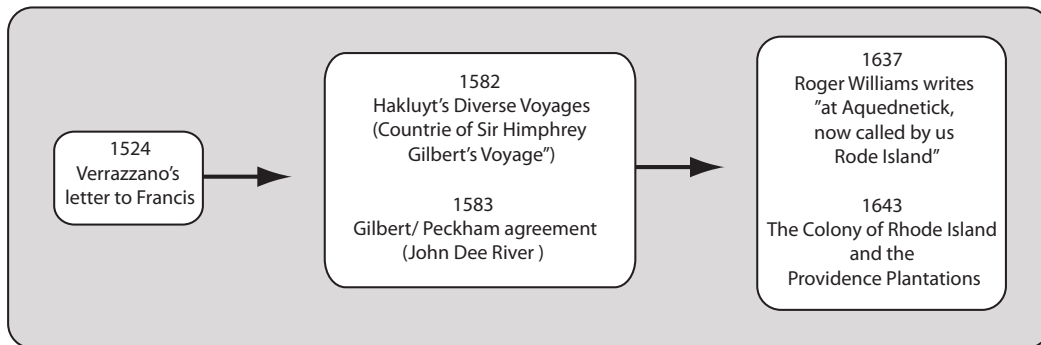
Gilbert and Hayes hadn't even  
left on their 1583 expedition yet, and  
who is this Anthony Brigham, who did  
not even sail with Gilbert's fleet?

**The names of certaine late traуay-  
lers, both by sea and by lande, which  
also for the most part haue w ritten of  
their owne traуayles and voyages.**

Theyere of  
our Lorde,  
1178 Benjamin Tudelensis a Iewe.  
1270 Marcus Paulus a Venetian.  
1300 Harton an Armenian.  
1320 Iohn Mandeuile knight, englishman.  
1380 Nicolaus and Antonius Zeni, venetians.  
1444 Nicolaus Conti venetian,  
1492 Christopher Columbus a Genoway.  
1497 Sebastian Gabot, an englishman the sonne of a venetian.  
1497 M. Thorne and Hugh Eleot of Bristowe, englishmen.  
1497 Vasques de Gama a portingale.  
1500 Gasper Cortereal a portingale.  
1516 Edoardus Barboza a portingale.  
1519 Fernandus Magalhanes a portingale.  
1530 Iohn Barros a portingale.  
1534 Iaques Cartier a Briton.  
1540 Francis Vasques de Coronado Spaniarde.  
1542 Iohn Gaetan Spaniarde.  
1549 Francis Xauier a portingale.  
1553 Hugh Willowbie knight, & Richard Chauncellor Eng.  
1554 Francis Galuano a portingale.  
1556 Stenen and William Burros Englishmen.  
1562 Antonie Ienkinson Englishman.  
1562 Iohn Ribault a Frenchman.  
1565 Andrewe Theuet a Frenchman.  
1576 Martin Frobisher Englishman.  
1578 Francis Drake Englishman.  
1580 Arthur Per, and Charles Iackma Englishmen.  
1582 Edward Fenton, and Luke warde, Englishmen.  
1582 Humfrey Gilbert knight, Edward Heyes, and Antonie  
Brigham Englishmen.

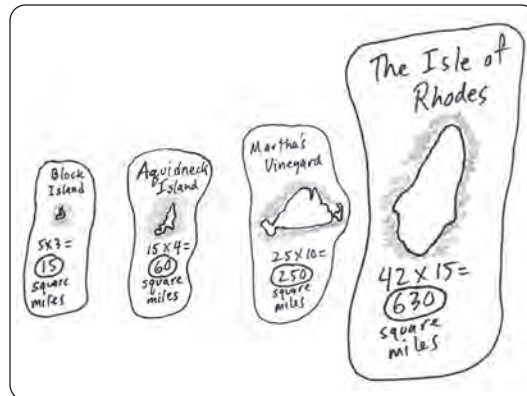
### *Verrazzano's "Size of Rhodes" later becomes Rhode Island.*

Most historians agree that the reason colonial settlers named Aquidneck Island "Rhode Island" stems from Verrazzano's island-size comparison. I suggest their knowledge of Verrazzano came by way of Hakluyt's text, and thus they were well aware that Narragansett Bay was Sir Humphrey Gilbert's destination, the site of the Peckham "Catholic Colony," and the John Dee River. Roger Williams used the term "Rode Island" in 1637, and in 1644 it was used as part of the name of the official colony name. (More on this later).



Aquidneck is no Greek "Isle of Rhodes" either, being only 15 miles x 4 miles or about 60 square miles.

It's still only 1/6 the size of Rhodes, but it's 4 times bigger than Block Island.



### *Historians have known about the "Dee River" as early as 1935*

Historians have no known of the attempted English settlement at the Dee River for 75 years. It's not new news, but I can't understand why nobody ever considered Dee might have designed the Tower.

William B Goodwin wrote an article in the 1934 Rhode Island Historical Society journal called *Collections* (27:2, pp. 38-50), entitled "**The John Dee River of 1583 (Now called Narragansett Bay) and its Relation to Norumbega**"

In the next issue, October of 1935, Fulmer Mood wrote a follow-up article entitled "**Narragansett Bay and the Dee River, 1583.**" (*Collections* 28:4 pp. 97-100)

In the late 1960's Horace Sillman wrote two articles in the NEARA Journal about Sir Humphrey Gilbert, suggesting an "Elizabethan Connection" to the Newport Tower, but he does not mention John Dee.

***Mavor felt Gosnold's 1603 Voyage was originally destined for Refugio.***

Mavor's ideas are included in an article in the NEARA Journal entitled, "Bartholomew Gosnold's 1602 Voyage to Cape Cod in Verrazzano's Wake." (Volume 36, Number 2, Winter 2003.)

As Gosnold was a protégé of Richard Hakluyt, it's likely that Hakluyt (1552-1616) "had a major influence on the selection of Bartholomew Gosnold to lead the voyage of 1602."

Mavor suggests that Gosnold might have been destined for Refugio, but because he approached the region from the north, he missed the right clues. His landfall was in Maine, he got caught in the arm of Cape Cod bay, climbed a high hill, saw triangular Martha's Vineyard, sailed out around the Cape and settled just north of the triangular island. He didn't know his Luisa from his Claudia.

Mavor writes Gosnold was "either satisfied with Cape Cod and the islands or that he did not want to extend the voyage because of lack of food or because of unfriendly natives."

(Mavor, p. 19.)

His crew didn't want to spend the winter at their camp on Cuttyhunk Island, so they were soon on their return trip to England.

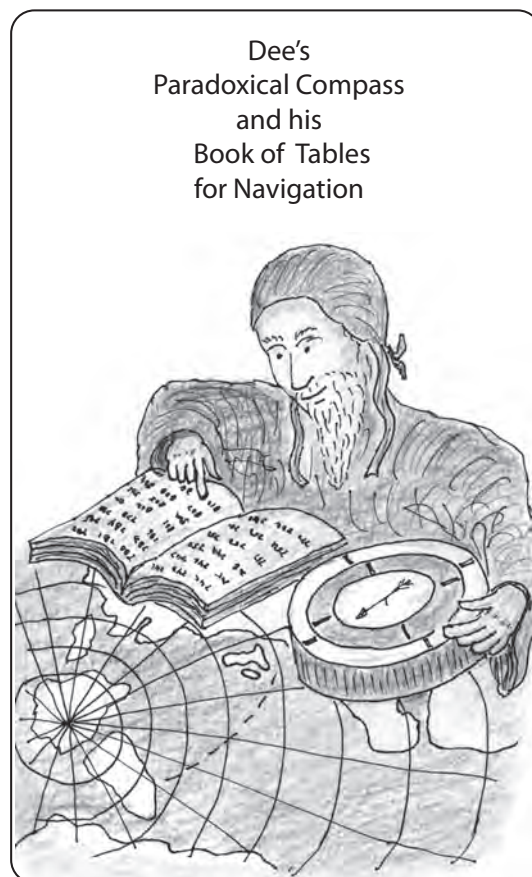
Quinn notes that one of the investors in the Gosnold Expedition was Henry Wriothesley, (1573-1624) the Earl of Southampton, The patron of Shakespeare. Wriothesley was deeply involved in the Essex Rebellion and sentenced to die, but Cecil intervened and he was given life imprisonment. Fortunately for Henry, King James shortly took the throne and brought him back to court.

Quinn suggests that Wriothesley was the "catalyst who brought the American idea to life again for the English Catholics." Quinn also believed that Gosnold's mission was a reconnaissance to the area, which had already in 1582 been thought of as a site for settlement."

(Quinn, *England*, p. 382-3 and p 388.)

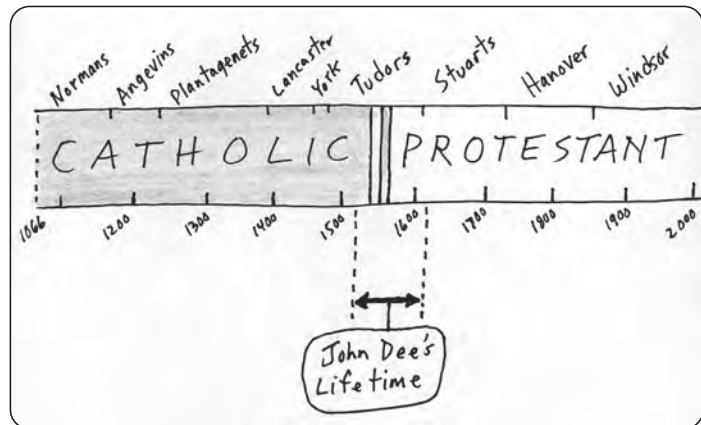
Recall that Wriothesley was a friend of Sir George Peckham, so he knew all about the ideal citing of Refugio. With Queen Elizabeth dead in 1603, and a new regime in power, he was ready to claim the land that had so eluded the Elizabethans.

JOHN DEE  
(1527-1608)  
THE FIRST PART OF HIS LIFE,  
FROM 1527 TO 1583:  
TIMULTUOUS TIMES



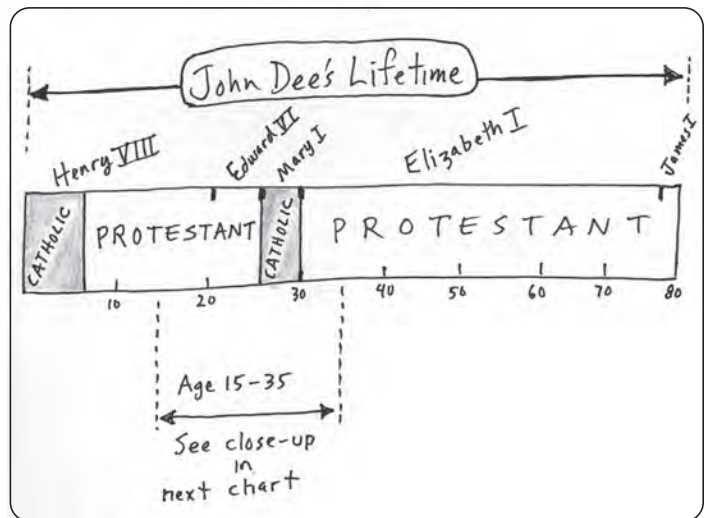
This timeline of English history from the Norman Conquest to the present shows that Catholic Kings ruled for the first half, then Protestant Kings and Queens ruled the second half.

John Dee's lifetime spanned the perilous change-over period.

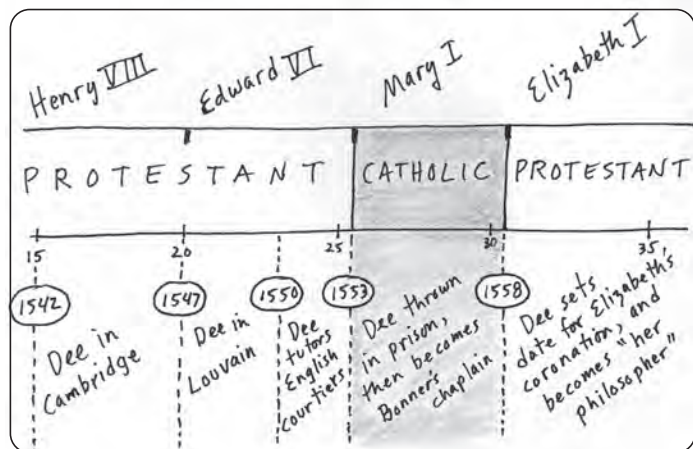


This next chart is a closer look at the religious changes that took place in Dee's life from 1527-1608.

When Dee was 7, Henry VIII switched from Catholic to Protestant. When Dee was age 23, and Mary I was crowned, the tide turned back to Catholic. Five years later, when Dee was 31, Elizabeth reintroduced Protestantism. What tumultuous times he lived through!



This "close up" is a preview of what Dee was up to from age 15 to age 34. Let's review it, one reign at a time.





## Young King Edward and John Dee



Saint John's College  
in Cambridge

Dee went to Saint John's College in Cambridge, and upon graduation became a reader in Greek at neighboring Trinity College.

In 1547, the year that Dee went to study at the Louvain, Henry the VIII died. His Protestant regime was carried on by his son, Edward VI.

Edward VI wasn't even 10 years old at the time of his coronation. His mother, Jane Seymour, (Henry VIII's third wife) died while giving birth to Edward. Henry's interests had moved on to his fourth wife, Catherine Parr, so Edward was "brought up by Women," including his half-sister, Elizabeth (who was 4 years older than Edward) and Mary who was already in her early 20's.

Even though he wasn't her son, Catherine Parr felt the young prince should spend time at court and be educated to be a great ruler. She appointed Sir John Cheke, the professor of Greek in Cambridge, to be his tutor.

When Henry VIII died, the young boy of 9 suddenly found himself on the Throne of England. By the time he was 16, (in 1553), the "Royal Imp" had read Aristotle's *Ethics* and was translating Cicero's *De Philosophia* from Latin – not into English – but into Greek.

During the first 3 years of Edward's 6-year reign, Dee was absorbed with his studies in Europe. But he didn't just stay in the Louvain with Gemma Frisius and Gerard Mercator the whole time. He traveled "by wagon" to Antwerp and met with Abraham Ortelius, another noted cartographer. No doubt Mercator had help arrange the meeting as he and Ortelius had once been traveling buddies. Dee and Ortelius became great friends (and later had a reunion when Ortelius visited London in 1577.)

Dee also met Pedro Nuñez, an expert on navigation and mathematics originally from Lisbon, Portugal. (In the late 1550's, when Dee thought he was terminally ill, he appointed Pedro Nuñez the executor of his literary works.)

Dee also traveled to Brussels, "partly because Gerard had asked him to do so, and partly to meet with "Mathias Haker," a mathematician to the Danish court of King Charles V. (Fenton, p. 305).

In Brussels, Dee also met with Sir William Pickering, the English ambassador to the Danish Court. Dee shared with Pickering all the wonderful things he had been learning about from Gemma Frisius and Mercator. He explained the various uses of the astronomer's ring as well as the astronomer's staff and the astrolabe. He explained the use of the terrestrial and celestial globes. Dee taught him about "logic and rhetoric" things that would help polish his political skills. (Woolley, p. 20, and Dee Compendious, Rehearsal, Chapter 2).

Both Pickering and Dee had studied under Sir John Cheke, (Edward's tutor). Pickering, however, was from a much more well-to-do upbringing than Dee. Cheke's father had been Knight Marshall to Henry VIII. William was so well-bred, wealthy and learned that he later became a suitor to Queen Elizabeth. (Woolley, p. 20).

Dee's friendship with Pickering was to last a lifetime. They exchanged correspondence and books. Pickering gave Dee the large concave mirror that later so fascinated Queen Elizabeth. Dee was offered a position in the court of Charles V, but he turned it down..

Dee was soon globetrotting off to Paris where he gave lectures at the University of Paris and met with scholars like Petrus Ramus, Guilielmus Postel, and Oronce Finé.

(Compendious Rehearsal, p. 7-8)

Dee traveled south through France to Orleans, then Heidelberg (Germany) through Strasburg and down into Italy. He visited the Universities of Learning in Verona, Padua, Ferrara, Bologna, Urbina, and finally Rome.

Dee had been in England during Henry VIII's death and the coronation of young Edward (January 28, 1547). Henry's balancing act was replaced by a "pent-up Protestant fervor." Nine months later, in October, Dee notes in his diary "Everywhere statues were destroyed in the churches." (Woolley p. 22 and Fenton, p. 305)

By the time Dee returned to England, the crucifixes had been removed from all the altars in England (including St. Paul's Cathedral) and Protestant Reformists were fully in power.

Edward's Greek tutor, Sir John Cheke, and his Latin tutor, Roger Ascham, promoted a "progressive academic mood." They were eager to share in the renaissance of ideas from the rest of Europe.

Enter the well-traveled, knowledgeable, John Dee. Both Ascham and Cheke knew Dee from Cambridge, so they welcomed him into the court. Cheke's daughter had married William Cecil (also known as Lord Burghley). Cecil was later to rule Elizabeth's Privy Council, but he held a high rank in Edward's court as well.

Cecil arranged for Dee to have an audience with Edward. Dee presented the King with two of the manuscripts he had written while in the Louvain: *Distances of the Planets and Fixed Stars...* and *Practical Uses for Celestial Globe*.

Dee didn't give Edward the prized celestial and terrestrial globes that Mercator had given him, but he probably showed them to the boy King. Dee had arrived – and with the whole world at his fingertips. As Dee biographer Benjamin Woolley puts it, Dee "was now hoping to establish himself as the British Mercator." (Woolley, p. 22)

Much of the knowledge that the 26-year-old scholar Dee was sharing went way over the 13 year old's head, but Edward awarded him with a pension of 100 crowns. Dee later in (March of 1553) exchanged this for a regular income from the rectory of Upton-upon-Severn.

Dee was not required to move to this small village 100 miles northwest of London, he just received the 80 pounds-per-year salary for it.

Dee also became a tutor for the family of the powerful William Herbert, the Earl of Pembroke. This connection brought Dee to the attention of John Dudley, Duke of Northumberland and Lord President of Edward's Privy Council. Dee soon became a tutor for Dudley and his sons.



Dee presents King Edward IV with two of his books, *Practical Uses for the Celestial Globe* and *Distances of the Planet, Fixed Stars...*

***Catholic Queen Mary I and “Bloody” Bishop Bonner  
persecute the Protestant “heretics.”  
Guess where Dee ends up?***

Overnight things changed. On July 6, 1553, the young King Edward died suddenly and his Catholic sister Mary became Queen. Northumberland had attempted a last minute political coup to install Lady Jane Grey on the throne, but it failed and he was beheaded.

Queen Mary’s Privy Council rounded up Northumberland’s sympathizers. Among them was Dee’s father, Roland who was imprisoned and deprived of his job and savings.

Throughout England, the new Catholic regime arrested Protestant heretics and burned them at the stake. Protestant priests who were married or anyone refusing to attend Catholic mass and take communion was tossed in the flames.

John Foxe’s “Acts and Monuments,” better known as the “Book of Martyrs” (which was later published in 1563, 1570 and 1641) chronicled the “perilous Days” of the great Persecution and horrible Troubles “wrought,... by the Romish Prelates.” (Foxe, published by John Day, 1800 folio pages long)

One of the main protagonists in this life and death drama was Edmund Bonner, the Bishop of London, nicknamed Bloody Bonner. Foxe summarized Bonner succinctly:

**“This cannibal, in three years space, three hundred martyrs slew.  
They were his food, he loved so blood, he spared none he Knew.”**

(Wikipedia, Edmund Bonner, and Woolley, p. 29)

In late May of 1555, the authorities arrived at the door of John Ware in London. He was questioned for three days by Bonner, and on the fourth day burned at the stake.

On May 20, 1555, the Sheriffs arrived at the door of John Dee’s house in Mortlake. The orders had come directly from Mary’s Privy Council. Dee caught wind of the news and had fled, but they raided his library confiscating books and papers, then sealed up his house.

Others on the Privy Council’s hit-list included Dee’s printer friends, John Day and John Field, one of Dee’s students, Christopher Carey and Sir Thomas Benger, one of Elizabeth’s main servants where she was sequestered in Woodstock.

The Council was suspicious that this crew was part of a “secret Protestant cell” thought to be “clustered around Elizabeth.” They thought Dee might have been a conduit between Elizabeth and William Pickering who had safely fled to the Continent. (Woolley, p. 34)

The following week Elizabeth was brought before Mary to reject her Protestant beliefs. Elizabeth refused.

Dee was brought to trial on 22 charges, among them “lewd and vain practises of calculating and conjuring.” Fortunately evidence was lacking, and after 3 months in jail he was released with several conditions. His rectorship of Upton-Upon-Severn was taken away, and he was to be examined for heretical beliefs by none other than bloody Edmund Bonner himself.

We learn what happened to Dee by a passage quoted in Foxe's *Book of Martyrs*.

Foxe is describing the trial of John Philpot, the archdeacon of Winchester under Edward IV. Philpot was a learned man who knew Greek, Latin, and Hebrew. He wished the whole religious issue could be resolved by intellectual debate, but Bonner wouldn't hear of it. After a year and a half of imprisonment and interrogations, Philpot still refused to recant and Bonner sentenced him to death. On Dec. 18, 1555, he was chained to a stake and set aflame. Before he died he managed to save secret notes about his hearings, which formed the basis for his story in John Foxe's *Book of Martyrs*.

He reports that on November 19th, he was interrogated by Bonner and three of his Chaplains. One of the chaplains was John Dee!

Dee had somehow convinced bloody Bonner that he was reformed into Catholic ways and even became an obedient chaplain.

Dee himself grilled Philpot with theological questions to which Philpot heatedly replied, "Master Dee, you are too young in divinity to teach me in the matters of my faith. Though you be learned in other things more than I, yet in divinity I have been practised more than you." (Woolley, p. 41).

Later, when Philpot was body-searched they found a note he had written with a reference to Dee as "The great conjuror." Bonner read the note to the other bishops joking. "How think you, my lords, is not this [Philpot] an honest man to belie me, and call my chaplain a great conjuror?"

Bonner recognized Dee's intelligence and worldliness and was pleased to have a man like Dee "on his team." Dee was willing to cower to any religious requirements in order to steer clear of the raging fires of persecution. Dee's religious acquiescence provided him with a front row seat to the political maneuverings in the upper levels of the court. He had made the best of a bad situation.

The other clue that Woolley found is that the 1563 edition of Foxe's *Book of Martyrs*. Dee's name appears more than ten times. But in the 1570 reprint of the same text, Dee's name doesn't appear at all. It is either deleted or replaced by the words "a Doctor."

Woolley suggests that Foxe found out the truth – that Dee was a spy in Bonners household and the portrayal of him in Acts and Monuments as a Catholic colluder was unfair."

(Woolley, p. 55.)

Elizabeth herself later decreed that every Cathedral library in her realm should have a copy of Foxe's *Book of Martyrs* and it became one of the "most revered texts of the Elizabethan age."

(Woolley, p. 55.)



Philpot, in a letter, refers to John Dee as "a great conjurer"



Philpot was burned at the stake on December 16, 1555.

How could Dee suddenly change from being a tutor in the highest ranks of Edwards Protestant court to being one of bloody Bishop Bonners Catholic chaplains? Simple, Dee was a survivor. He much quicker-witted than the authorities he was dealing with. He had read enough about ecclesiastical history that he could “hold his own” even with the Bishops. He undoubtedly convinced Bonner that he was an asset to have on his team. (Philpot’s jab at Dee saying he was “young in divinity” suggests that Bonner had recently ordained Dee.)

Biographer Benjamin Woolley gives two other reasons. We hear about the martyrs who are willing to die for their cause, but the “Vast majority, including many of the leading figures of the Reformation, were more ambivalent.” Even Queen Elizabeth is quoted as saying “There is only one Jesus Christ... The rest is dispute over trifles.” (Weir, Elizabeth the Queen p. 54, in Woolley, p. 45)

Dee didn’t feel that strongly connected to either Protestantism or Catholicism. In fact, he wanted to see both sides get along. Woolley cites the example of Dee’s bringing together Sir Humphrey Gilbert and Catholic Sir George Peckham “who Dee advised on setting up a Catholic Colony in the New World.” (Woolley, p. 45.)

Woolley concludes “Dee was a deeply committed Christian... but he refused to accept that Protestants or Catholics, or the Bible, or the Pope had the monopoly of knowledge. He believed that God’s truth was in the world of nature and learning as well. It was to the movement of the stars and the pages of ancient text that humanity must look to find the common ground upon which the church had originally been built.” (Woolley, p. 46.)

In court, Dee wrote a “Supplication...for the recovery and preservation of ancient Writers and Monuments,” even offering to donate part of his collection of rare manuscripts and books. The request fell on deaf ears.

Suddenly, on November 17, 1558, the picture changed again. Mary died of uterine or ovarian cancer. Her 25-year-old sister Elizabeth was thrust upon the throne and the tide changed back to Protestantism. Robert Dudley, one of the Elizabeth’s favorites, was responsible for picking the date of her coronation and he turned the decision over to John Dee, who selected January 15, 1559. Dudley then invited Dee to Whitehall Palace for an audience with the Elizabeth.



In 1556, Dee writes a “Supplication” to Queen Mary, recommending the establishment of a Royal Library





John Dee is asked to determine the date  
for Queen Elizabeth I's Coronation  
January 15, 1558

This brief historical summary in the tumultuous times when England's rule flipped from "Catholic to Protestant to Catholic and finally to Protestant" motivated Dee's to become a beacon of harmony for England, Europe and the world.

Dee's rose to great prominence in the court of Queen Elizabeth I. She referred to Dee as "my philosopher."

He helped guide the ship of state in many ways, the most important of which was his sharing of his wisdom in the numerous books he wrote.

How could Dee switch from Bonner's Catholic chaplain to Elizabeth's friend so fast? Biographer Woolley suggests that "Dee's presence in the Bonner's household was known about, perhaps even encouraged, by Elizabeth and her supporters.

In other words Dee was a spy or an "intelligencer." Later, in 1582, Dee declared in a deposition to royal commissioners that when chaplain to Bonner he was engaged in "some travails for her Majesty's behalf," and if they didn't believe him, they could ask the Queen herself.

Dee had put on a Catholic mask, but he was really the insider's "eyes" for Elizabeth and the Protestant cause.



John Dee in his library at Mortlake,  
ca. 1560

### *Dee and his teacher Gemma Frisius*

Dee's confidence that a Northwest passage existed came from his teacher in the Louvain, Gemma Frisius. Around 1526, the globe maker Franciscus Monachus asserted that America was connected with Asia, forming one giant land mass in the Northern Hemisphere.

Gemma Frisius didn't agree. He felt the two continents were separated by what he called the Fretum arcticum, the "Arctic Strait." In his 1533 *Principles of Astronomy and Cosmography* Gemma expresses his conviction succinctly: **"America cum Asia non conivgitur," "America is not joined with Asia."**

(Gemma Frisius, p. 182, in C.A. Davids intro, John Carter Brown Library reprint, p. 16). (Frisius, Gemma, (introduction by C.A. Davids). *De principiis astronomiae & Cosmographie*. (1992, New York, Scholar's Facsimiles for John Carter Brown Library.)

### *Dee and the Drake dilemma, 1580*

But Dee's legal points were not forgotten. For the next 50 years, Dee's assertion that "no occupation means no possession" was used by England authorities. Dee was called back to the Queen's chambers again in 1580 when Sr. Francis Drake returned from his round-the-world pillaging expedition. The Spanish Ambassador in London, Bernardino Mendoza, claimed that all the loot rightfully belonged to Spain, as Drake had illegally trespassed.

Dee discussed the situation with Lord Burgley for two full days. The reply to Mendoza was that the Spanish had only a few minor settlements in the West Indies and South America and that "prescription without possession is not valid." It further claimed that Spain had gone against "jus gentium," the Law of Nations by not allowing England freedom to explore unoccupied lands – an argument that Dee had propounded. The Crown embraced Drake and the riches he had brought back to England.

The idea that the Crown was using Dee's ideas is confirmed by the lawyer Charles Merbury in his 1581 *A Brief Discourse of Royal Monarchie*. (MacMillan and Abeles tracked down this telling quote:)

**"Master Dee hath very learnedly of late  
(in certain tables by him collected out of sundry ancient, and approved writers)  
showed unto her Majesty, that she may justly call herself  
Lady, and Empress of all the North Islands."**

(Merbury p. 4, in MacMillan and Abeles, p. 29).

Merbury continues, saying that Dee's arguments proved that the Queen of England had just as much right to overseas territories as any other Monarch in Europe.

(MacMillan and Abeles, p.29).

MacMillan and Abeles assert that:

**"Dee's advanced ancient and modern geographical knowledge  
likely had the effect of convincing Queen Elizabeth  
of the worthiness of Frobisher's and Gilbert's proposals."**

To conclude, we've seen Dee as an expert mathematician, geometer, and astronomer, navigator. These texts show him as an expert lawyer, geographer, and historian, as well.

As MacMillan and Abeles express it:

**“Dee’s *Limits of the British Empire*,  
like so many of his other works,  
confirms the polymathic abilities  
of one of the most remarkable figures  
in the English renaissance.”**

(MacMillan and Abeles, p. 29)

### ***Dee’s secret meetings with The Queen.***

How do historians know about Dee’s “secret” meetings between Queen Elizabeth and in 1577, 1578, and 1580? *Dee left a record of them in his Diary.*

Here are those entries along with some other revealing entries from this same time period.

(Notice the other names Dee mentions)

#### **1577**

**Aug. 19** The Hexameron Brytanicum put to printing. [this refers to the 100 copies of *General and Rare Memorials*]

**Nov. 3** William Rogers of Mortlake, about 7 of the clock in the morning, cut his own throat by the fiend his instigation.

**Nov. 6** Sir Humfrey Gilbert came to me to Mortlake.

**Nov. 18** Borrowed of Mr. Edward Hinde of Mortlake 30 li to be repaid at Hallowtide, next year.

**Nov. 20** Two tides in the forenoon: the first, two or three hours too soon.

**Nov. 22** I rid to Windsor, to the Q. Majesty (Dee presents the first three volumes of *Limits of the British Empire*).

**Nov. 25, 28** I spake with the Queen, hor. 5.

**Nov. 30** I spake with Mr. Secretary Walsingham.

**Nov.** I declared to the Q. her title to Greenland &c., Estotiland, Friseland.

**Dec. 1** I spake with Sir Christopher Hatton, Hora 5. He was made knight that day.

**Dec. 2** I went from the Court, at Windsor.

#### **1578**

**June. 30** I told Mr. Daniel Rogers (Mr. Hackluyt of the Middle Temple being by) that King Arthur, and King Malgo both of them, did conquer Gelandium, lately called Friseland.

Which he so noted presently in his written copy of Monumethensis: for he had no printed book thereof.

**July. 14** My sister Elizabeth Fromonds came to me.

**Aug. 5** Mr. Raynolds of Bridewell took his leave of me as he passed toward Dartmouth to go with Sir Humfrey Gilbert toward Hochelaga. Ⓢ 4li.

**Aug. 15** I went toward Norwich with my work of Imperium Brytanicum. [Dee presents the fourth volume of *Limits of the British Empire*.]

**Aug. 12** I came to London from Norwich.

**Sept. 6** The Queen's Majesty came to Richmond.

**Sept. 10** ☞ Sir Humfrey Gilbert granted me my request to him made by letter for the royalties of discoveries all to the north above the parallel of the 50 degree of latitude, in the presence of Stoner, Sir John Gilbert his servant or retainer: and thereupon took me by the hand with faithful promises in his lodging of John Cooke's house in Whitecross Street: where we dined only us three together, being Saturday.

**Sept. 13** Mr. Lok brought Benjamin his son to me: His eldest son also called Zacharie came then with him.

**Sept. 14** I began against Vincent Murphyn.

**Sept. 15** I wrote to the Bishop of L.

**Sept. 17** The Queen's Majesty came from Richmond in her coach, the higher way of Mortlake field, and when she came right against the church she turned down toward my house: and when she was against my garden in the field she stood there a good while, and then came into the street at the great gate of the field: where she espied me at my door making obeissance to her Matie. She beckoned her hand for me. I came to her coach side: she very speedily pulled off her glove and gave me her hand to kiss: and to be short, willed me to resort to her Court, and to give her to wete when I am there, &c. Hor. 6 ¼ a meridie.

**Sept. 22** My declaration against Vincent Murphyn put into the court of Guildhall.

**Oct. 3** On Monday, at 11 of the clock before noon, I delivered my two rolls of the Queen's Majesty's title unto herself in the garden at Richmond: who appointed after dinner to hear further of the matter. Therefore, between 1 and 2 after noon, I was sent for into her Highness' privy chamber, where [regarding Sir Francis Drake's ship full of loot] the L. Treasurer also was, who having the matter slightly then in consideration did seem to doubt much that I had or could make the argument probable for her Highness' title so as I pretended. Whereupon I was to declare to his honour more plainly and at his leisure what I had said and could say therein, which I did on Tuesday and Wednesday following at his chamber: where he used me very honourably on his behalf, &c.

**Oct. 7** On Friday I came to my L. Treasurer, and he being told of my being without: and also I standing before him at his coming forth, did not or would not speak to me. I doubt much of some new grief conceived.

**Oct. 10** At 4 of the clock in the morning my mother Jane Dee died at Mortlake. She made a godly end: God be praised therefor. She was 77 year old. The Queen's Matie, to my great comfort (hora 5), came with her train from the Court and at my door, graciously calling me to her, on horseback, exhorted me briefly to take my mother's death patiently: and with all told me that the Lord Treasurer had greatly commended my doings for her title, which he had to examine (which title in two rolls he had brought home two hours before). She remembered also how at my wife's death it was her fortune likewise to call upon me, &c.

The "two rolls that Dee refers to in that final entry shown here refers to the third and fourth volume of *Limits of the British Empire*. But before examining that text let's review how Dee had already helped the chief Elizabethan explorers with his navigational expertise.

***Dee helps Sir Hugh Willoughby and Richard Chancellor  
in their search for the Northeast Passage.***

Shortly after his return from the Louvain, Dee was approached by Sir Hugh Willoughby and his navigator Richard Chancellor. They asked for Dee's assistance in their plans to find a Northeast passage through the North sea, above Russia, and to Cathay (as they referred to China). Dee instructed Chancellor in the latest navigational techniques and shared the cartographic wisdom he had gleaned from Gerard Mercator and Gemma Frisius.

In May of 1553, three ships started their mission. They hit a storm in the North Sea, and 2 ships, including the one with Sir Willoughby aboard, were lost.

Undaunted, Chancellor continued on with the mission. He traveled northwest for days, way past any landmarks from Dee's maps.

One day they came across a small boat full of fisherman speaking a strange language.

The fisherman agreed to escort Chancellor to visit their King. They traveled 1500 miles southward, on foot and sled, in frigid conditions, until they reached the King's great city. They were in Moscow and were greeted by King Ivan the Terrible. (Woolley, p. 98)

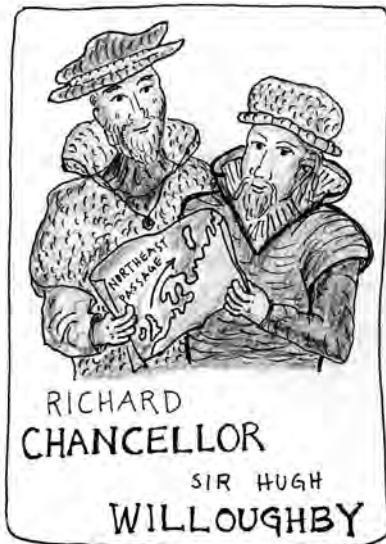
Ivan was very hospitable and agreed to future trading ventures. Chancellor and his group sailed back to England. There was so much enthusiasm for his success, a group of courtiers organized the Muscovy Company (Muscovy is like Moscow-y).

In October of 1555, Chancellor set off again on a successful trade mission with the Russians. Unfortunately, his ship went down off the coast of Scotland on the return voyage.

After Chancellors ill-fated mission, the Muscovy company was reluctant to fund any more ventures. And, as the Queen had granted them an exclusive monopoly, other explorers were prohibited from venturing into the northern latitudes.

In the 1560's English adventurers like John Hawkins had headed west to plunder the Spanish ships in the Gulf of Mexico. Hawkins' second-in-command was the young Francis Drake (1540-1596).

In 1572, Drake received a "privateering permission" from Elizabeth and was shortly off to do more "legal pirating." Not only was he successful at stealing a fortune from the Spanish, but he walked across the isthmus of Panama and became the first Englishman to see the Pacific Ocean. He vowed to return and explore that vast sea, which he did from 1577-1580.





## *Dee helps Martin Frobisher and the Muscovy Company.*



In the 1560's, the Muscovy Company had rebounded and was carrying on a prosperous trade with Russia. They had no interest in heading "Northwest" when "Northeast" had become so profitable.

So the bold Martin Frobisher went directly to the Queen. With her royal support the Muscovy Company acquiesced, on one condition. The Muscovy company's representative Michael Lok was to be the treasurer on the mission, and the company was to share in any profits.

Frobisher called the venture the "Company of Cathay" and raised the equivalent of several million dollars.

The Muscovy Company wanted to assure a successful mission so they hired John Dee to "examine and instruct" the leaders of the expedition on "rules of Geometry and Cosmography." In May of 1576, Dee brought his maps, charts, and instru-

ments to Muscovy House and met with Lok, Frobisher, Steven Borough, and Christopher Hall (who had once been Dee's student). Just days before the mission left England,

Dee gave them a 2-week cram course on mathematics and navigation. (Woolley, 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 to **"the worshipful and our approved good friend M. Dee"** with the accurate latitude measurement adding "we do remember you, and hold ourselves bound to you as your poor disciples." Clearly they respected Dee.



Martin Frobisher names the first mountain peaks he sees in Greenland "Mr. Dee his Pinnacles"



Underway again they headed northwest and eventually came to what 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"**

The weather turned foul and soon they found themselves in a great tempest. The 3 ships got separated, Frobisher and boat capsized in the chilly waters, but he was able to right it. The other two ships hightailed it back to England, but Frobisher pushed on.

He explored the west side of what is now the Davis Strait, and collected some mineral samples. After returning to England, rumor got out that the black rock Frobisher found contained assayable quantities of gold. That was enough to spark a second expedition.

In 1577, Frobisher set off again with a crew of 140 men. They filled their ships with as much of the black rock they could carry and returned home.

Unfortunately, the 140 tons of black stone turned out to contain little gold, but had enough mineral content to warrant another mining expedition. Dee was called in to be an expert witness, but did not the principal metallurgist in the analysis.

Frobisher set sail again in May 1578, this time with a convoy of 15 ships. They collected 1,150 tons of the black rock. More tests were done, but this time the results showed the stone to have practically **no** mineral value.

The Cathay Company went bankrupt and the treasurer, Michael Lok, was tossed into Fleet Prison.

### *Dee's Books on the establishment of the British Empire.*

Dee learned so much about astronomy, optics, navigation, and timekeeping and geography from Gemma Frisius, Gerard Mercator and other European scholars, that when he arrived back in London he was perhaps the foremost authority on these subjects. Not only did he coin the term British Empire, but he was instrumental in its inception.

Most historians have been reluctant to recognize Dee's pivotal role for several reasons. First his dabblings with conversations with Angels in his later years has somewhat decreased his credibility. Second, only one of Dee's writings on this England's maritime potential was ever published, and it only had a limited run of 100 copies.

Dee had listed the various manuscripts he had written and presented to the Queen and her senior advisors in the 1570's, but few had survived.

But low and behold, in 1976, about 400 years after Dee penned them, a compilation of 4 of his works were found. In his later years (1593) Dee had hired an amanuensis, (a literary assistant) to copy the original manuscript, most of which was dated July 22, 1576. Ken MacMillan, a professor at the University of Calgary in Canada, (with Jennifer Abeles) republished the 4 works in 2004 in *John Dee, The Limits of the British Empire*.

*Limits of the British Empire* was written exclusively for Queen Elizabeth and her senior advisors. As he was compiling this special work he also 4 more treatises that were intended for the public called *General and Rare Memorials pertaining to the Perfect Art of Navigation*.

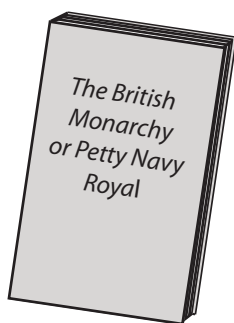
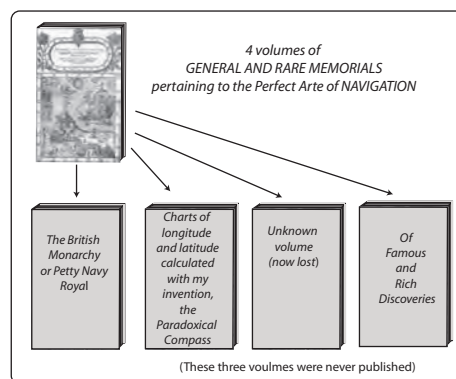
That's a total of 8 volumes all written around the same time! Most of *Limits* is dated July 22, 1576, and *Rare Memorials* was completed in August 1576.

The *Limits of the British Empire* wasn't actually presented to the Queen until late 1577 and 1578, so let's the first explore *General and Rare Memorials*, which was published in 1577.



## The 4 volumes of Dee's *GENERAL AND RARE MEMORIALS*

Only the first volume of Dee's 4-volume *General and Rare Memorials pertaining to the prefecte Arte of Navigation* was ever published. And only 100 copies of it were printed in 1577. Six years later, in 1583, Dee still had 60 copies in his library. MacMillan and Abeles suggest that the Queen wanted to keep Dee's bold maritime ideas hushed up.

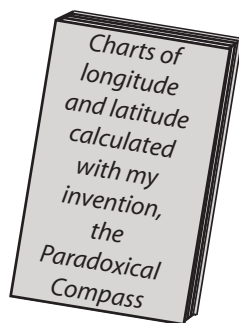


The first volume of *Rare Memorials* was called *The British Monarchy or Petty Navy Royal*. This 81-page text recommended that the first step, the “Master Key” to England’s future, was a strong Navy. The Spanish had over 200 ships in their fleet, but Britain only had 22 seaworthy ships.

He recommended that Britain should build 60 “tall ships” (between 160 and 200 tons each) and 20 more maneuverable, small ships (between 20 and 50 tons each).

He estimated that 6660 sailors would be needed to man those ships, at a cost of 200,000 pounds per year. The money, to be raised through taxes, would bring such prosperity to the economy that it would pay for itself.

(Woolley, p. 118 and Dee, *Perfect Art of Navigation*, p. 19.)

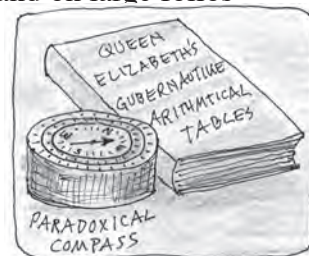


Volume two was a “great volume” of navigational tables that Dee had calculated using his Paradoxical Compass “**of me, invented anno 1557,**” which allowed navigators to follow “great circle” courses in northern latitudes. Dee’s Paradoxical Compass has not survived, but it probably had an adjustable outer dial (or two) (Perhaps it also compensated for changing magnetic deviations across various longitudes). It’s “paradoxical” in the sense that a navigator’s necessary course may appear inconsistent with the actual compass reading because of the earth’s curvature..

The compass worked in conjunction with a special “Table” that Dee compiled, called “**Queen Elizabeth’s Gubernautike Arithmetical Tables.**” (Gubernautike means “for governing or steering.”)

It took him 4 months to assemble all the data, which he wrote by hand on large folios of paper. The resulting manuscript was “greater in bulk than the English Bible.” Unfortunately made its printing cost prohibitive, though important parts of the table were appended to William Bourne’s (Dee’s friend) navigational primer *A Regiment at Sea*. (Woolley p. 118, and footnote 7)

Because it’s a chart of numbers, Dee claims it will benefit all “hydrographers,” regardless of language, such that they will “most thankfully and forever sing and extol” the marvelous Queen of England.





The third volume was so secret that Dee never let it be published saying, “it should be utterly suppressed or delivered to Vulcan’s custody (the Roman God of Fire). (Woolley, p. 118.)

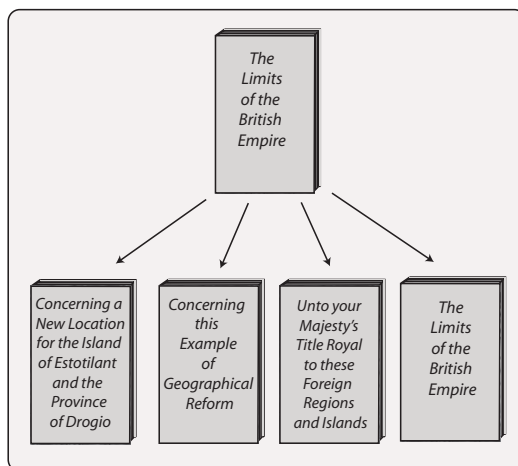
This volume might have been a short manuscript entitled “*Sundry foreign Regions, discovered, inhabited, and partly Conquered by the Subjects of the British Monarchy.*” This summarized the historical precedents that showed how England was legal owner of the northern part of North America and the islands of the North Atlantic. It also included Dee’s map of the northern hemisphere. (MacMillan and Abeles, p. 3.)

Dee’s friend FrancisWalshingham and the Privy Council probably felt this sensitive information should not be made available to the public, especially the public enemy #1, Spain, whose nosy Ambassador Bernardino Mendoza, who was allowed to snoop round London at the time.



The final volume, *Famous and Rich Discoveries* (written in 1576) was a description of 1200 years of history of expeditions into the Northern Seas, and “near under the North Pole.” MacMillan and Abeles describe it as a “large, untidy manuscript in the form of a scrapbook.” Some of the early chapters were later published by Samuel Purchas (1577-1626) a travellogue compiler who carried on Richard Hakluyt’s role as a promoter of overseas expansion.

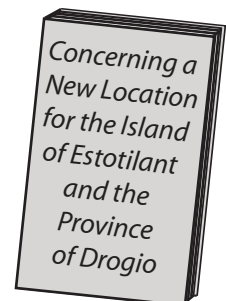
### Dee’s 4 volumes of the *Limits of the British Empire*



Dee’s other 4 volume compilation, *The Limits of the British Empire* was written expressly for the Queen and the Privy Council. MacMillan and Abeles call it “a seminal text in the early discussions about the expansion of the British Empire.” (MacMillan and Abeles, p. 5.)

The First Volume, written in Latin, was entitled *Concerning a New Location for the Island of Estotilant and the Province of Drogio*. The Spanish had settled Florida (or New Spain as they called it), but had not mapped the North Atlantic very well. They called the large land mass of North America “Estotilant” and a large island off the coast “Drogio.” Dee’s cartographer friends Gerard Mercator and Abraham Ortelius both drew it this way on their maps and globes.

But Dee had carefully studied the voyages of Nicolo and Antonio Zeno, two intrepid Venetian explorers from the 1400’s. In 1558, Nicolo’s son had published a narrative of the voyage, along with a detailed map.





Dee concluded just the opposite of these other scholars. “Drogio” was the large land mass and “Estotilant” was the large island off the coast. (This is why Dee uses phrases “island” of Estotilant and “province” of Drogio for his title.)

Dee pushed the point further. If the Spanish were unaware of the locations of Estotilant and Drogio, they certainly couldn’t lay claim to them.

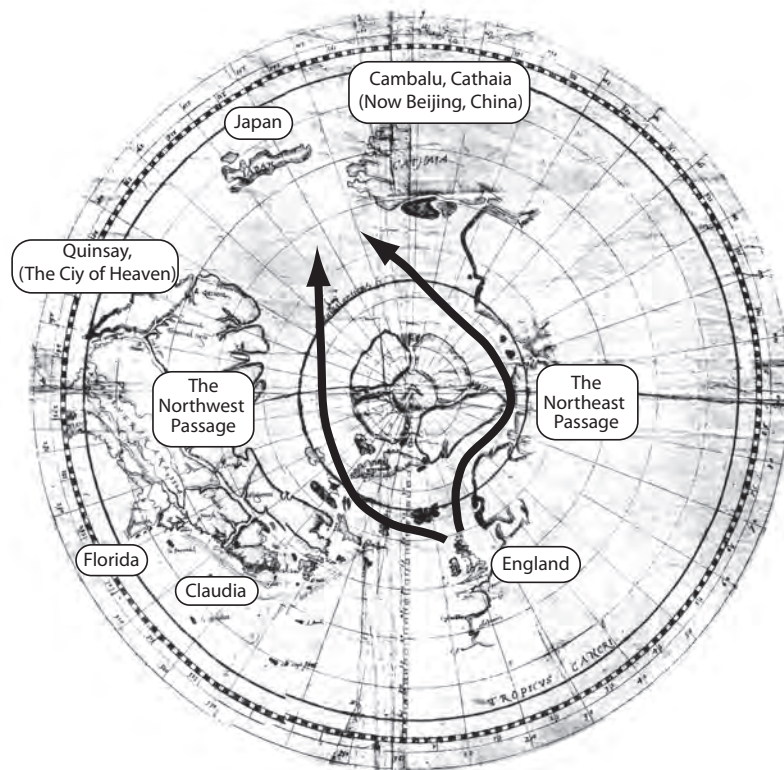
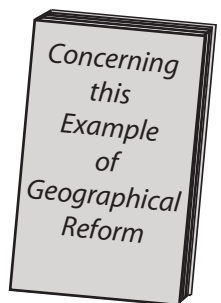
The Zenos described Estotilant – now called Baffin Island – as being inhabited by an “ingenious” population that grew crops, spoke many languages. They had traded with England in the past and even had a “famous” library containing works written in Latin. The mainland that Dee called “Drogio” was probably present-day Labrador, Canada.

These hospitable natives were one reason why Dee had encouraged Martin Frobisher to head in that direction in June of 1576.

In the second document, *Concerning This Example of Geographical Reform*, Dee impressed upon the Queen the benefits of both the Northeast and Northwest passages to China.

He asserted that the southerly route around the tip of Africa was not only more treacherous, but to get there, English ships had to pass the well-patrolled coast of Spain.

Dee included a map of the Northern Hemisphere in which he made North America thinner than other cartographers had made it. A Northwest route over North America would place sailors in the Strait of Arianus, the waters that separate North America and Asia. Stephen Borough of the Muscovy Company had reached this straight, also called the “Strait of Anian,” in his “Northeast” travels, but no one had been through the “Northwest” way. (MacMillan and Abeles, p. 128, note 22.)





Basing his knowledge on Marco Polo's written travelogues, Dee asserted that Cambalu (literally "The King's Seat," now Beijing), Japan, and Quinsay (literally City of Heaven, which Dee places near modern day Portland, Oregon) are all on the same latitude as Polo's city of origin, Venice, that is, 45° north.

Dee concludes by promising "many wonderful, surprising, secret and very delightful facts...will be revealed within the next seven years." This was the standard licensing period for letters patent, which Dee was encouraging the Queen to award to Martin Frobisher to journey to Drogio (Baffin Island) colonize it, mine it, and use it as a base for explorations through the Northwest Passage..

Dee's third document, *Unto your Majesty's Title Royal to These Foreign Regions and Islands*, asserted that England already owned the islands in the North Atlantic and a large part of North America by right of first discovery.



First, Dee goes back to the 530 AD when King Arthur conquered Ireland, The Shetlands and Orkneys (just north of Scotland), Friseland (probably the Faroe Islands, just further north), Greenland, the island of Estotilant (Baffin Island) as well as the province of Drogio (Labrador).

Next, he cites Saint Brendan's 560 AD journeys from Ireland to some of these lands, as well as to Bermuda.





Next, he jumps to 1170 AD, when the Welsh prince Lord Madoc, explored the Gulf of Mexico, Florida, and the east coast of North America.

Dee points out that Madoc planted a Colony (thought to be near Mobile Bay, Alabama) which would make it the first European colony in America – predating Columbus by over 300 years.

Dee gives the names of 4 parts of “the ancient Atlantis, not long since now named America.”

**Iaquaza** – (Florida)

**Apalchen** – (Area around the Carolinas and inland)

**Mocosa** – (Around the Chesapeake Bay and inland)

**Norombega** – (Now New England and New York)

(These were commonly used terms for the lands of the Eastern Seaboard.)

(MacMillan and Abeles, p. 44 and p. 124, footnote 7.)

Then Dee cites the voyages of John Cabot (ca. 1450 – 1499) and his son Sebastian (ca. 1476 – 1557) around 1494, two years after Columbus. With letters patent from Henry VII, they crossed the Atlantic and unfurled the English flag in a land they called “Newfound Lande.”

They also explored the Baccalaos Islands. Their crew members were mostly Portuguese, and in that language Baccalaos translates as “Codfish Islands,” which are most likely the Grand Banks off the coast of Newfoundland.

The word-coiner Dee puns that “some call Newfound land “Terra Corterealis” (after Gaspar Côte-Real, the Portuguese explorer who had landed in Newfoundland later, around 1500) whereas more justly it should be called “Terra Cabotina.”

(MacMillan and Abeles p. 44.)



Dee also jokes “wherein they perceived white lions to be, which being found by them on Midsummer day in the morning they named Saint John’s Island.” The summer solstice, was celebrated as St. John’s day and St. John is frequently drawn by artists accompanied by white lions.

(MacMillan and Abeles, p. 44 and note p. 129).



Dee concludes with the more recent discoveries of Stephen Borough in the Scythian Ocean (the Northeast passage above Russia) and Martin Frobisher’s claim to Greenland, Baffin Island and Drogio (Labrador).

Dee had studied civil law in the Louvain, and had quite a few historically important legal texts in his library. He cites 3 important legal concepts then shows how they apply to England's claim to "the great part of the seacoasts of Atlantis (otherwise called America)"...from Florida northwards including all the islands in the North Atlantic "great or small."

**Jure Gentium, "the Law of Nations"** was the accepted legal agreement among "Christian monarchs" that "making claims to territories" in new found lands was lawful.

**Jure Civilis, "Civil Law"** required that discovery must followed by physical occupation and the Spanish didn't have any settlements north of Florida. (This is basically "possession is nine-tenths of the law.")

MacMillan and Abeles sense the "urgency in Dee's writing" when he declares "this recovery & discovery enterprise is speedily and carefully to be taken in hand" and encourages the Queen to "proceed herein." (MacMillan and Abeles, p. 18 and p. 48)

**Jure Divino, "Divine Law"** is the duty the Queen had as head of the Anglican Church to "spread abroad the heavenly tidings of the Gospel among the Heathen."

Dee had come up with some fascinating historical precedents and legal argument to justify England's claim on the North Atlantic. Not many Elizabethans could have assembled such convincing data, and this is why the Dee, (besides being an expert navigational teacher) was so critical to the explorer's enterprise.

MacMillan and Abeles point out that a month after the time Dee likely presented his arguments to the Queen (May 4, 1578) Sir Humphrey Gilbert was awarded the first letter patent to settle in North America. Gilbert's authorization was to **"discover, find, search out, and view such remote heathen and barbarous lands, countries, and territories not actually possessed of any Christian prince or people."** Further instructions declared he **"must inhabit or remain there, to build and fortify."**

MacMillan and Abeles also point out that in 1580 Sir Humphrey Gilbert bequeathed to John Dee the "royalties of discovery" for all the land above "the parallel of the 50 degree latitude" (which today is most of Canada and Alaska).

As MacMillan and Abeles put it:

**"This grant probably rewarded Dee for more than simply providing navigational advice.**

**No earlier document set out as clearly the legal precedents of establishing sovereignty in newfound lands as Dee's treatise, and given that only one month separated the tract from the patent, there is certainly considerable circumstantial evidence of Dee's influence.**

**This was a tangible contribution to England's first, uncertain, permanent forays into the New World."**

(MacMillan and Abeles, p.19)

Sir Humphrey Gilbert grants  
John Dee all lands  
north of the 50 degree line



The title of Dee's fourth document *The Limits of the British Empire* is the same as the name given to the overall compilation of the 4 works. This 50-page treatise was presented to the Queen at a later date than the other 3: August 16, 1578, (3 months after the other 3 components, and 2 months after Gilbert's award of the letter patent).

It contains many of the main ideas of Dee's earlier "*Of Famous and Rich Discoveries*." Dee delves into the King Arthur's claimed lands again, this time quoting extensively from British writers like John Caius (1510-1573) (cofounder of Gonville and Caius College, Cambridge) and Hector Boece (who wrote *History of Scotland*).



Dee also quotes an extremely obscure source, Jacobus Cnoyen, a travel writer based in the Netherlands in the 1300's. Gerard Mercator had told Dee of Cnoyen's descriptions of the northern regions.

Dee then tackles the strongest case that Spain has for claiming North America, The Treaty of Tordesillas, issued by Pope Alexander VI in 1493. An imaginary line was drawn vertically through the middle of the Atlantic Ocean from north pole to south pole. Any "unclaimed" territory east of the line (like Africa and India) was available for Portuguese "discovery." Everything west belonged to Spain. (The Portuguese later discovered that the line actually cut off a sizeable chunk of South America into their "territory." They exploited this error and thus present day Brazilians speak Portuguese, where most of the rest of the South America countries speak Spanish.)

Dee didn't challenge the authority of the Pope's Treaty, instead he found 3 loopholes in it.

- (1) It had been 80 years since the Treaty and neither Spain nor Portugal had bothered claiming the lands in the North Atlantic.
- (2) The pope gave the 2 countries "all islands and mainlands, which were not in actual possession of any other Christian King" before 1493. Dee had shown that King Arthur, Saint Brendan, and Lord Madoc laid their claims well before that date.

MacMillan and Abeles note that Sir Humphrey Gilbert's letter patent uses the same phrase "**lands not possessed by another Christian Prince.**"

- (3) Dee pointed out that the papal order actually says that Spain gets the lands "towards the west and south" [occidentem et meridiem]. (The word meridiem means "middle of the day" or "noon," but the Romans also used it to mean "south"). The Portuguese got everything "ex opposito," (on the opposite side) or lands orientem et meridiem (east and south). Dee interpreted this to mean Spain and Portugal were to split everything south of their home-lands, which is approximately 45° north latitude. Thus everything above 45° was fair game for anyone to claim.

Dee had 3 solid arguments, but he stretched his luck a little by offering one more. He cites a book he had in his library, John Harding's *Chronicles* printed in 1543. Harding claimed that in the 1300's, The King of Spain, King Pedro, fathered no sons, only daughters.

Edward, the Prince of Wales, had made an agreement with King Pedro. If Edward's two brothers married two of King Pedro's daughters, the first born male son would be heir to the thrones of Spain and Portugal. The marriages took place, and a son was born, but in 1377, before he could claim his rightful thrones, Juan I declared himself King of Spain and Portugal.

(Roberts and Watson, book no.1686).

Dee made a flow chart of the Kings and Queens of Spain and England to show that Elizabeth was heiress to the Spanish and Portuguese crown, and thus could rightly claim the unoccupied lands south of the 45° latitude as well!

Dee should have quit while he was ahead. The last argument made Lord Burghley skeptical of the whole thing.

There was another problem. Just as Dee was getting the court excited about overseas ventures, (mid-1578) Martin Frobisher returned from his third journey with tons of worthless rocks. The Queen and other courtier investors had totally lost their investments and weren't fired up to gamble more.

As Benjamin Woolley writes:

**“Dee had summoned up this fantastic vision of a new world order that might ultimately reunite Christendom, build a new Jerusalem, and at the moment that Elizabeth hovered on the brink of embracing it, Cecil had wandered in, raised a doubt, and swept it all away.”**

(Woolley, p. 122)



SIR  
HUMPHREY  
GILBERT  
AND THE ATTEMPTED  
COLONIZATION OF  
NORTH AMERICA IN 1583



## *A brief biography of Sir Humphrey Gilbert.*



Let's start with Sir Humphrey Gilbert's roots. Around 1150, the Bishop of Exeter granted Aluric de Compton a deed of 124 acres near The River Dart in southwest England. The land was in between the Totnes, Torquay, and Dartmouth (the mouth of the River Dart).

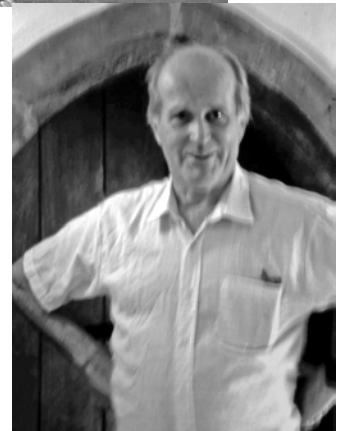
Fast-forward 7 generations to 1300 when the town of Totnes on the Dart elected Thomas Gilbert to Parliament.



Thomas' son, Geoffrey Gilbert, who helped King Edward III repulse the Scots, married Joan Compton, co-heir of William de Compton's estate. The couple built a modest stone castle, whose main room was a Great Hall. This formed a nucleus around which many more rooms and additions have been added over the years.



Compton Castle has been inhabited almost continuously for 700 years by Gilbert. Recently it was restored as a museum, but part of it is occupied by (a modern day) Geoffrey Gilbert and his family.



The "modern day" Geoffrey Gilbert wasn't aware that Sir Humphrey's ultimate 1583 destination was "Refugio" or "Narragansett Bay."

The squirrel from their Gilbert Family crest is carved on the pews of the small chapel and welded on the wrought iron gates.

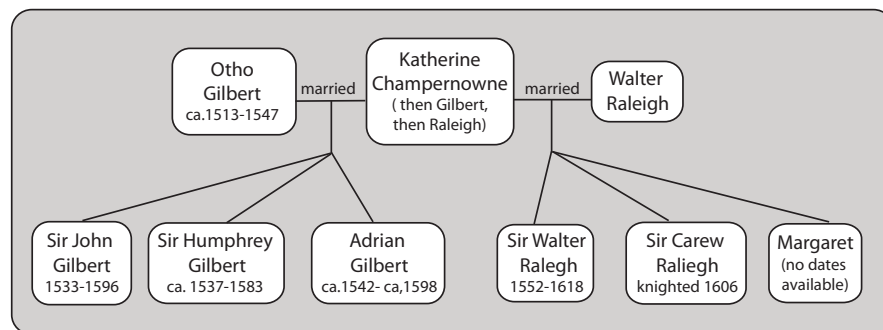


Five generations after the original Geoffrey Gilbert, in 1531, Otho Gilbert married Katherine Champernowne. John Gilbert was living in Compton Castle, so Otho and Katherine's 3 boys, John, Humphrey, and Adrian were born just up the road in a home they called Greenway House (on a beautiful peninsula that juts into the River Dart).

(I mention this obscure fact because the famed mystery writer, Dame Agatha Christie bought the Gilbert's "Greenway House" in 1937 and lived there for 20 years.)

Unfortunately, when young Humphrey was only 10 years old, his father Otho died. Several years later Katherine remarried, this time to a local gentleman named Walter Raleigh. Soon three more children were born: Walter, Carew, and Margaret.

This young Walter grew up to be the famous Sir Walter Raleigh. In fact, four of these brothers and step-brothers were eventually knighted.



Sir Humphrey Gilbert and Sir Walter Raleigh were step-brothers

By primogeniture, John inherited most of Otho's estate, but Humphrey was left enough money for his education. Humphrey's later associate, John Hooker, the chamberlain of Exeter, reports that Humphrey was a "precocious child."

Humphrey's mother Katherine sent him off to study at Eton and then at Oxford for a year or two. When he was around 18 (around 1555) he moved to London.

Humphrey's mother had an aunt whose name was also Katherine Champernowne, who was Elizabeth I's governess.

This Katherine, or "Kat" as princess called her, had raised Elizabeth since she was four. Well-educated, she taught the future Queen astronomy geography, history, mathematics, as well as 4 languages, French, Italian, Spanish, and Flemish. She taught Elizabeth on how to ride horses, dance, do embroidery, as well as how to conduct herself properly at court.

(Wikipedia: Katherine Champernowne)

Aunt "Kat" brought the 18-year-old Humphrey into the service of the 22-year-old Elizabeth. Humphrey's service must have been after April 1555 when Queen Mary had sequestered Elizabeth at Woodstock for 10 months while she married Prince Philip of Spain and reconciled England with the Church of Rome. Prior to that, Elizabeth had spent two months imprisoned in the Tower of London.

It's not known what Humphrey's duties were, but apparently Elizabeth "took a particular liking to him." (Quinn, *Sir Humphrey Gilbert*, p. 2)

In May of 1558, Humphrey was living at one of the Inns at Chancery (in an area called Middle Temple between the Strand and the Thames.) He was helping his Uncle Arthur Champernowne "fit out ships as privateers against the French." In November of that year Mary died and Elizabeth became Queen. (Quinn, *Gilbert*, p.3)

Four years later, in 1562, Elizabeth signed the “Treaty of Hampton Court” allying England with the Protestant Huguenots in France. She had two goals: to weaken the Catholic Guise party and to re-annex the port of Calais directly across the English channel from Dover. This strategically placed French port had actually been a part of England until the Guises seized it in 1558.

Elizabeth agreed to occupy the nearby port of Le Havre (the Haven) until Calais was restored to the Protestant Huguenots. The Earl of Warwick led the English force, and Humphrey Gilbert was commissioned to recruit 100 soldiers to be in his charge. They landed in Le Havre, but did little fighting for six months. The Huguenots were overwhelmed by the Guise forces and not only surrendered, but agreed to turn against their allies, the English.

Two months later, the English fort in Le Havre was surrounded by enemy troops. Gilbert fought defiantly with his men. On June 5, 1563 he was struck by the bullet from a harquebus. (Gun supported on a tripod.)

Warwick was forced to surrender a month later but reported Humphrey’s actions to the Queen:

**“Surely there is not a vallianter man that liveth;  
and so hath his deeds well showed it now, at this time.”**

(Quinn p. 4, my modernization)

Historians like Gosling (1911) and Williamson (1938) suggested Gilbert’s interest in exploring North America came from his 6 months at French fishing port of Le Havre. Quinn suggests that he might have met the well-traveled French geographer Andre Thevet, and the Englishman, Richard Eden. But he could have learned about places like Newfoundland from the many French fishermen who had been journeying there since the early 1540’s.

Quinn asserts that Gilbert also might have met Jean Ribault, the French explorer, who established a Huguenot colony in what is now Port Royal, South Carolina. After two years Ribault and his associates abandoned the colony and went to England. In May of 1563, Ribault account “*The whole and true discovery of Terra Florida*” was published in London. This was the first account of the New World written in English and caused quite a stir. Ribault was in London for two years, during which time he tried to organize a joint French-English expedition with Thomas Stukely. Ribault return to France and French Colonists returned to Port Royal, but within weeks the Spanish attacked and Ribault was killed.

Ribault returned to France, recruited 600 new colonists, and sailed to what is now Jacksonville, Florida, the site of another French settlement under René Laudonniere. Within weeks after his arrival in Florida the Spanish attacked, killed Ribault and massacred most of the colony.

Laudonniere and some of his men managed to escape back across the Atlantic. They unexpectedly had to land in Wales, then journeyed overland to Bristol, then London where the town was soon a buzz with their tale. A book recounting their experiences by Thomas Haket in the New World was published in London in May of 1566.

It was during this time that the Muscovy Company had been unable to reach China via a Northeast passage.



### *Anthony Jenkinson's Early Journeys.*

Before examining Sir Humphrey Gilbert's 3 petitions to the Queen, it is important to understand what the Muscovy Company, and in particular, their key explorer, Anthony Jenkinson, thought about Gilbert's enthusiasm. Willoughby and Chancellor had opened up trade with Russia in 1553. Three more expeditions followed in 1555, 1556, and 1557. On that last voyage, Anthony Jenkinson pushed his exploration to a new level. He wanted to see how Moscow was connected to the Silk Road of China.

With the Tzar's letters of recommendation, Jenkinson, an interpreter, and two companions, Richard and Robert Johnson, journeyed southeast by boat and foot for 6 months before arriving at the Silk Road in Bokhara (in present day Uzbekistan).

Here's a brief summary and map of their journey:

**By Sea – 200 miles – from London, through the North Sea, around the Scandinavian coast, into the White Sea, to the port of Archangel.**

**By River – 400 miles – south by way of the North Dvina River to Volgada.**

**By Land – 250 miles to Moscow where the Tzar gave him a letter of recommendation.**

**By River – 200 miles – south by way of the Moskava River, then east by way of the Oka River, to Nizhny Novgorad, where he got permission to travel on the Volga River.**

**By River – 990 miles – south on the Volga, past Kazan, then Volgograd, to Astrakhan on the Caspian Sea.**

**By Camel – 700 miles – after crossing the Caspian he hired 1000 camels and marched across dry land to Bokhara.**



(I've simplified the Silk Road on this map. It was actually a network of routes, but Bokhara was a principal city in the middle. )



For centuries, goods and ideas traveled back and forth between the two great civilizations of Rome and China. Chinese silk traveled westward while gold, silver, and wool traveled eastward.

Few people actually traveled the entire route; “middle men” handled the transport through various regions. As the Roman Empire collapsed and the Arab Empire grew, the popularity of the trade route diminished. Then in the 1200’s and 1300’s its use increased, and was the route the Venetian adventurer Marco Polo (1254 – 1324) took in 1271. He became a favorite of the Mongol Emperor and stayed in China for about 17 years. Upon his return to Venice, he wrote his travelogue *Il milione* (The Million).

Large sections of the road are now paved highway, and the UN has expressed interest in making it a full Trans-Asian highway.

But Jenkinson, in the late 1550’s, wanted to “reroute” the trade goods north into Russia, so the riches of China would be accessible to the Russians and the English. This new route would totally avoid the Holy Roman Empire, including Spain and the rest of Europe. Unfortunately, wars and robbers had halted the arrival of any goods from China, and Bukhara proved to be a useless market.

Jenkinson and his colleagues stayed in Bokhara for 2 months, then retraced their route back to England, arriving home about a year later, in the summer of 1560.

A year later, in 1561, this tireless trader again journeyed from London to Moscow, then following his previous route to the Caspian Sea. He sailed south, barely survived a great storm, and took a camel caravan to Qazvin, then the capital of Persia (just north west of modern day Tehran, Iran). Unfortunately the Shah had just signed a treaty with the Turks, who were enemies of the Europeans, and Jenkinson left with no promise of a trade deal. Again he spent the next year making a return trip to London (arriving in September 28, 1563).

Jenkinson came up empty-handed twice, but he seemed still determined to make a connection to China via a Northwest Passage.

Jenkinson also drew a detailed map of Russia (now lost) that was reproduced by cartographer Abraham Ortelius’ 1570 *Theatrum orbis terrarum*, (Dee owned a copy, as Ortelius was his friend.) (Roberts and Watson, book number 213).

Jenkinson’s map of Russia,  
in Ortelius’ *Theatrum orbis terrarum* (Theatre of the World)



### ***Gilbert in 1577: (Gilbert Biography Continued)***

Sir Humphrey Gilbert was one of the subscribers who had invested in Frobisher's expedition (Dee had as well). (Gosling, p. 125).

While Frobisher's second expedition was underway in 1577, the energetic Gilbert devised a scheme. At the beginning of his career, he had ruthlessly suppressed an Irish uprising and also led 1500 English troops to assist in Netherlands' revolt against Spain.

He proposed that Queen Elizabeth allow him to seize Spanish, French, and Portuguese fishing fleets in Newfoundland. Furthermore, he wanted to intercept Spanish ships laden with American silver, and to conquer Santo Domingo and Cuba.

Gilbert felt the West Indies was Spain's most vulnerable point. A successful blow to their source of riches would allow England to be "Mistress of the Seas."

Gilbert signed the document on November 6, 1577.

What's curious is that on November 6, 1577, John Dee notes in his diary, "Sir Humphrey Gilbert came to me at Mortlake."

This doesn't sound like the kind of scheme Dee would have devised, but perhaps Gilbert wanted to get Dee's opinion before he delivered it to the Queen.

As Spain and England were nominally at peace (exchanging ambassadors, etc.), the Queen ignored Gilbert's proposal.

### ***Humphrey Gilbert's Petitions to the Queen to allow him to find the "Northern passage."***

It's clear that the ambitious young Humphrey Gilbert was inspired by the Jenkinson's accounts, but at this point his interests lie more in the "northern passage" to reach the riches of China than in colonizing America.

Only 6 months earlier, in May of 1565, Anthony Jenkinson himself had made a similar petition to the Queen. He felt that the Northwest passage was worth exploring, but there was "no doubt that there was an easier Northeast passage above Russia.

In the fall of 1565, Sir Humphrey Gilbert wrote a petition to the Queen pointing out that nothing had been "said or done concerning the discovery of a passage to the North, to go to Cataia, & all other east parts of the world." At his own cost (with the help of his friends) he was willing to find the "undiscovered passage" if he and his brothers, John and Adrian, could have a monopoly rights and one fifth of all customs on goods brought through the passage for the next 99 years. (Quinn, *Voyages* pp. 105-6)

With both proposals in hand, the Queen summoned both men to debate their preferences before her.



Gilbert and Jenkinson  
debate before the Queen

Gilbert's record of the debate is the only evidence that has survived, and he replies to three of Jenkinson's assertions about the Northeast passage:

**Jenkinson:** A Tartarian fisherman has sailed eastward and believed the passage went through to China.

**Gilbert:** This is hearsay, some "fisherman from Tartaria" is not an expert witness.

**Jenkinson:** My men had found a Unicorn's horn in the North Sea, and unicorns only live in the Far East.

**Gilbert:** The horn was probably the horn of some animal that lived in the north.

**Jenkinson:** The current above Russia flows westward.

**Gilbert:** This was caused by the rivers that flow north through Russia. (Quinn, *Voyages*, p.7)

**The Queen and the Lords of Council apparently encouraged to two adventurers to join forces.**

In April 1566, (3 months later) Jenkinson wrote to Sir William Cecil saying "Mr. Gilbert and I" were willing to search for the passage to China at "our own costs and expenses," provided they be granted a monopoly if they succeed. The note is only signed by Jenkinson, not Gilbert.

On May 4, 1566, the busy Jenkinson set off to Russia on Muscovy Company business.

On June 26, 1566, Jenkinson wrote Cecil from Russia a bit suspicious that Gilbert was making separate plans. Jenkinson asked Cecil that if Gilbert's requests were granted, to be sure he was "joined in with him." (Quinn, pp.8 and 106).

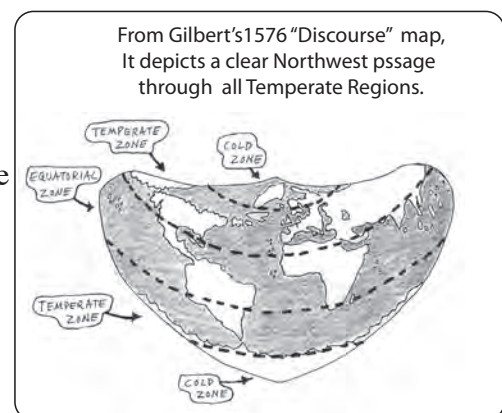
Jenkinson's suspicions were well-founded. In the first months of 1566, Gilbert was writing the first version of "*A Discourse of a Discovery for a New Passage to Cataia*," which never once mentions Jenkinson's name.

Gilbert actually puts Jenkinson in an adversarial position by reviewing the 3 points of the debate they had in front of the Queen. Gilbert only refers to Jenkinson as "a worthy Gentleman, and a great traveler." (Gilbert, *Discourse*, p. 8)

The only version of the 1566 "*Discourse*" that has survived is a 1576 version. Though some material was added in the ensuing decade, the bulk of the essay and the map was from 1566. (Quinn, p. 8).

Gilbert presented a passionate argument with well-documented evidence about the existence of a Northwest passage. He enumerates the benefit of the China trade as well as trade with the American Indians. He envisioned an English trading base headquartered on the West Coast of America, "about Sierra Nevada." Quinn points out that Gilbert was "among the first Englishmen" to suggest that colonization in America be attempted for its own sake." Gilbert saw colonization as a place where England could send its "needy people" who are forced to "commit outrageous offences," (meaning the unemployed and criminals).

The map of the world that accompanied the text was simply a copy of the Abraham Ortelius' 1564 World map. The heart-shaped map makes the Northwest passage look like an easy route, while the Northeast passage isn't even on the map! Furthermore, the Northwest passage is depicted as traversing through the "Temperate Zone" where the part of the Northeast passage shown is entirely in the "Cold Zone" (Zona Frigida).



MacMillan sees Gilbert's map as "cartoon like in [its] simplicity," as well as "highly optimistic and speculative." Canada, Labrador, and Greenland are drawn way too close to England, and the ample Northwest passage conveniently opens to Japan, China and the Moluccas (The Spice Islands of Indonesia). (Macmillan, *Sovereignty*, p. 151).

Gilbert's plans were put on hold in July, 1566 when Sir Henry Sidney recruited him for service in Ireland.

As far back as the 1066, Irish Chieftains had resisted English intervention. Now that England's crown was Protestant, England felt a need to control this island of Catholics who might side with Catholic Spain in a war. Sir Henry Sidney was appointed Lord Deputy of Ireland and was assigned the task of conquering Ireland. For the first substantial attempt to conquer the northwestern county of Ulster, Sidney engaged Gilbert and the soldiers Gilbert had enlisted. Their landing on the Irish coast was successful, but the Irish rebel Shane O'Neill, simply avoided them. After being in Ireland for only 5 months, Gilbert was sent to London to deliver letters to Cecil.

In December of 1566, Gilbert made his fourth proposal to discover Northwest Passage. He requested **"your majesties license and favor to enterprise and give the attempt with all possible speed for the discovery of A passage to Cathaia and all other rich parts of the world as yet unfound."** (My modernization of Gilbert, in Quinn, p. 108).

Gilbert asked for the privilege of having one or two trading ships use the passage for 40 years, paying only a minimal tariff. He wanted to be declared Governor for Life of all lands he discovered, as well as ownership of 1/10 of it all. (Quinn, p. 10 and p. 109).

At the bottom of the petition are Cecil's questions and recommended modifications. It's clear Cecil was encouraging, as the only important question was about Gilbert's timing on the project.

Gilbert polished up the petition, chose a departure date of March 1568 and sent it to Cecil, who forwarded it to the Muscovy Company for approval.

The petition did not sit well with Sir William Gerrard and Rowland Hayward of the Muscovy Company. They were irked by Gilbert's request for land ownership and tax breaks. Their answer was a polite, yet definitive "no."

Gilbert shifted gears. Shortly after his rejection at the end of January 1567, he tried to recruit his friends from Devon to form a colony in Ulster. Apparently he and Sir Henry Sidney had discussed such a project the year before in Ireland.

Three months later, in April 1567, Gilbert was called to active duty in Ireland, accompanied by fresh troops.

There was more talk of the Irish colonization project, and Gilbert's Uncle, Sir Arthur Champernowne, journeyed to Ireland to discuss the matter. Elizabeth's Secretary of State, Sir Thomas Smith also got involved.

But the Irish proved to be so rebellious that just getting them under control was enough. The rebellious James Fitzmaurice Fitzgerald was rousing the countryside against the English. Gilbert was made Colonel and assigned the task of capturing Fitzgerald. So Gilbert brazenly-marched his troops right into enemy territory taking it village by village. Perhaps "obliterating village by village" is a better way to describe it.



Quinn summarizes Gilbert's aggressive military tactics: **"His method of waging war was to devastate the country, killing every living creature encountered by his troops. If a castle did not yield at the first demand he would accept no later submission, but would take it by assault and kill every person in it. He made the Irish lords, who came to surrender, walk to his tent between two lines of heads cut from his dead enemies, and forced them, after abject submission, to enter into bonds and put in pledges for good behaviour."**

(Quinn, *Voyages*, p. 17)

On January 1, 1570, Gilbert was knighted by Lord Deputy Sidney in the coastal town of Droghada. Due to some kind of affliction with his eyes, he requested to be returned to England. There he married Anne Aucher, with whom he had 7 children.

He worked again with his uncle, Sir Arthur Champernowne, to organize a colony, this time in county Cork. But the ambitious Gilbert wanted more than a colony. He wanted monopoly of trade with all the southwestern Irish counties, land grants for any areas he conquered, the rights to customs from Spanish fishing boats off the West Coast, and mineral rights to the whole island.

Nothing came of this scheme, but Gilbert had many irons in the fire.

In December of 1571, he and the Secretary of State, Thomas Smith were granted a monopoly as the "Governour and Society of the newe arte." This new art was a mining and alchemical venture. The alchemist William Medley demonstrated how he could turn iron into copper. They leased Lady Katherine Mountjoy's smelting operation in Poole (on the south coast near Southampton). Unfortunately, Thomas Smith was sent to Paris as the English Ambassador, Medley and Gilbert had a falling out, and this project died.

Also in 1571, Gilbert and the semi-retired explorer John Hawkins were both elected to represent Plymouth in Parliament. During a heated debate on monopolies, Gilbert defended the Queen's royal prerogative to assign monopolies, and curiously about a month later, received a 7-year patent to be Receiver-general.

In July of 1572, he was sent to the Netherlands with 1100 soldiers. Technically he was a "volunteer" as the Crown would disavow knowledge of his actions, but secretly he got his commands from Cecil.

Once in Flushing, he joined the Dutch forces attacking a Spanish convoy near Bruges and on the Spanish forces based the island of Goes. The Prince of Orange admired Gilbert's leadership and wanted him to continue, but word came from Cecil that Gilbert's withdrawal was used as a bargaining chip in her negotiations with Spain.

From 1572 to 1577, Gilbert spent time in London, at the estate his wife inherited in Kent, and with his brother John at Compton Castle in Devon.

In 1576, he wrote a proposal to start a third university (aside from Oxford and Cambridge): The creation of an **Academy in London for education of her Majesties Wards and the youth of nobility and gentlemen.**

He wanted the school to particularly emphasize science, geometry, mathematics, astronomy, and the use of nautical instruments. He wanted students to learn horsemanship, the principles of warfare, as well as language, oratory, and "Divinity." Publishers would be required to send copy of any book they printed to the Academy library. (Gilbert's proposal was never directly instituted, but in 1597 Gresham College, London was founded under similar principles.)



*Sir Humphrey Gilbert's enthusiasm  
for finding Northwest Passage is re-ignited.*

During his 5 relatively calm years in England, Gilbert was also working on his Northwest Passage schemes again. With a few minor additions he finally published “*A Discourse of a Discoverie for a New Passage to Cathaia.*” In 1577, it drummed up enthusiasm for Frobisher’s 1577 voyage, but after Frobishers failed attempts to find the passage and his disastrous mining experience, enthusiasm for the passage again dwindled.

These years, 1576 and 1577, John Dee was busy writing his treatises on the British Empire and England’s right to the lands of the North Atlantic.

In 1577, Sir Humphrey Gilbert penned a new proposal entitled “*How Her Majesty may annoy the King of Spain...*” His bold plan included seizing the French, Portuguese, and Spanish fishing ships in Newfoundland (which at that time numbered up to 300) and setting up an English colony on “St. Lawrence Island.” This large island (twice the size of the state of Rhode Island), strategically located at the mouth of the St. Lawrence River, is now called Anticosti.

(According to Parkhurst, see Quinn, p. 35, note 1).

This island colony and Bermuda would become bases for raids against the Spanish fleet in the West Indies. Gilbert then envisioned capturing the islands of Cuba and Santo Domingo. He concluded that attacking Spain’s back door and cutting off her source of wealth would cripple the Spanish economy and they would no longer be a threat to England.

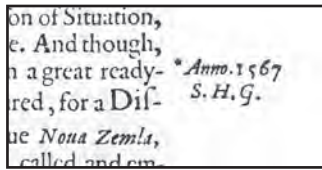
Sir Humphrey suggested the same game plan as in the Netherlands; he would disavow that the Crown had authorized his privateering.

It appears as though Gilbert was interested in John Dee’s opinion of the plan before it was submitted to the Queen. In his diary, Dee notes that on November 6, 1577, “**Sir Umfrey Gilbert cam to me at Mortlake.**” This is the exact same day that Gilbert signed his proposal to “*...annoy the King of Spain...*”

The scheme sounds like something from Gilbert’s pen. It doesn’t seem like the kind of aggressive military plan that Dee would have devised. But Dee was a outspoken supporter of Sir Humphrey Gilbert’s overall ideas for New World exploration. Dee was a man with ideas. Gilbert was a man of action. They were both progressive and bold Elizabethans. Gilbert’s personal motto was “**Quid non?**” (Why not?)

In the 1570 *Preface to Euclid*, where Dee is describing the Mathematical Arte of Navigation, he writes: Dee cites that some of “**our English Pilots**” are eager to voyage “**to Places most Famous and Rich.**”adding:

**“And though, (of \* Late) a young Gentleman,  
a Courageous Captain,  
was in great readiness, with good hope,  
and great causes of persuasion,  
to have ventured, for a Discovery  
(either Westerly or by Cape de Paramantia  
or Easterly above Nova Zemla and the Cyremisses)  
and was, at the very near time of Attempting,  
called and employed otherwise (both then, and since)  
in great good service to his Country, as the Irish Rebels have \* tasted.”**

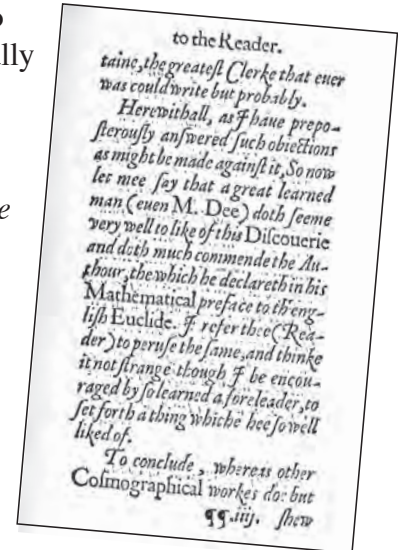


In the margin of the *Preface to Euclid* Dee explains the first asterisk as “**Anno 1567, S.H.G.,**” a clear reference to Gilbert’s 1567 *Passage to Cathaia*. (The second asterisk, near “Irish Rebels,” clarifies that Gilbert’s Irish service occurred in “**1569.**”)

Dee continues, urging “**Some one or other should listen to the Matter**” so that the “**Christian Commonwealth,**” and especially England “**might grown Commodity... far passing all riches and worldly Treasure.**” (Dee’s Preface p. A.j)

Gilbert’s friend, the poet George Gascoigne, wrote a brief “*Epistle to the Reader*” for Gilbert 1576 printed version of *Passage to Cathaia* in which he remarks upon Dee’s quote:

“... So now let me say that a great Learned man (even M. Dee) doth seem very well to like of this Discovery and doth much commend the Author, who declared in his Mathematical preface to the English Euclid. I refer thee (Reader) to peruse the same, and think it not strange that I be encouraged by so learned a fore leader, to set forth a thing which he be so well liked of.” (Gascione, in Gilbert, *Passage* p. 14)



In volume 1 of Dee’s 1577 *General and Rare Memorials*, Dee makes reference to Gas- cione’s reference.

“And shortly after, there came abroad, in Print, a little English book, containing some probable reasons, tending to the persuasion of the same Course and Voyage. In the Epistle of which little book, no small piece of credit... was ascribed to M. Dee his Judg- ment, (as there, is to be seen) set down, in his Mathematical Preface, published with the English Euclid.” (Dee, *General and Rare Memorials*, Page 2)

It’s curious that in the same paragraph Dee makes reference to Michael Lok and to Ed- ward Dyer (who wrote “*18 Considerations of his own*” regarding the “*Atlantical Discoveries*”), but doesn’t mention Sir Humphrey Gilbert’s name as the author of the “little book.” It seems like Dee wanted to publicly cheer Gilbert on, at the same time didn’t want to put the spotlight on Gilbert’s name, as Gilbert could be more stealthy in his planning and plotting if he kept a lower profile.

Quinn found another reference to Sir Humphrey Gilbert in Dee’s Diary on May 26, 1577.

**“The water Bagly/Sir Humphrey Gilbert The prenter.”**

(This entry is not included in Fenton’s or Halliwell’s compilations of the Dee’s diary prob- ably because the entry has a thick line through it and is probably hard to discern. Dee apparently crossed it out to keep the reference to Gilbert from prying eyes.) (Quinn, *Voyages*, p. 33 and p. 169).

### ***Finally in 1578, Gilbert receives his patent for North America***

To summarize, Dee met privately with Sir Humphrey Gilbert twice in 1577 and publicly (yet cryptically) was promoting his enthusiasm for exploration of North America and the Northwest Passage.

Though the Queen and Privy Council felt Gilbert's scheme to "annoy" the Spanish was too risky, they did agree to a scaled back adventure.

On June 11, 1578, Gilbert was granted letters patent for a period of 6 years **"to discover, search find out and view such remote heathen and barbarous lands, countries, and territories not actually possessed of any Christian, prince, or people..."** (Quinn, p. 35 and 188-94)

(As we've seen, the way this is phrased reflects Dee's legal arguments about the Queen's right to such lands.)

Gilbert was to become sole governor of the territories he discovered, but it's vague exactly where he was headed. Some clues point to Newfoundland and others to between the latitudes of 35-40° (which in modern day is from Cape Hatteras to Manhattan). Dr. Williamson asserts that "the season of sailing suggests that Dee was contemplating a southern voyage."

(Quinn, p. 39 and Williamson, *Hawkins* p. 396).

The August 5, 1578 entry to Dee's diary reads: **"Mr. Raynolds of Bridewell took leave of me as he passed toward Dartmouth to go with Sir Humphrey Gilbert toward Hochelaga."** (Fenton, *Dee's Diary*, p. 3).

Hochelaga is the name of a city far up the St. Lawrence River, but Quinn points out that Gilbert's 1578 mission was so secretive, even Dee didn't know its destination.

Gilbert told the French Ambassador it was "Terra Australia Incognita," which is 45-50° South of the Equator. But the Spanish Ambassador was convinced that Gilbert was headed towards Spain's domain in the West Indies.

### ***Sir Humphrey Gilbert's 1578 Expedition.***

On September 23, Gilbert set sail from Dartmouth with 500 men in a fleet of 11 ships. Right from the start things started to go downhill.

Strong winds from the west blew the flotilla eastward up the English Channel. A second mass departure on October 29 was also met with contrary winds. Gilbert got in an argument with Henry Knollys who promptly abandoned the expedition and took his 3 ships on a pirating expedition off the Irish Coast.

Finally, on November 19, 400 men in 7 ships departed from Plymouth:

- Anne Aucher** – with Gilbert commanding.
- Hope of Greenway** – Carew Raleigh, (Gilbert's half-brother)
- Falcon** – Walter Raleigh (and Simon Fernandez)
- Red Lion** – Miles Morgan
- Galleon** – Richard Udall
- The Swallow** – John Verney
- The Squirrel** – (a small frigate)  
(a squirrel was the symbol of the Gilbert's family)

The fleet was “victualled” (prepared with food and drink) for a one-year journey. There were 122 guns aboard the 7 vessels, which averages to over 17 per ship. This heavy armament suggests they were prepared to do battle. Edward Hayes later commented about this voyage that **“The preparation was expected to grow into a PUISSANT [powerful] fleet, able to encounter a King’s power at sea.”** (Hayes, *Narrative*, in Quinn p. 44 and 390)

Quinn posits that Gilbert intended to establish a colony not too far from the West Indies, to be used as a base from which to attack the islands and the “treasure-fleet.”

A few days out at sea, Sir Walter Raleigh and Simon Fernandez’ Falcon and one or two more of the faster vessels took off ahead of the others. But they apparently they got involved in a sea fight, as they soon limped back to England barely seaworthy.

In late April 1579, after only 5 months at sea, Gilbert and the rest of the fleet returned to regroup, revictual, and head back out to sea. However, was greeted with an order from the Privy Council revoking his patent unless he guaranteed there would be no piracy. Sir Humphrey claimed he was not involved the “spoils and injuries” made by other ships. But while Gilbert was staying in Greenway, some of his rowdy crewmen of Dartmouth seized a Spanish ship loaded with lemons and oranges. The Privy Council was furious that their sensitive relations with Spain would be jeopardized by a stolen fruit boat. If the Spanish ship was not returned immediately, Gilbert could not depart from England. After much work the ship was located in Lynn, on the other side of England and returned. The booty was repaid in Devon grain.

As if Gilbert didn’t have enough going on, the Privy Council again sent an urgent request for his services.

James Fitzgerald Fitzmaurice, Gilbert’s old enemy in Ireland, had been hiding in Spain for several years. He was about to launch an expedition from Bilbao, Spain to attack the English Forces in Ireland. Gilbert was to intercept and destroy.

On June 20, 1579, Gilbert and his ships sailed towards Spain. They missed Fitzmaurice, but made a few small raids on Spanish ships and villages.

Gilbert proceeded to Ireland, but Fitzmaurice was safely in Verry on (the west coast). Gilbert’s boats were responsible for guarding the coast against any invasions. After a few months Gilbert returned to England on one of the ships. A month later the crown cut off funding for the coastal protection project. When the sailors found they were no longer getting paid, they simply sailed off, stealing Gilbert’s Anne Aucher and the Relief. Gilbert estimated his loss at over 2000 pounds sterling. (Quinn p. 49)

Gilbert rolled with the punches. He still had 3 years left on his patent to discover the territories of the New World, and nothing was going to stop him. He now seemed more interested in establishing a colony than discovering for the Northwest passage.

His first move was to send out reconnaissance missions to the American Coast. He hired the expert Portuguese navigator Simon Fernandez to take the nimble 8-tun Squirrel across the Atlantic. Gilbert was required to sign a 500-pound bond that Fernandez would not “rob or spoil” during his mission.

Quinn suggests that Fernandez's destination was somewhere along the New England coast. One of his crew later reported that the native people lived in "round houses," and he returned with the hide of a "large animal."

Wherever they went, they didn't stay for long. They completed the whole mission in less than 3 months (He left from Dartmouth on March 28, 1580, and returned to Dartmouth around June 30, 1580).

Several months later, on November 20, 1580, Simon Fernandez brought a map of his voyage to John Dee at Mortlake. Dee had one of his assistants copy it, as on the map is written: **"The Counterfeit of Mr. Fernando Simon his Sea carte, which he lent unto my Master at Mortlake, Anno 1580 November 20. The same Fernando Simon is a Portugale, and borne in Tercera being one of the Isles called AZORES."**

(Quinn p. 239, note 2)

From the outline of the land masses, Fernandez' map appears to have been a tracing Bartholoneu Velho's (a Portuguese navigator) 1561 map of the world, to which the Fernandez probably added details of the area he explored. These details either confirmed or added to Dee's already extensive Knowledge of the North Atlantic Coast. Besides sending Simon Fernandez, Gilbert might have also sent John Walker on a reconnaissance mission. At the bottom of the written testimony of Walker's trip is written **"Sundry reports of the country, which Sir Humphrey Gilbert goeth to discover."**



(Quinn, *Gilbert*, p. 310 and p. 52).

Walker's group went 27 miles up the **"River of Norumbega"** (thought to be the Hudson River, which would place him around modern day Yonkers).

He describes the river as 30 miles wide at the mouth, and 21 miles wide where he landed (27 miles upriver), and seemed to be the same width for another 20 miles. (It's thought that the Hudson River was the western bound of Norumbega, but this description sounds more like Delaware Bay or the Chesapeake.)

Walker also had a speedy return trip to England in only 17 days. He brought mineral samples from a "silver mine" and 300 "dry hides," each "18 feet square" that he pilfered from an "Indian house." (Quinn, *Gilbert*, pp. 52 and 310).

### ***John Dee's Maps showing North America.***

Three of Dee's maps from this time still exists in their hand drawn manuscript form, but they were never printed.

1. 1580 Map of North America.
2. 1580 Map of the Northern Hemisphere form including (the west coast of Europe, all North America, the east coast of China)
3. 1582 Circumpolar Projection of the Northern Hemisphere



MacMillan asserts that these three maps “are considerably more accurate than those English maps simultaneously published.”

### 1. 1580 Map of North America

This map identifies over 100 places along the coast of North America, South America, and the West Indies. It shows latitude and longitude lines accurate to 10 degrees. The original is quite large, and reproductions lack contrast, so I’ve made a simplified sketch of the map with small lines denoting names. On the actual map the latitude and longitude lines form a curved grid over the entire map. Dee seems to have amassed his map from the reports of various European explorers, not to mention the wisdom gleaned from his cartographer pals Gemma Frisius, Gerard Mercator, and Abraham Ortelius. (original in the British Library, Cotton, Augustus 1.1.1.)



My simplification of  
Dee's 1580 Map of North America

MacMillan calls Dee’s knowledge “impressive” and the map as “one of the most comprehensive of the time.”

He even had information from Drake’s travels along the west coast of Central America and what is now California. Beyond present day Oregon, where Drake didn’t venture, Dee doesn’t add his guesswork, maintaining the integrity of what he did include.

### 2. 1580 Map of the North Hemisphere

Dee drew a wider map of the Northern Hemisphere (not shown here) that stretched 200 degrees from Europe across North America to China, (and 42 degrees of latitude).

MacMillan suggests that the importance of the map can be assumed from where it was found – “sandwiched between two folios of Ortelius’ famous atlas *Theatrum Orbis Terrarum* (1570)” in the “extensive map collection of William Cecil, Lord Burghley.” (MacMillan, p. 155)

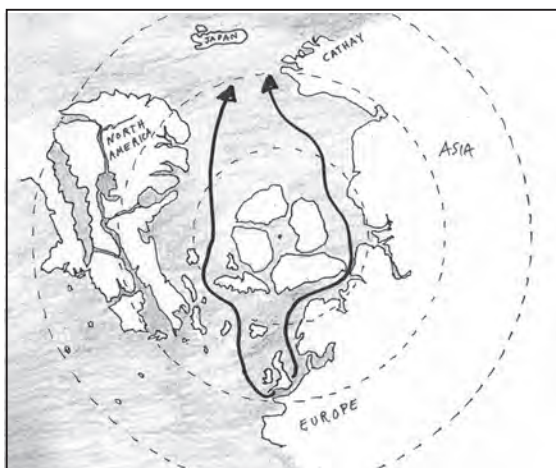
MacMillan also feels that Dee drew a similar map for Arthur Pett and Charles Jackman for their 1580 voyage to find the Northeast Passage over Russia.

### 3. 1582 Circumpolar Projection of the Northern Hemisphere

This map is far less accurate and detailed than either of the 1580 maps. MacMillan posits that was more propaganda than navigation.

To complete the continents, Dee has drawn in coastlines and large inland waterways not on the other 2 maps. He made both the Northwest and Northeast Passage look like wide gateways to China.

Here, I've drawn arrow showing the two passages on Dee' map and on a modern-day map.



My arrows on a simplification of John Dee's 1580 Circumpolar Projection showing the Northwest and Northeast passages



The actual Northwest and Northeast passages on a modern Circumpolar Projection

To summarize, this 1582 map is more a “generic” map that Dee and Gilbert “tweaked” to dramatize their agenda. The two 1580 maps were not for public eyes. Secrecy was of prime importance to Elizabeth. She knew showing her snooping enemies any the cards in her hands would only make her more vulnerable.

Despite many efforts, neither of the passages were discovered for over two centuries after Dee's time. The Scandinavian scientist Baron Erik Nardenskiöld was the first explorer to go through the Northeast passage from 1878-1879. The Norwegian Roald Amundsen was the first to make it all the way through the Northwest Passage from 1903–1905.

(Encyclopedia Britannica, Geography, 1042).

### ***Secrecy first: Drake was not allowed to see his own map***

When Sir Francis Drake returned from his around-the-world escapade in 1580, he was required to turn over to Elizabeth and Cecil a “very large map” and his journal, which had more detailed maps. Drake was not allowed to make a copy of his own work, nor was he even allowed access to it. Richard Hakluyt was not allowed to see it when he was writing his promotional discourses for New World settlement in 1589. Even later, when Drake was writing a retrospective of his journey, he couldn't even view it. This off limits policy continued during Elizabeth's reign, even into the 1600's (MacMillan, *Sovereignty*, p. 157) (Drake's journal is no longer extant)

Interestingly, John Dee wrote a 14-page treatise called *Discourse of the voyage made by Master Francis Drake, in May 1580*. (B.L. Lansdowne, MS122, folios 21-28)

Dee knew Elizabeth's policy on secrecy first hand, as the Queen had squelched publication of his 1578 “*Of famous and Rich Discoveries*.” So Dee's discourse on Drake's voyage doesn't pinpoint specific geographic places, but was more Dee's generic cheerleading of Drake's remarkable trip. (MacMillan, p. 157)

### *Gilbert allies with Dee*

Edward Hayes, who knew Gilbert well, explains that around 1580, Gilbert **“granted certain assignments out of his commission to sundry persons of meane ability, desiring privilege of his grant, to plant and fortify in the North parts of America about the river of Canada.”** (Edward Hayes, *Narrative of the 1583 Voyage*, Quinn, p. 49-50).

Quinn explains that the only “assignment” that Gilbert made at this time was to John Dee. Dee recorded his diary on August 28, 1580, **“My dealing with Sir Humphrey Gilbert for his grant of discovery, etc.”**

Dee knew he was in a position to make a deal. He knew more about the coast of America than anyone. He knew navigation. And he had the legal knowledge and court connections to get the mission approved.

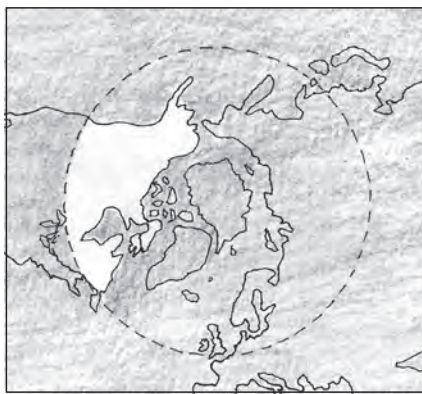
Dee considered Gilbert’s alliance, and a few days later wrote a letter to Gilbert offering his full services and enthusiasm in exchange for one small thing, everything in North America above the 50° latitude.

Gilbert knew that if the clock was ticking on his patent, and if he didn’t make this alliance, he would have nothing instead of all of North America. Gilbert agreed to Dee’s bargain, and they went out to celebrate. Here, again, is as Dee diary entry for September 10, 1580, this time in full:

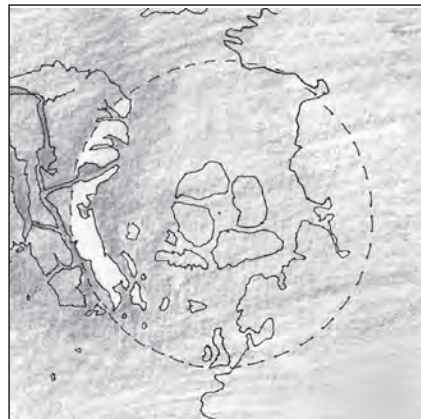
**Sept. 10 ♀ Sir Humfrey Gilbert granted me my request, to him made by letter for the royalties of discoveries all to the north above the parallel of the 50 degree latitude, in the presence of Stoner, Sir John Gilbert his servant or retainer: and thereupon took me by the hand with faithful promises in his lodging of John Cooke’s house in Whitecross Street: where we dined only us three together, being Saturday.**

Modern historians marvel at this transaction. Dee obtained most of present day Canada and Alaska, which are vast lands. But Elizabethans didn’t really have a grasp on what Canada and Alaska really looked like.

Here’s a comparison of mainland North America above the 50° latitude as we know it today, versus how Dee and Gilbert probably perceived it (taken from Dee’s Northern Hemisphere polar projection of 1582).



Dee’s “land above 50 degrees”  
on a modern-day map



Dee’s “land above 50 degrees”  
on his 1582 Circumpolar projection

Now, Dee was no longer simply a “consultant,” essentially he and Gilbert “co-owners” of North America if they could plant a colony there for a year. Dee was truly motivated to put all his knowledge and court connections to use to ensure the success of the Elizabethan New World!

Part of Dee’s package-deal apparently included the Northwest passage, so Gilbert’s interest in this venture must have been diminished. (As we shall see, Dee later used his “rights to lands above 50° in revived plans to find the passage by John Davis and Adrian Gilbert).

(Quinn, p. 52).

There’s another factor which helps explain how Dee was able to get his sweet deal from Gilbert. Sir Humphrey was almost broke.

In July of 1581, Gilbert had still not been paid by the Crown for his 1579 service in Ireland, never mind being reimbursed for his two stolen ships. On the 11th of July, Gilbert sent Sir Francis Walsingham a “pitiful petition” for the money, in which he dramatically writes:

“A miserable thing it is, that I, a poor man having served her Majesty in wars, and peace, for over 27 years should now be subject to daily arrests, executions, and outlawries; yes and forced to gage and sell my wife’s clothes from her back, who brought me so good a living.”

The word “gage” means to “put up for security on a loan.” The “so good a living” refers to his estate that his wife Anne Aucher Humphrey brought to the marriage.

The “arrests” refers to Councils inquiry of Gilbert’s raid on Galicia Spain, in response to Bernardo Mendozas official complaint.

Gilbert ends the letter for “relief” with a personal appeal to Elizabeth, whom he has served “from a boy to the age of white hairs.” (Quinn 54, and 241-2, Gosling, 161)

Gilbert finally received compensation a year later, in July of 1582. (Gosling, p. 165)

Strapped for cash, Gilbert started issuing licenses to local sailors wishing to transport food from England. But legally Gilbert was only authorized to issue food transport licenses only from newly discovered lands as per the 1578 Patent that the Privy Council now threatened to revoke (on October 22, 1581).

Gilbert responded on October 25, 1581, with another plea for his 1579 Irish service money, humbly admitting that without even a partial payment: “I should be utterly undone, not able to show my head for debts.” (Quinn, p. 55)

### ***Preparations for Gilbert’s 1583 Expedition.***

There were numerous reasons for an Elizabethan colonization of the New World.

1. Cheap land – plenty of it, and without high taxes of English estates.
2. Gold, silver, jewels and precious metals – which was making the Spanish rich.
3. Source of raw materials and eventually an exclusive market for goods manufactured in England.
4. Jobs for the unemployed.
5. In the long term, colonies would lead to rise of a powerful British Empire that could withstand Spain’s imperialistic goals. In the short range it would provide a base from which to attack the West Indies.

But, there was another reason that actually proved to be the motivating factor for Gilbert’s 1583 expedition: the persistent tension between the Protestants and Catholics.



## *Rumors of a Voyage*

Quinn found four rumors of Gilbert's intended voyage that all date from the spring of 1582.

1. Richard Madox, a Southampton businessman, reports in his personal diary (for March 19, 1582) that a Mr. Ashley, who manufactured playing cards, was making "beads and other devices" to sell to Sir Humphrey Gilbert "who is now about another voyage." (Quinn, p. 57, and p. 243).
2. An unknown person with the initials P.H. wrote a note to the authorities (perhaps even to Cecil) on April 19, 1582, that "there is a muttering among the Papists [Catholics] that Sir Humphrey Gilbert is going to seek the new found land; Sir George Peckham and Sir Thomas Gerrard are going with him." (Quinn p. 57 and p. 243).
3. Also in Richard Madox's diary (dated April 24 and May 1, 1582) is the report that Sir Humphrey Gilbert was in Southampton and came across Madox and his merchant friends dining at "The Dolphin." Gilbert was irritated because he intended to purchase Luke Ward's three-masted "barque," but Ward had just sold it to Edward Fenton. Sir Humphrey was persistent—a week later bought Ward's bark for 40 pounds.

But this was just the start of Gilbert's wheeling and dealing in Southampton. He schmoozed with all the leading merchants, and on August 27, 1582, was made a "Burgess" (or a "free man") of the Southampton.

By fall he had worked out a deal with the merchants that Southampton was to be the sole port of entry for goods brought from the new territories.

### *The "Merchant Adventurers with Sir Humphrey Gilbert"*

On December 12, 1582, Gilbert legally incorporated "**Merchant Adventurers with Sir Humphrey Gilbert**" whose founding members received special trade privileges. Members provided money and trade goods in exchange for free land for seven years, after which the annual fee paid to Gilbert was 10 shillings per 1000 acres. (Quinn, p. 60-61 and p. 313-333.)

Quinn has reprinted the entire 20-page agreement between Gilbert and the Merchant Adventurers, which allows free trading rights to other people who have helped Gilbert.

1. All blood relatives of Gilbert or Anne Aucher.
2. Courtiers and gentleman who also gave Gilbert money.
3. Anyone who had given money to Gilbert's failed 1578 expedition.
4. His comrades in the 1579 Irish expedition, (but not those who had absconded with his boats.)
5. Any adventurers from Gilbert's home town area of Totnes and Dartmouth.
6. Any adventurer associates of his brother Sir John Gilbert.
7. Any adventurers with Bernard Drake. (Bernard Drake was a Devon sea captain unrelated to Sir Francis Drake. When Sir Francis became famous he adopted Bernard Drake's family crest, irritating Bernard so much he boxed the famous privateer in the ear. Queen Elizabeth, hearing of the skirmish, had a new crest designed especially for Sir Francis and his heirs.)



8. Adventurers with **Anthony Brigham**. [as mentioned previously, this sea captain's involvement will be explained in detail shortly.]
9. Anyone who personally sails on Sir Humphrey Gilbert's upcoming voyage.
10. Any adventurers later certified by Sir Humphrey Gilbert, Sir John Gilbert or Sir George Peckham.

There were two groups that Gilbert would not welcome:

1. Any member of the Muscovy company.
2. Any Southampton merchant who doesn't become a member of the corporation now.

Gilbert had worked out the specifics of trading nicely, but the one thing he was missing was the men, women and children that would populate the towns of the new colony.

Edward Hayes later reported that Gilbert "refused not to entertain every person and means whatsoever, to furnish out this expedition." (Quinn, p. 58 and 422-3)

### *Sir George Peckham and Sir Thomas Gerard*

There was a group of wealthy Englishmen with the money and a real reason for wanting to form a new colony. Staunch Catholics led by Sir Edward Peckham and Sir Thomas Gerard who found Elizabeth's Protestant regime oppressive.

As the political struggle between Catholic Spain and Protestant England intensified, the bitterness between Catholics and Protestants in England grew. Elizabeth's court was not simply concerned about the English Catholics acting as spies, but the Catholics promoting the return to Catholicism in England.



Elizabeth signed "**The Act of 1581**," to "**retain the Queen's Majesty's subjects in their due obedience.**" Those who did not attend services of the Church of England or who were caught engaging in Catholic practices were fined £20 per month.

The Catholics that remained in England tended to cluster in certain areas. If a whole group of them were charged as being recusants, and could not pay, the landowner was held responsible. This would quickly lead to financial ruin. The penalty for persistent non-conformity and non-payment of fines was prison.

Peckham, Gerard, their relatives, associates and even their wives had already spent time behind bars.

They realized Elizabeth and her henchmen weren't simply fooling around. They were cleaning house.

The recusants' dreams of religious freedom and large estates meshed perfectly with Sir Humphrey Gilbert's need for a larger body count in the vast land that Elizabeth had awarded him.



### ***Gilbert explained his dream for America in a document dated July 8, 1582***

He envisioned himself as the Governor and main landlord of a group of small colonies. His administration would be made up of 13 **“Counselors for Marshall and Marine causes”** who would be freely elected by the general populace. Colony leaders were to maintain soldiers “equipped for war” and a Navy. Colonies of over 4000 acres had to have a meeting house in the “chief City or province.” One fortieth of all lands were for the “maintenance of maimed soldiers” (hospitals) and schools for “learning, lectures, scholars.” One-twentieth of all lands were for the clergy, to be regulated by bishops and archbishops. And just to show he was a family man, he added a clause giving his wife and sons each 50 square miles and his daughters each 20 square miles. What a sport. (Quinn, p. 59-60 and Documents 88 and 89)

Quinn calls Governor Gilbert’s vision a **“colonial Utopia.”** The colonies would be **“practically independent of the realm of England; Gilbert would be the sole connection with the Crown.”** (Quinn, p. 62)

In June and July of 1582, Gilbert negotiated and made the following land deals. It’s not known how much cash Gilbert ended up with, but it must have been a substantial amount; however, he probably poured most of it back into outfitting his grand expedition of 1583.

Date	Amount	To
June 6, 1582	1.5 million acres	Sir George Peckham and Sir Thomas Gerard
June 6, 1582	.5 million acres	Sir George Peckham
June 9, 1582	1.5 million acres	Sir George Peckham and Sir Thomas Gerard
July 7, 1582	3 million acres	Phillip Sidney

Between these agreements and a few more the following year (1583) Gilbert assigned 8,500,000 acres. This might seem like a lot, but it’s not really. There are 640 square acres per square mile, so he only doled out 13,282 square miles of land out of the entire continent. (This is less than the combined size of Massachusetts and Connecticut, which are small states. Together they comprise less than one half of 1% of the Continental US, not including Alaska, which he already gave to Dee.)

Why did Gilbert assign 3 million acres to the 28-year-old poet, Philip Sidney? It’s not as if they were close friends. Gilbert (age 45 in 1582) was 17 years older than Sidney, and more of a vociferous leader than a poet of love verses.

One connection is that Gilbert had served under the command of Philip’s father, Sir Henry Sidney, in Ireland. It was Sir Henry who knighted Sir Humphrey. But Philip Sidney is a pivotal player in this scenario for another reason.

Let’s look at a short biography of each of the key players to better understand their motivations. To this Gilbert/Peckham/Sidney triangle I have added the Secretary of State, Francis Walsingham. He was essentially the conduit that connected this trio with the Queen.

### *Sir Philip Sidney, his heritage, his ambition, and his friends.*

The Sidney family had been in royal favor for a long time. Henry Sidney was named after Henry VIII. In the reign of Edward VI, Henry Sidney married Mary Dudley, sister of John Dudley (Northumberland) who essentially ran the country for the boy king. When Edward VI died, John Dudley tried to have Lady Jane Grey crowned, but Mary I prevailed and Dudley was beheaded.

Sir Henry Sidney's prospects looked bleak, but he was so skilled in language and diplomacy, that Mary I sent him to Spain to negotiate her intended marriage to the young Philip of Spain. Henry accompanied the Spanish prince back to England in a fleet of 100 Spanish vessels for his July 1554 marriage to Mary I.

In November, when the Sidney's first child arrived, they did the politically correct thing by naming him Philip, after the heir to the Spanish throne. Unfortunately the Queen Mary-Prince Philip marriage was an unhappy one and was not accepted by Parliament. Mary blamed her failures on divine retribution for allowing heresy to thrive in England. To atone for it, "Bloody Mary" burned hundreds of Protestants at the stake, including many of the leading Bishops.

Young Philip Sidney spent his youth in the family seat at Penhurst in Kent, 30 miles southeast of London. The Medieval stone house with its 60-foot high Great Hall is still open today for tours.

The Sidney's second son, born in 1663, was named Robert after Mary's brother Robert Dudley, Earl of Leicester. When Henry Sidney was appointed President of Wales and the Marches, the family relocated to the Ludlow Castle on the Welsh border in Shropshire. (Interestingly, this Normal Castle built around 1100, which is still standing, has next to it the Chapel of St. Mary Magdalene, one of England's last remaining circular naves.)

Sir Henry was to be ruler of this whole region of western England until his death in 1586.

In 1564, young Philip was sent to Shrewsbury School, in eastern Wales. There he met his lifelong friend (and future biographer) Fulke Greville, a distant kinsman of the Dudleys. Together they studied Latin and Greek, reading Cicero, Caesar, Horace, and Virgil.

Shrewsbury had strong links to St. John's College so that's where Greville went. But Philip's Uncle Robert Dudley, being Chancellor of Oxford, insisted he go there. He was only 13 when he entered. Within a year he was presenting eloquent orations before Queen Elizabeth. Philip caught the eye of the Principal Secretary of State, Sir William Cecil. Their families had even arranged a tentative date (August 6, 1569) for Philip and Cecil's daughter Anne to be married. A half year later, however, Cecil found a potential groom with deeper pockets, the Earl of Oxford, and Anne was married off. (Stewart, p. 56)

Meanwhile, politics were heating up in France. The Huguenots were being oppressed by the King of France, who could be enticed into entering a pact with Spain, thus threatening England

The Queen's affection for Robert Dudley (Leicester), gave him political power, but she would not allow him to go to Paris. As Dudley was childless at the time, his nephew Philip was his heir apparent. With his uncle's help, Philip was awarded a two-year appointment to assist the English Ambassador in Paris, Edward Walshingham. Philip, lived at the embassy with Walshingham, his wife, and his 5-year-old daughter, Frances.

In the elite social circles of Paris, Sidney became friends with the ambassador from Saxony, Hubert Languet, famed humanist Peter Ramus, and the Huguenot printer André Wechel. (Stewart, p. 78)

In the heat of August in 1572, rumor broke that the Huguenots were conspiring to seize Paris and take over the throne. Hell broke loose. Throughout Paris Huguenot houses were attacked. By day's end, 2000 men, women, and children had been killed and dumped in the Seine. English, Dutch, German, Italian Protestants swarmed to the safety of Walshingham's English Embassy. As the death toll of the "St. Bartholomews Day massacre" reached thousands by week's end, Philip promptly left Paris.

Philip's 2-year passport from England still had a year and a half on it. He headed for Heidelberg where Frederick III had declared religious liberty for Protestants. From there, Philip went to the Frankfurt Fair, a

huge pan-European market for books, glass, metals, animals, arms, and horses. Most likely he stayed at the typesetting and printing shop of his friend from Paris, André Wechel.

There Philip journeyed south to Strasburg and Vienna, then to Venice and Padua in Italy. This part of Italy was refuge for many English Catholics whom Philip visited, despite state orders not to fraternize with ex-patriots.

From Padua, he visited Verona, Innsbruck, Ortenberg, back through Vienna, Cracow, and Antwerp. Throughout Europe, Philip developed fame that outshone his importance in England. Many of the scholars he met with dedicated their books to Sidney.

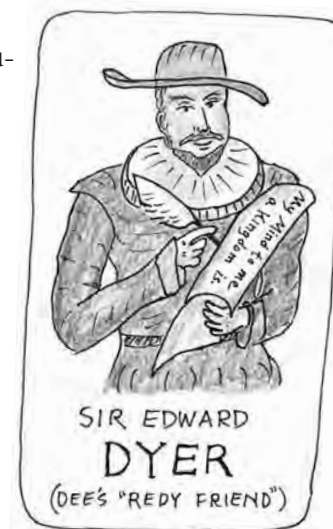
Back in England he reunited with Fulke Greville and Greville's new pal, Edward Dyer. They shared ideas about philosophy and poetry, but they also shared an interest in the New World voyages.

Edward Dyer had encouraged his friend John Dee to write *General and Rare Memorials* in 1576, which is dedicated to Dyer, "my Worshipful friend." The book drummed up enthusiasm

for the first of Frobisher's voyages in 1576. (Dyer's brother Andrew was a mariner on one of Frobisher's 3 boats). Investors in the project included Edward Dyer, Philip Sidney, his mother Mary (Dudley) Sidney and his uncle, John Dudley.

At this point Sidney was "an excited onlooker and interested investor." (Stewart p. 156)

But shocking news from Europe demanded Philip's attention. Holy Roman Emperor Maximilian II had just died and his successor Rudolph was rumored to be in favor outlawing all Protestant sects.





***John Dee meets with Robert Dudley (Leicester)  
and Philip Sidney and Edward Dyer (and others) at Mortlake***

It's interesting to note that the very first entry in John Dee's Diary for 1577 reads:

**Jan. 16 The Earl of Leicester, Mr. Philip Sydney, Mr. Dyer, etc.**

(The etc., might mean Fulke Greville was there as well.) Edward Fenton points out that the visit may have been connected with Sidney's forthcoming embassy to Europe, or Drake's voyage of circumnavigation.

These powerful Englishmen convened at Dee's house in Mortlake to get his expert opinion on some important issue. At the time Dee was 50, Leicester was 45, Dyer was 37, but Philip was only 23 years old!

Of all her courtiers, Queen Elizabeth selected the 22-year-old energetic young Philip to personally offer condolences and discover first hand what was going on politically. Sidney got approval for his pals, Fulke Greville and Edward Dyer to join him.

Along with two other Englishmen experienced in diplomacy, Sir Henry Lee and Sir Jerome Bowes, the group traveled to Louvain, (Belgium) across France, south along the Rhine River Valley, to Heidelberg, Nuremberg, and finally to Prague. Along the way they were marshalling support for the Protestant cause and making political connections with local leaders.

Upon his return to England, Philip's sister, Mary Sidney, was married to Henry Herbert, the Earl of Pembroke. She was 15, he was 40. (He had previously been married to Catherine Grey, Lady June Grey's sister, as part of John Dudley's attempt to secure the throne for his son.)

Pembroke had multiple estates around England, including a beautiful country home in Wilton in Wiltshire about 80 miles west of London (where Stonehenge and Avebury are located). There Sidney wrote *Arcadia* (five books of epic romance), and *The Defense of Poesie*, on the importance of poetry. He dedicated the latter to his sister the Countess of Pembroke, a wrote and great patron of the arts. Over 250 writers, including Edmund Spencer and Ben Jonson dedicated their works to the Herberts.

Over Christmas in 1581 Philip wrote *Astrophe and Stella*, (Greek for "star-lover" and "star") a poem about his hopeless love for an unattainable, married woman. Sonnet 37 makes it clear who he's talking about, using the word rich 7 times in 10 lines of poetry. "Rich in all beauties... Rich in the riches of a royal heart... but that Rich she is." He's referring to the love of his life Penelope (Devereux) Rich, whose parents had recently married her off to a man of even higher position, Robert Rich, the first Earl of Warwick.

Robert Dudley suggested Philip marry Penelope's younger sister Dorothy Devereux, but Philip had other ideas. The shy 5-year-old Frances Walsingham that Philip had known since the Paris Embassy was now 15, old enough for marriage. Philip's situation, however, was that he didn't have enough money to enter into this marriage arrangement.



### *Secretary Walshingham puts his weight behind the voyage*

Secretary Walshingham had received large sums of money over the course of his career with Elizabeth, but he had no sons to inherit his wealth. With the untimely death of Frances' sister, Frances became the sole heir of the estate.

So it appears that Walshingham used his powers to leverage some money into Philips pockets.

Walshingham had helped Gilbert receive his patent for all of North America, and now it was payback time.

Roger Kuin in *Querre-Mahau Sir Phillip Sidney and the New World* points out that Gilbert's agreements with Peckham and Gerard all read **"in consideration that the same Sir Thomas and Sir George have disbursed diverse sums of money..."**

However, Sidney's agreement simply reads that Philip promises to **"do his best endeavor to procure and obtain her Majesty's leave and good liking that all those who shall adventure... may freely pass into those Countries and there to remain."**

Sidney got 3 million acres for no money. All he had to do was use his influence with the Queen. As Kuin's puts it, "Sidney did not personally have with the Queen this kind of influence that would accomplish such a scheme or even significantly smooth it. But, as Walshingham, whose protégé Sidney had become by this time, was behind it, one assumes that Sidney's mediation would have passed through him." (Kuin, p. 2).

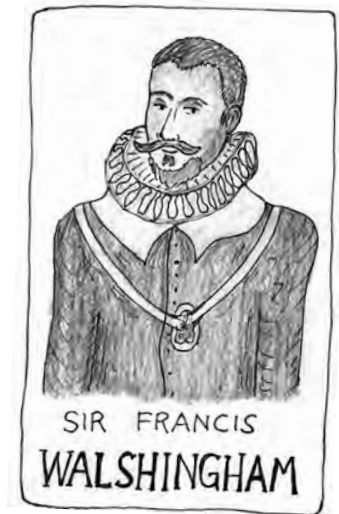
Promoting Sidney's 3 million acre investment was not Walshingham's prime motivation. The Queen had assigned him the responsibility of dealing with the problem of the rebellious Catholic population. Elizabeth had imprisoned her Catholic stepsister, Mary Queen of Scots (by Henry VIII's first wife Catherine) years earlier because of Mary's insistence that she was heiress to the throne. Even from prison, Mary helped instigate several plots for the murder of Elizabeth. (The 1571 Ridolfi Plot and the French de Guise enterprise in 1582 and later, the Babington Plot of 1586.)

Walshingham's goal was to get the Catholics out of England entirely. But if they all fled to Europe, that would only strengthen the Catholic powers on the continent. Diverting them to America, at their own expense, was a perfect solution.

The twist to the story of Sidney's 3 million acres is this:

**In July 1583, Sir Philip Sidney sold his 3 million acres to Sir George Peckham.** It's not known what he sold it for, but it only had to be slightly less than what Gilbert's rate was. Sidney didn't mind, whatever he sold it for was pure profit. Sidney was now flush with money and married the Walshingham heiress two months later, on September 21, 1583.

Walshingham and Sidney had pulled a fast one on Gilbert and Peckham. But neither of them could complain as Walshingham was still their essential connection to the Queen.



This ends Sidney's involvement with Gilbert's 1583 mission, but in later years he was still enthusiastic about the New World. In 1585, the first Governor of Virginia, Ralph Lane, wrote Sidney asking him to become the chief commander of the islands in the Carribean. At the same time, England was helping the Netherlands fend off the Spanish. In the battle of Zutphen, a bullet shattered Sidney's left femur bone, he got a fever, and died at age 31.

The pallbearers of his funeral procession included his beloved friends Edward Dyer and Fulke Greville. He was buried in St. Paul's Cathedral.

### *A brief biography of Sir George Peckham*

Records of the Peckhams in England go back to William the Conqueror's Domesday Book (of 1086). In Anglo-Saxon, Peck means "peak" or "hill" and ham means "hamlet" or "homestead." The Peckham's ancestral home was on a hilltop in Kent (20 miles southeast of London).

Around 1494, two brothers, John and Peter Peckham, started the two wide branches of the family tree. John lived on or near the hill in Kent, while Peter moved to Denham, Buckinghamshire (40 miles northwest of London).

Peter was knighted as was his son, Sir Edmund Peckham, accumulated much wealth as "Master of the Mint" during 3 reigns (Henry VIII, Edward VI, and Mary I). A staunch Catholic, he was a member of Queen Mary's privy council in 1553.

Peter's son Edmund Peckham, worked his way up from a clerk in the King Henry VIII's Counting House in (1520) to Master of the Mint (in 1546). The King not only knighted his trusty Treasurer, but made him assistant executor of his will. Sir Edmund helped Edward VI restore the gold standard and was a Privy Councilor to Queen Mary.

Although a staunch Catholic, he remained Master of the Mint under Queen Elizabeth. But after 4 years, the triumph of Protestantism was too much and he voluntarily exiled himself to Rome, and died in that same year (1564).

Sir Edmund Peckham and his wife Ann Cheyne had 4 sons and had accumulated a large estate around Denham.

The eldest son, Sir Robert Peckham (1515 – 1569) "stood high in Queen Mary's favor as a zealous Catholic." He voluntarily exiled himself to Rome with his father in 1564.

The second son, Henry Peckham (1517 – 1556) played a prominent role, with his father Sir Edmund in suppressing Wyatt's Rebellion, the 1554 Protestant attempt to oust Queen Mary. But as Mary's persecution of Protestants continued, Henry felt she was straying too far from her father's principles. He conspired with others to rob the exchequer, secure an army, and overthrow Mary. The plot was failed and Henry was sent to the gallows on Tower Hill in 1556.

Of the third son, Edward Peckham, there is little record.

The youngest son, George Peckham (ca. 1530 -1608) inherited the extensive Peckham estate in Denham. He seemed to be flexible enough in his own Catholicism, but he earnestly tried to help Catholics who had gotten into trouble with the authorities.



Queen Elizabeth visited him when passing through the mostly Catholic town of Denham in 1570. The ever-cautious Queen had a new door made for her bedchamber with multiple “locks, bolts, staples and hinges for the better securing of it.” (Merriman, p. 493)

However, George turned out to be such a grateful host and supporter she knighted him as Sir George. He was made High Sheriff of Buckinghamshire from 1573 to 1578, and was called upon repeatedly to settle land disputes and “keep an eye on suspected persons.” (Merriman, p. 493)

After his first wife died, he married the daughter of David Penne, a neighbor, and outspoken recusant.

On December 21, 1580, he and the new Lady Peckham were arrested and locked up in the Marshalsea Prison on several counts. They had harbored a Jesuit named “Father Campion,” and a “notorious practicer” named Gilberte. When they arrived at the prison, Lady Peckham asked the gatekeeper how many Catholics were imprisoned. He replied that there were so many that they were likely to starve, as he had no allowance for them. Sir George gave one of the prisoners some money to distribute among the prisoners. The gatekeeper was then arrested and thrown in his own jail.

Lady Peckham spent two months in Fleet Prison, after which she was given the option of returning home or to join her husband in the Tower of London. Apparently she went home, but at the same time Sir George Peckham was allowed more freedoms within the tower, “the rather in consideration of his present conformity in resorting to the church.” (R.B. Merriman, p. 493-4)

A group of his friends (Gosling believes one of them must have been Sir Humphrey Gilbert) helped obtain an early release for Sir George. On March 1, 1581, he was released “under a 1000 pound bond.”

Just to conclude this biography, Peckham continued to promote colonization after Gilbert’s untimely death in 1583. But he was unsuccessful in his efforts and eventually he got so deeply in debt that in 1595 “his whole estate and manor came to the Queen.” Rights were conferred upon William Bower, in whose family they still remain.

### *Sir Thomas Gerard*

His associate, Sir Thomas Gerard, Knight of Bryn, in Lancashire (200 miles northwest of London on the Irish Sea) had been arrested for conspiring to assist Mary Queen of Scots. The Gerrards family seat, called Brynne Hall, was “the scene of many surreptitious celebrations of the Mass.”

Gerard had to pay a huge fine to obtain his release from the Tower. He went so far into debt he was forced to relinquish the family seat to his cousin, Sir Gilbert Gerard, the Attorney General. (Gosling, p. 189)

As early as 1569, Sir Thomas Gerard had devised several schemes to plant a colony of Catholic Englishmen in Ireland and Quinn suggests that he probably met Sir Humphrey Gilbert at that time.

It’s not known whether Peckham and Gerard discussed colonization ideas in the Tower, but time in jail probably strengthened their resolve to find a creative solution to England’s internal religious turmoil.

Sir George Peckham's first son, Edmund Peckham, (1555-1586) married into the Gerard family. Dorothy Gerard was the sister of John Gerard, (1564 -1637) a noted Jesuit who wrote "The Autobiography of a Hunted Priest."

Sir George Peckham and his second wife, Mary Penne, had a son (who I refer to as Sir George Peckham, Jr.) He secretly helped Jesuits in the late 1500's, but became knighted for his service to King James.

These biographies help to personalize the sense of struggle that families faced in the shifting religious climate of Elizabethan England. To be the end of a family religious tradition that went back for 5 centuries was a challenge. Unfortunately, Sir George Peckham Jr. had no heirs and that branch of the family simply stopped growing.

***Sir Edward Dyer, well-connected courtier,  
exploration voyage advocate, pioneer poet, and patron to John Dee.***

Sir Edward Dyer, though remembered as an obscure courtier with a few good poems, was a key player in the politics of Queen Elizabeth and a lifelong friend to John Dee.

Edward Dyer was born in Somerset County (120 miles west of London) in 1543. His father, Thomas, was a steward or gentleman-in-waiting in the royal household of Henry VIII, Thomas had been rewarded with a large parcel of land for his services. Sedgemoor is large marshy moor that frequently floods, even to this day. But in the midst of this is a moor-island about 3 miles long. At the north end is the town of Weston Zoyland, in the center is Middlezoy, and at the southeastern end is Othery. (This area is 150 miles west of London, but curiously its about 10 miles from the birthplace of William and Benedict Arnold, in Ilchester.)

In 1547, he was knighted as Sir Thomas Dyer and given multiple adjoining manorial lands to enlarge his estate.

Edward, the first born and heir, was named after Henry VIII's son Edward, the young prince who carried England's hope for the future.

In 1558, he entered Oxford at age 14 or 15. This same year Elizabeth was crowned Queen of England. Edward had natural inclination to poetry, an excellent singing voice, and played the lute. In true gentlemanly fashion, he seldom copied the poems he gave to his friends, thus few have survived. Dyer was a **"pioneer in creating nature, vigorous verse as the Renaissance reached England. Spencer, Sidney, Raleigh, Greville were still children. Shakespeare and Marlow yet unborn."** (Sargent p. 10)

In 1561, Dyer traveled the continent for several years absorbing the changing cultures. When he returned home, his father Thomas died, leaving him his estates and 80,000 pounds of cash. So Edward was off to London, and was taken into the service of the royal court, being then look'd upon as a most ingenious person." (Sargent p. 16 and Athenae Oxonienses, Vol I, p. 740)

Dyer quickly became associated with Robert Dudley (Leicester) as one of his "hundred personal followers." In 1570 in consideration of good and faithful service, the Queen awarded him the manor and woods of Woodstock, Oxford for life. At 26, Edward Dyer was on the high road to success, friends with the influential Francis Walsingham, Thomas Sackville (the Queen's second cousin), and Christopher Hatton.

Something happened in 1571, something Dyer said provoked the Queen's anger, banishing him from the court for several years. On top of that he became ill with a "consumption."

He tried to have his friends recommend him to the good graces of the Queen but to no avail. Finally in 1573, as the Queen was on a summer tour of her estates, she came to Woodstock. Dyer arranged for festive pageant, with jousting shows and plays. Dyer never showed himself, but during the finale there was heard a "mournful minstrel" in a nearby oak tree. Dyer laid bare his despair in the Queen's disfavor with a moving lyrical song, **"there is no grief that may with mine compare."**

Soon the Queen warmed up to the sincere Dyer and made him commissioner of the leather monopoly. This was a godsend to the needy courtier.

In 1574, Dyer assisted Mary (Dudley) Sidney with her court affairs while her husband, Sir Henry was in Ireland. When Philip Sidney returned home from the Courts on the continent where **"verse came naturally to men's lips,"** they soon became close friends. Under the "encouragement of the accomplished poet Dyer," Sidney "would really blossom forth" Dyer was 32, Sidney 21 years old. (Sargent p. 39)

**"Dyer became one of the Leading patrons of navigational enterprise."** (Sherman p. 235)  
In 1570, Dyer, upon request of the Privy council, solicited John Dee to write *Brytannicae Reipublicae Synopsis*, an analysis of England's economic, political, and defensive capabilities.

(Sherman p. 130).

Dee makes mention several times of his friendship with the **"Wurshippful Master Dyer"** in his 1576 *General and Rare Memorials pertaining to the Perfect Arte of Navigation*. (Sargent, p. 100). Dee and Dyer, along with Leicester, Cecil, and Sir Humphrey Gilbert were both involved in William Medley's 1574 project to turn iron into copper through alchemy. (Woolley, p. 87)

Dee and Dyer's close relationship is proven by the fact that John Dee and his wife Jane asked Sir Edward Dyer to be the godfather to baby Arthur in 1579.

A child of the West Country, Dyer, like this neighbours Drake, Hawkins, Gilbert, Frobisher, and Raleigh, confidently expected that some day Englishmen would discover the great North-west Passage to Cathay. As early as 1566 Edward Dyer had discussed the northern sea route with John. Dee. (Sargent p. 40)

For Frobisher's three voyages, Dyer had circulated the appeal for money – and got it – mostly from his immediate circle at Court – Leicester, Walshingham, Philip Sidney and Sidney's sister Mary.. Edward Dyer's brother, Andrew, served as a mariner aboard the Gabriel on Frobisher's voyages of 1576 and 1577.

Court life was taxing on the pocketbook. Courtiers were expected to undertake these diplomatic missions, with full equipage at their own expense. They had to stay fashionable: silks, satins, furs, jewelry was expensive. They were expected to bankroll dinners, dances, and masques. By 1578, Dyer was broke. Fortunately, the Queen loaned him 3000 pounds,

### ***Sir Fulke Greville***

Another member of the Sidney/Greville/Dyer trio is Sir Fulke Greville. He plays only a minor role in the 1583 Gilbert expedition. He never had children, but his heir nephew was a colonization enthusiast.



Sidney, Dyer and Greville had a remarkable friendship. Both Sidney and Greville wrote companion pieces to the lyrics of Dyer. They lived poetry together, singing, reading, critiquing, discussing. Sidney writes of his two friends:

**In whose love I pleasure take;  
Onely two do me delight  
With their ever pleasing sight;  
Of all men to thee retaining  
Grant me with those two remaining.**

(Sargent p.58 and Sidney *A Poetical Rapsody*, 1602, p. B3a).

In Sidney's *Arcadia* the main characters names are anagrams for their inspirations, "Philisides" is a reworking of the letters in Philip Sidney. His friend "Coridens" is an anagram of "Cosn Dier."

Dyer's literary star is never shined as brightly as Sydney's or Greville's but of all the courtly poets, he was definitely the earliest, and was a true inspiration to the rest. His most famous poem is "My Mind to Me a Kingdom is." (1586).

### ***John Dee and Sir Philip Sidney***

Dee had a "continuous lifelong intimacy with the Sidneys." During the reign of Edward VI, Dee was a tutor for John Dudley's (Northumberland) children, Guildford (later married Lady Jane Grey), Mary (later mother of Sir Philip Sidney), Ambrose (later the Elizabethan Earl of Warwick) and Robert (later Leicester, the Queen's favorite). (French, p. 126)

When Mary married Sir Henry Sidney in 1551 Dee was introduced to that household, and was in frequent correspondence throughout the years. (French p. 127)

While Philip Sidney was attending Oxford in April of 1571, a plague caused the school to close for the year. Philip went to London when his parents and uncle were "in full time attendance to the Queen."

A letter from Mary (Dudley) Sidney to John Dee in 1571, asks him to come to her at court. It's possible that he was requesting the scholar Dee to tutor her son, as Dee had tutored her. (Stewart, p. 67)

Thomas Moffet, the chief physician to Mary (Sidney) Herbert (countess of Pembroke) wrote in his Sir Philip Sidney biography:

"Not satisfied with the judgment and reach of common sense, with his eye passing to and fro through all nature, he pressed into the inner-most penetralia of causes; and by that token, led by God, with Dee as teacher, and with Dyer as companion, he learned chemistry, that tarry science, rival to nature." "Chemistry, that starry science" probably refers to the study of the entire COSMOS. (Hetzl p. 75; French p.127; Debus, p. 22)

Moffett states that Sidney devoted the greater share of time (in his educational years) and energy to philosophy and the arts of observation. Oxford didn't teach occult philosophy and "arts of observation," but Dee did. (French, p. 131)

Dee's house at Mortlake was quite close to Francis Walshinghams house at Barn Elms. Sidney eventually married his daughter Frances. A continuity of friendship is shown by the fact that Frances Walshingham Sidney (now Devereaux), Countess of Essex, became godmother to Dee's daughter on August 27, 1595.

Another interesting connection is that Mary (Sidney) Herbert, Countess of Pembroke, "after her marriage to the Earl of Pembroke, in whose household Dee had once served, moved to Wilton where she kept Adrian Gilbert as her laborator or chemist." Aubrey comments that the Countess spent large sums of money on the study of chemistry. (France, p. 129)

Dee earned extra money by casting horoscopes for his associates. He rarely wrote them down, but apparently he did for Sir Philip Sidney. In the Bodlian Library, Oxford is a 62 page nativity that foretold that Sidney would have a great career from ages 15-31. Then however, he would have a brush with death caused by "sword or gun." If he survived that, he would have a glorious long life. The prophecy held true, he was killed by a bullet wound when he was 31. (This manuscript is unsigned, but Woolley feels that it's in Dee's handwriting.) (Woolley p. 300)

Sir Edward Dyer was certainly deeply impressed with Dee's ideas but evidence suggests that Sidney's philosophy differed. Dyer leaned towards the "magical religion of Dee" and Sidney towards "the non-magical religion of Mornay" (Yewbrey, p. 273)

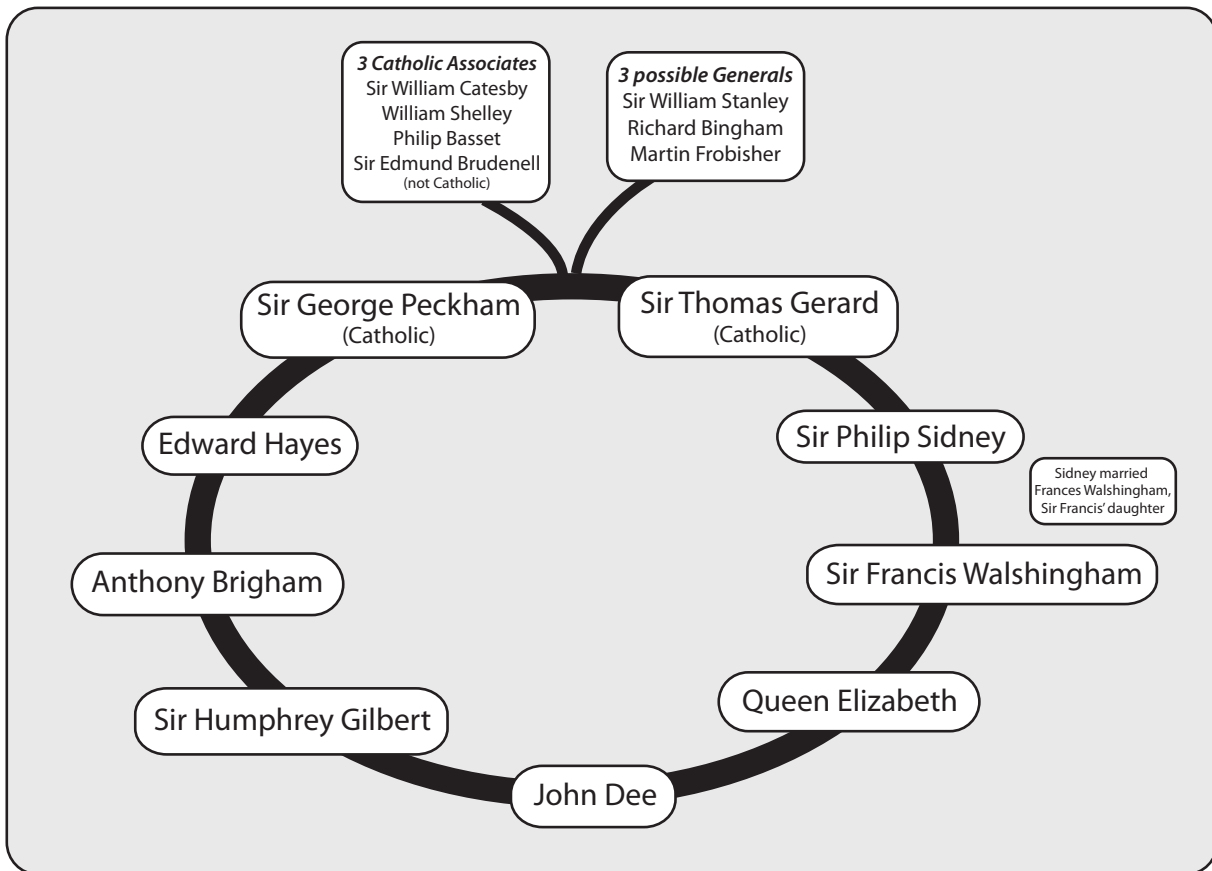
In a letter from Sidney to his mentor Languet dated February 11, 1574, Sidney "makes a cutting remark about Dee in the course of a flippant exchange with Languet on the Welsh antiquary, Humfrey Lhuyd. The phrase "unknown God" was originally in Latin "*ignotum Deum nostrum*." It's a pun on the name Dee.

"But of course the important thing, as my affection compels me to warn you, is for you to remember that our "unknown God" is of the same land and substance, and will take amiss your arousing so much laughter at the expense of his blood brother; otherwise in his anger he may perhaps brandish his hieroglyphic monad at you like Jove's lightning bolt – for such is the wrath of heavenly spirits." Sidney's jesting about Dee's sacred symbol suggests their philosophies didn't exactly align.

Let's contrast, then compare, these two characters. First, at the time of this "monas" letter Sidney was 20 (the younger generation) and Dee was 47, (Philip's father's generation) Sidney expressed himself through literature and poetry. Dee was more attuned to mathematics, astronomy and ancient wisdom. Sidney was a courtier of highest ranking nobility. Dee, though connected to the court, was not of noble breeding. As Dee became increasingly absorbed by with Kelley and spirit communication, Sidney became absorbed with court and European politics.

Both Sidney and Dee were well-traveled and well-connected in Europe. They both were instrumental in bringing Renaissance ideas to England. Dee was more connected with the scientists while Sidney was closer to the political leaders.

Most importantly both had a vision of the New World. They were both intricately involved in the process of exploration and colonization. So even if they had slight differences in philosophical outlook, they worked together to help make these ventures happen. The lack of success of the Frobisher, Gilbert, and even Raleigh voyages and colonies tends to keep Dee's and Sidney's cooperative energies in the shadows of history.



### The main players in the 1583 Colonizing Effort

Here's a brief summary of the main players in the 1583 Colonizing Effort:

The two men listed above Sir Humphrey Gilbert, Anthony Brigham and Edward Hayes, were Gilbert's main captains for the expeditions.

John Dee provided the cartographic, navigational, legal advice for the project (and much of its inspiration). Queen Elizabeth and Sir Francis Walsingham were the authority. Sir Philip Sidney hung on Walsingham's coat tails.

Sir George Peckham and Sir Thomas Gerard with the Catholic money men. If Gilbert could not organize his voyage in due time, Peckham and Gerard had lined up 4 Associates and 3 possible Generals to lead the expedition.



# SIR HUMPHREY GILBERT FAILS TO REACH THE JOHN DEE RIVER

Sir George Peckham, Sir Thomas Gerrard and Sir Francis Walsingham ironed out the terms of agreement for the Catholic settlement:

1. **A register of Catholic voyagers was to be kept by a member of the Privy Council.**  
Those listed would be free to “go and return freely thereafter.”
2. **Any recusants must pay their fines, or put up a bond, before departure.**
3. **Of every ten men, one was to be a “person without means.”**
4. **Catholics were not permitted voyage to any other foreign countries.**

Then Peckham and Gerrard recruited four associates, all of whom were proven leaders:

**Sir Edmund Budenell** – a non-Catholic landowner from Northamptonshire.

**Sir William Catesby** – a Catholic recusant recently released from Fleet Prison.

**William Shelly** – another imprisoned recusant released on parole on June 26, 1581.

**Philip Basset** – another imprisoned recusant from Devon, released on July 15, 1581.

The fleet was to sail under the navigational leadership of one of these men:

**Martin Frobisher** – had sailed the North Atlantic in 1576 and 1578

**Richard Bingham** – a seasoned ship captain who helped rule parts of Ireland for the English

**Sir William Stanley** – a Catholic sympathizer who had fought in Ireland until September 1581.

In June of 1582, all these men signed an agreement:

**“to discover the land and Islands assigned to Peckham and Gerrard,  
to establish a fort, and leave a garrison as a token of occupation.”**

(Quinn, *Voyages*, p. 74)

They were also intending to exchange trade goods with the natives and to search for valuable natural resources.



Quinn writes, “When the Spanish Ambassador Berarndio de Mendoza heard of the Catholic project he was horrified... Through Catholic priests...he issued horrible warnings. Florida belonged to Spain and they would get their throats cut by the Spaniards if they went.”

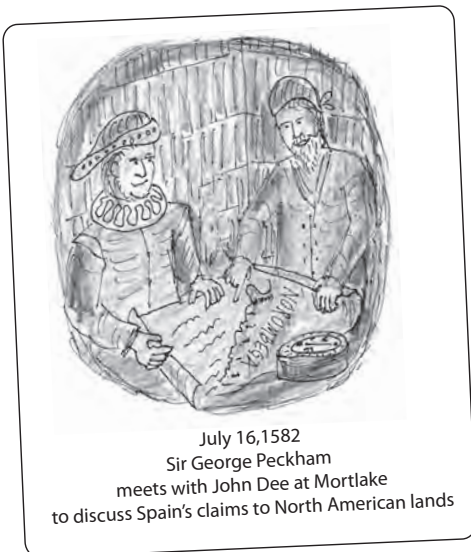
It’s believed that Mendoza’s threats and lack of financing put a damper on the proposed Frobisher/Bingham/Stanley expedition. Peckham searched for new investors, making a deal with William Rosewell of Forde in February, 1583.

Dee was involved or at least well informed about the negotiations between Gilbert, Peckham, and Walshingham. Dee has shown himself to be the great promoter of the project in court, the legal expert, the navigational expert and the mapmaking expert, and also partner with a substantial interest in the deal if it succeeds (all lands north of the 50° latitude).

At 3:30 on July 16, 1582, Sir George Peckham paid a visit to Dee at Mortlake, as Dee writes in his diary:

**July 16, 1582, a meridie hor. 3-1/2  
came Sir George Peckham to me,  
to know the title for Norombega:  
In respect of Spain and Portugal  
parting the whole world’s discoveries.  
He promised me of his gift out of his patent  
5000 acres of the new conquest,  
and thought to get so much of Mr. Gerard’s gift,  
to be sent me with seal, within a few days.**

(Fenton, *Dee’s Diary*, p.46)



Dee obviously explained to Sir George all the reasons for England’s right to the North Atlantic lands that he had explained to Queen Elizabeth and Cecil. It’s obvious that Sir George came away from the meeting assured that everything was fine, as he gives Dee 5000 acres as a gift. Plus, he suggests that Sir Thomas Gerrard will be giving Dee 5000 acres as well.

Ten thousand acres might sound like a lot, but it’s really not much even if the total size of this settlement is 1,500,000.

(10,000 acres is only 15 square miles out of the 2344 square mile settlement.)

It’s a good deal for Sir George because Dee is further “on board” and it’s a good deal for Dee because he can be a part of the colony to help guide it to success.

In November of 1582, “Sir George Peckham sends two Gentlemen to Mortlake.

November 1, 1582, “The same day came Mr. Clement the seamaster and Mr. Ingram from Sir George Peckham.” (Fenton, *Dee’s Diary*, pp. 47 and 49).

Mr. Clements may be Joseph Clements who had lived in Constantinople for 18 years. Mr. Ingram might have been David Ingram, (who journeyed through America on foot) or shipping agent Anthony Ingram. What’s important is that Sir George and Dee are in touch during the fall of 1582, because in the following winter comes the agreement that ties everything together.

Now Dee is not only a partner with Sir Humphrey Gilbert (all lands north of 50°), but he’s also a partner with Peckham and Gerrard in their more localized plans.

Neither Peckham nor Gerrard appear to have had cartographic or navigation experience. They both had recently been in jail, they had their hands full with the ongoing religious strife and neither was from London. Dee on the other hand was one of the most expert cartographers and navigational experts of England (indeed, of all of Europe).

Even though he had never seen it, Dee knew the east coast of America like the back of his hand. His detailed maps of 1580 and 1582 list over 100 rivers, harbors and place names. Many of the names are of the names are Portuguese, Spanish, Italian, or French, so it is evident that Dee's vision of the coastline is a composite. He not only got his information from the books in his library, but he got updated information from his cartographic buddies, like Mercator and Ortelius, on the continent.

***Agreement between Sir Humphrey Gilbert and Sir George Peckham  
(and also his son George Jr.)***

On February 28, 1583, Sir Humphrey Gilbert made an agreement with Sir George Peckham and his son George Peckham (Jr.). (Gerrard might have been sent back in prison at this point as Sir George appears to have replaced him with his own son.)

Unlike all the previous agreements between these parties, this one makes no mention of money being exchanged for acreage. Instead, it is a description of a specific location where one of the one and a half million acres is to be located:

**“... all that ryver or porte called by Master John Dee, Dee Ryver,  
which Ryver by the discription of John Verarzanus a Florentyne  
lyeth in Septontrionall latitude about fortye twoo degrees**

**and hath his mouth lyinge open to the South halfe a league brode or there aboute  
and enteringe within the saide Baye betwene the Easte and the Northe  
encreaseth his breadith and contynuteth twelve leagues or there aboutes  
and then maketh a gulf of twentie leagues compasse or thereabouts  
and conteyneth in it selfe five small Islandes newlie named the Cinque Isles.**

**And the saide gulfe and the fyve Isles therein  
and all other Isles lyinge within the saide Ryver or gulfe**

**together with fyfteene hundred thousande acres of ground  
within the supposed contynent lyinge nexte adjoininge  
upon the saide ryver gulfe and fyve Isles  
at the choyce of the saide Sir George and George his yongeste sonne  
their heires deputies or assignes or any of them.”**

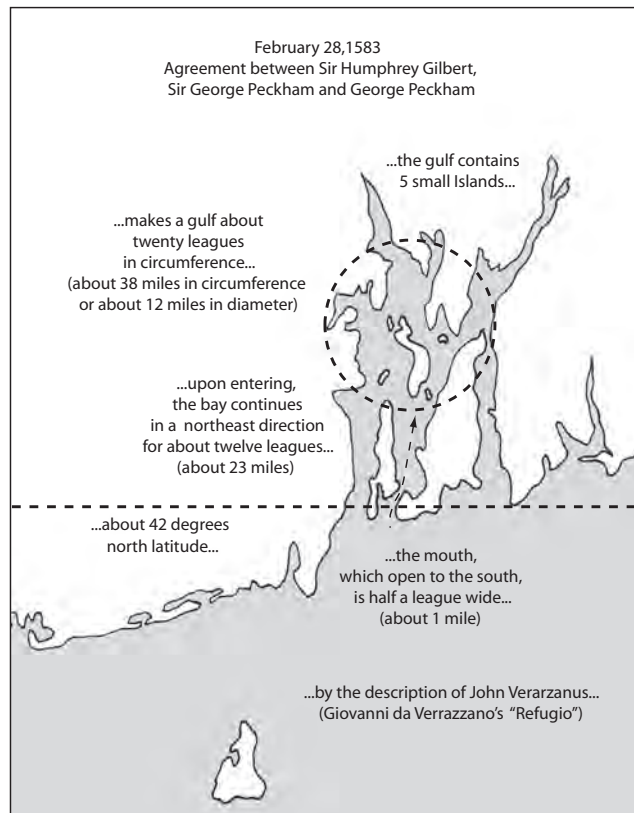
(Quinn, *Voyages*, p. 343)

(This is my modern transliteration of the above:)

**“... 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**

**And the said gulf and the 5 Isles  
at the choice of the said George and George his youngest son,  
their heirs, deputies, or assigns or any of them.”**



Recall how Verrazzano described this bay in 1525:

**“The shore of the land runs from west to east.  
The mouth of the port, (which we call Refugio, on account of its beauty),  
faces south, and is a half a league wide.  
From its entrance it extends for 12 leagues in a northeasterly direction  
and then widens out to form a large bay of about 20 leagues in circumference.  
In this bay are five small islands, very fertile and beautiful, full of tall and spreading trees,  
and any large fleet could ride safely among them  
without fear of tempest or other dangers.”**

Further on in the document is this description of the whole parcel:

**“...Fyftene hundred thousande acres of grounde  
extende not alongst the sea coaste westwarde  
towards the ryver of Norunnbedge  
above threescore englishe myles in length....”**

(Quinn, *Voyages*, p. 343)

(This is my modern transliteration of the above:)

**“...Fifteen hundred thousand [1.5 million] acres of ground  
extending along the sea coast westward  
towards the River of Normbega [probably the Hudson River]  
not more that 60 English miles in length...”**

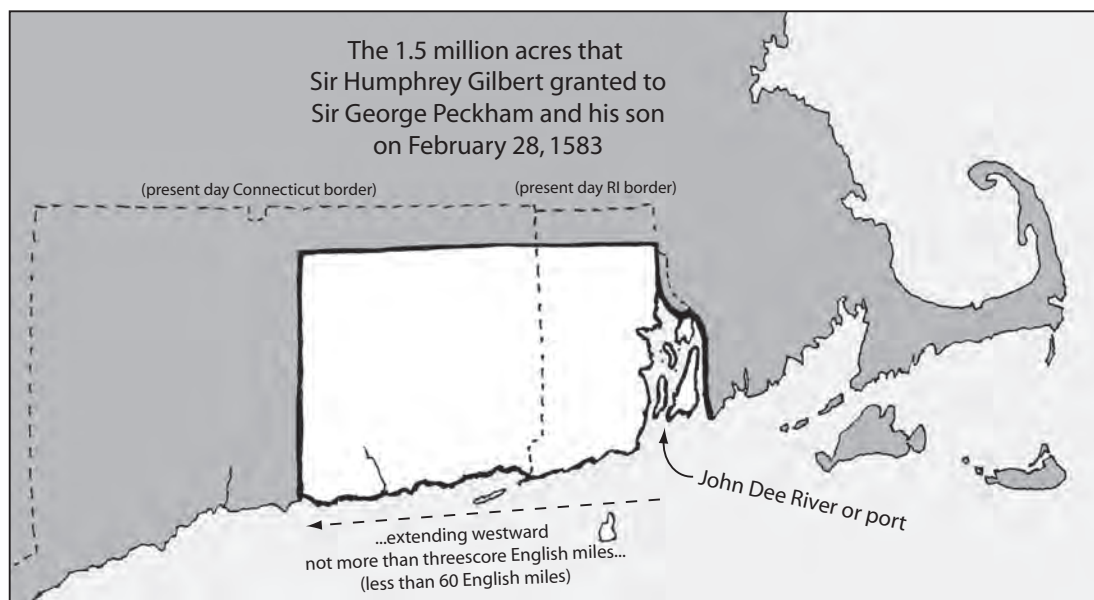
This 1.5 million acres only extends along the sea coast west toward the river of Norumbega for no more than 60 (threescore) miles.

We saw that just 7 months earlier, on July 16, 1582, Peckham and Gerrard gave Dee a gift of 25 square miles.

It's most likely that his property would be along the John Dee River. It's also most likely that his 25 acres would include the “port” that is referred to.

Verranzano called the port “Refugio,” or place of refuge, meaning that it's a safe haven, not buffeted by the waves and wind of the ocean,...

The west side of Narragansett Bay has no natural harbors south of modern day Wickford and East Greenwich, which are well up into “the gulf.” The coast of Jamestown is void of natural harbors as well. But Newport Harbor fits perfectly the description of “a refuge.” It's fairly large and is embraced on 3 sides by land and the fourth side its protected by Goat Island. (Dee's twenty five acres amounts to about half of what is now Aquidneck Island.)



This is pretty convincing evidence connecting Dee with the Tower. It also seems that he would be owner and local governor for his 25 square miles, which is where the town might logically develop because it's such a perfect natural harbor.

It's most likely that Simon Fernandez's reconnaissance mission in 1578 provided Dee with precise details of the lay of the land. Out of all the harbors on the entire eastern seaboard Dee specifically pinpoints one : Verrazzano's Refugio, with its 5 islands, at about 42 degrees north latitude.

### ***Dee's dream of a private research institute.***

The idea of a "place on an island" is reminiscent of the great Danish astronomer, Tycho Brahe's castle called Uraniburg, which he built on the Island of Hven given to him by King Frederick II in 1576. Dee knew all about Brahe and even owned one of his books, *De Mundi*, which he notes was *Uraniburgi execudebat* (made on Uraniburg). (Roberts and Watson, p. 155)

Ten years after 1582, Dee wrote a *Compendious Rehearsal*, in which he describes his vision of a private research institute. He requests that the Queen award him the Mastership of the Hospital of St. Cross in Winchester, just upriver from Southampton. He wants to create a grander version of his "Morlacensis hospitalis philosophorum peregrinatum", his "lodging place for foreign philosophers at Mortlake."

The Hospital of Saint Cross is a cloister of large stone buildings, but it was never an abbey. It was built in the 1100's as an almshouse or hospice, which provided shelter and food for the poor.

In its large rooms, Dee envisioned printing process, laboratories, and a school. He liked that St. Cross was near Sussex, where England's best glasshouses were located, useful in "my exercises in perspective and other works philosophical." But he especially liked the location because it was so near the "south seacoast of England," which (as opposed to Mortlake) was a more commodious place for the secret arrival of special men to come unto me there at St. Crosses: some of which men would be loath to be seen or heard of publicly in court of city."

*(Compendious Rehearsal, p. 39-41).*

Clulle describes "Dee's multi-disciplinary institute" as being "very similar to what Tycho Brahe created at Uraniburg." (Clulle, p. 191)

I'm suggesting that this type of place is what Dee envisioned at the John Dee "port and river," the centerpiece of which would be his harmoniously proportioned timekeeping tower.

### ***The Final Voyage***



In 1870, the British painter Sir John Everett Millais envisioned what it was like for Sir Humphrey Gilbert and Sir Walter Raleigh to grow up on the Devon coast. The two young half brothers are mesmerized by the tale of the "wonders on sea and land," as recounted by a "sunburnt, stalwart Genoese sailor" in Millais' painting entitled "The Boyhood of Gilbert and Raleigh."

Raleigh certainly became a great sailor and commander at sea, but Gilbert was more of a leader on land than at sea.



Even Queen Elizabeth knew that Gilbert was “**a man not of not good hap at sea.**” The term “of not good hap” means “of not good luck or fortune.” In modern English this might translate as “hapless” or even “haphazard.” She and Walshingham were so concerned, they didn’t even want him to lead his own expedition.

On February 7, 1583, Gilbert responded to Walshingham and the Queen a passionate plea to allow him to go. He emphasized his 28 years of service to the Queen, his huge investment in the project, and his right to earn a living honestly. As far as skillfulness goes, he asserts he will accept the advice of the best “navigators and Cosmographers within this realm.” As far as “cowardliness” goes, he points to his past record. As far as “daintiness of diet or seasickness goes,” he claims to be as healthy as anyone.

His letter convinced the Queen to allow him to lead the mission. On March 16, 1583, Elizabeth sent him, (by way of Raleigh) her good wishes and a diamond brooch in the shape of “**an anchor guided by Lady.**” She requested that he send her his portrait as well.

As it turns out, the Queen’s intuition was right. Gilbert did have bad luck on his trip, but most of it he seems to have caused his own arrogance, often ignoring the advice of his seasoned captains.

His first mistake was in postponing his departure date. He was scheduled to depart by the end of March 1583, but April, then May slipped by. He was finally set to leave of June 11, however he had wasted two of the most favorable months for westward crossing. All the experienced sailors knew that not only spring winds were more provident, but should the journey become prolonged, it would expose the expedition to the storm season (August, September, October) in the North Atlantic.

### ***Gilbert’s 5 Ships***

Gilbert had assembled a fleet of 2 main ships and 3 smaller frigates, or support ships.

1. The “Admiral” of the Fleet, in which the “General” (Sir Humphrey) travelled, was a galleon called the **Delight**. Its Captain was William Winter, who was a part owner of the vessel. (His father was Sir William Winter, the surveyor of the Navy.) Another part owner was Sir John Gilbert, Sir Humphrey’s older brother. The “burthen” (or burden, carrying capacity) of the Delight was 120 tuns. (Quinn, p. 84).

A tun is a unit of volume, which equals 252 Elizabethan “gallons.” The weight of this much water, 2240 pounds, is approximately 2000 pounds, thus our word “ton” is derived from “tun.” A “tun” barrel is about 5 feet tall and 4 feet in diameter, and required 4 men to carry it. Even though it was a specific size, it was hard to determine how many would fit in the ships “hold” (under the deck), So for tax purposes, the number of “tuns” burden estimated by the following formula: **Tuns = Length x depth x width/100**

2. The “Vice Admiral’s” ship, **Bark Raleigh**, was even larger than the Delight, measuring 200 tuns. It was commanded by Sir Humphrey’s younger half-brother, Sir Walter Raleigh. Its “captain” was M. Butler and its “master” was Robert Davis from Bristol.

(This was the same ship Raleigh sent in the fleet that settled the colony at Jamestown, Virginia, several years later.)

It had 2 tall masts with 2 square sails and two shorter masts near the stern with lateen (triangular) sails (which helped with steering). The word lateen comes from the fact that triangular sails were popular in the Mediterranean Sea where the “Latins” once lived.

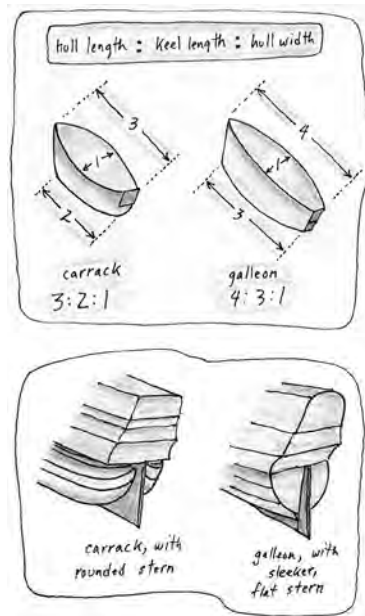
3. The “Rear Admiral” (that guarded the flank from the rear) was the **Golden Hind**, captained and owned by Edward Hayes of Liverpool. It is Hayes’ thorough 40-page “narrative” (published around October of 1583) that provides most of the details of the expedition.

(The Golden Hind was also the name of Sir Francis Drake’s ship but the two are not the same. The Golden Hind (Golden Deer) was part of family crest of a wealthy patron of these mariners, Sir Christopher Hatton.)

Hayes’ “Golden Hind” was a carrack with a burden of 40 tuns, (only 1/3 the size of the Delight).

A “carrack” is a style of ship which preceeded the “galleon.” A carrack’s “hull length: keel length: hull width” ratio was 3:2:1. The English galleons of the mid 1500’s were made longer and narrower to improve the flow of water around the hull. Their “hull length:keel length:hull width” ratio was 4:3:1.

In addition, the carrack’s rounded stern was changed to a narrower, flat one that provided better support for the galleon’s “aft castle.” This sleeker design improved both the ship’s speed and maneuverability.



4. The fleet had another 40 tun carrack called the **Swallow** captained by Maurice Brown.

The Swallow was a Scottish vessel that had been stolen by the pirate John Callis. Callis used it to capture two French merchant vessels in the English Channel. Gilbert captured his “old antagonist” Callis and released the two French vessels, but he appropriated the Swallow for himself. (Later, the Admiralty Court took a dim view of Gilbert’s right of ownership.) (Quinn, p. 83)

Serving as the master was William Cox of Limehouse, an area of wharves and docks on the Thames in East London where Sir Humphrey Gilbert had his city house. Cox had also ventured with Gilbert in his failed 1578 expedition.

5. Last, but not least, was the **Squirrel**, named after the animal on the Gilbert Family Crest. Compared to the 200 tun Bark Raleigh, the 8 tun Squirrel was a pipsqueak.

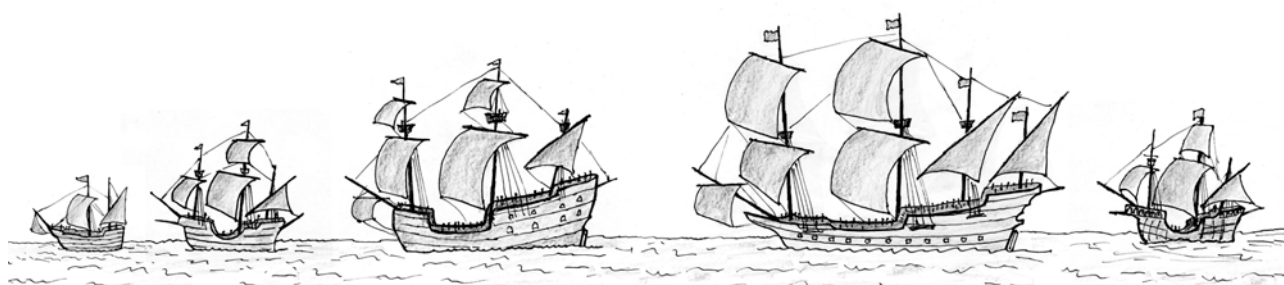
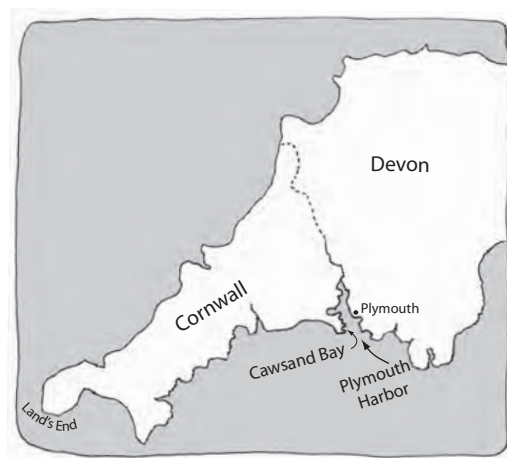
But its small size was beneficial in some respects. This was the vessel in which Simon Fernandez flew back and across the Atlantic in 3 months during his 1582 reconnaissance mission for Gilbert. This small carrack had only one main mast with a square sail, and a smaller mizzen mast with a lateen sail. It could only accommodate about 10 sailors. If the 2 larger carracks (Golden Hind and Swallow) accommodated 30 men each, that makes  $10+30+30 = 70$  men on the carracks.

Hayes informs us that there were 260 men on the mission, so the 120 tun Delight probably had about 80 men, and the 200 tun Bark Raleigh about 110. Though these figures are my rough estimates, it’s clear how important two galleons were to the expedition. Not only did they have the manpower, but they also had the gun power (if needed) as well as a year’s worth of food and drink.

## *The Departure from Plymouth*

The port of departure was Plymouth. On June 11, 1583 the 5 ships assembled in Cawsand Bay, a small bay on the southwest corner of Plymouth Harbour. Hayes calls it “Causet Bay,” Cau meaning “exposed” and set meaning “place of territory.” This haven just inside Plymouth Harbor was a favorite landing place for pirates who wanted to avoid confrontations in the wharves of Plymouth.

There were copious written arrangements. If winds blew the fleet back to England, they were to rendezvous on the Isles of Scilly, an archipelago (small group of islands) off the extreme southwest tip of England. (Residents there insist the islands not be called the Monty Pythonesque “Scilly Isles.”) If winds blew them back when further at sea, they were to rendezvous at the harbors of Baltimore or Berehaven on the extreme southwest tip of Ireland.



### **Squirrel**

8 tuns  
(approx.  
10 men)

### **Swallow**

40 tuns  
(approx.  
30 men)

### **Delight**

120 tuns  
(approx.  
80 men)

### **Bark Raleigh**

200 tuns  
(approx.  
110 men)

### **Golden Hind**

40 tuns  
(approx.  
30 men)

The winds were favorable for the first few days, but then Gilbert encountered a huge problem. M. Butler, captain of Bark Raleigh and “very many of the men” were ill with a “contagious sickness,” and at midnight, on only their second day at sea, they turned around and headed home.

Gilbert was enraged. He later wrote Peckham to get Raleigh to punish the “Knaves.” One crew member later related that the real reason for turning back was the lack of “victuals to perform the voyage.” (Quinn pp. 84, 283, 378-9).

Hayes writes that the remaining crewmen were “not a little grieved with the loss of the most puissant [powerful] ship in our fleet.” (Hayes, in Quinn, p. 397)

Only two days out and they had lost almost half their men and half their food and drink.

*Which way first?*  
*The “Southern route” to the John Dee River and port*  
*or*  
*the Northern route to the Newfoundland fisheries?*

Undaunted, Gilbert made The Golden Hind the Vice Admiral of the fleet and they continued onwards.

The expedition had two destinations, “South,” (Verrazzano’s Refugio, The John Dee River, now Narragansett Bay, RI) and “North,” (St. John’s Harbor in Newfoundland). Hayes explains that the preferred route, which “without all controversie was the likeliest,” was to reach the “South” destination first then follow the “commodity of the current” northward following the coast to Newfoundland.

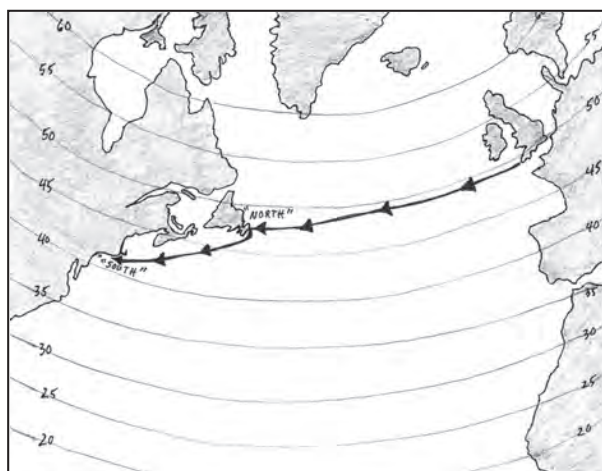
Another reason for heading “South” first was that the year was “far spent,” it was already well into June. If they went “North” first, they might **“be surprised with timely Winter.”** It would be wiser to **“covet the south, which we had space enough then to have attained; and there might with less detriment have wintered the season, being more mild and short in the South than in the North where winter is both long and rigorous.”**

(Hayes, in Quinn, p. 392).

Hayes summarizes **“these and other like reasons alleged in favor of the Southern course first to be taken.** (I suggest that another reason was that they had a fort ready and waiting for them to winter over in at the John Dee River.)

But the loss of their supply ship, the Bark Raleigh, made them rethink their plans. As the voyage was long, and they must accommodate for the **“wintering of so many men, we ought to shape a course most likely to minister supply: and that was to take the Newfoundland in our way, which was but 700 leagues from our English Coast.”**

(Hayes, in Quinn, p. 312)



**“The commodores knew that until the end of August, there would be a multiple of ships repairing thither for fish, we would be relieved abundantly with many necessaries, which after the fishing ended, they might well spare, and freely impart to us.”**

The plan was to stay in Newfoundland briefly and “follow still the Sun” southward until we arrived at places more temperate to

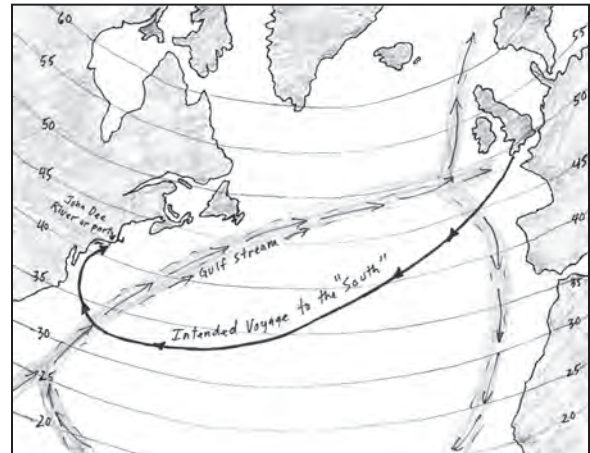
our content. As seen on this map of the North Atlantic, the John Dee River is actually about 400 leagues “past” Newfoundland, as the seagull flies.

However, a prime consideration crossing the North Atlantic are the powerful currents. The Gulf Stream and the North Equatorial currents run clockwise year round. The Labrador and Greenland currents flow counter clockwise further north. Where the chilly Labrador current meets the warm Gulf Stream there is another danger: *fog*.

So it’s clear that the 700 league “direct” route from England to Newfoundland is not feasible.

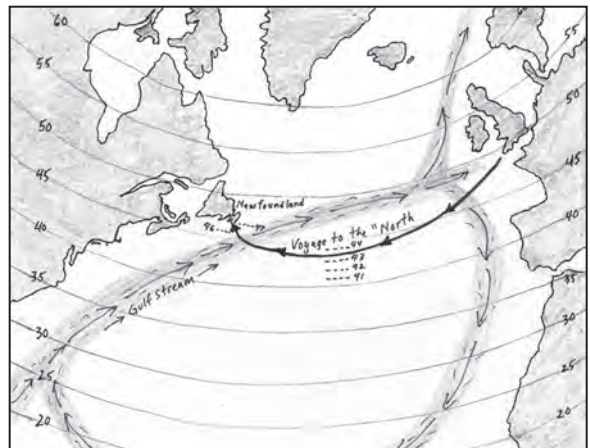


The original plan, heading to the “South,” would probably have been to head west-southwest to a latitude of about 33°, then west to the coast, then follow the known landmarks up to the triangular island of “Claudia,” which points to the mouth of the John Dee River or port.”



Hayes describes the new course to the “North” as heading west-southwest to the **“latitude of 43 or 44 degrees, because the Ocean is subject to southerly winds in June and July. Then to take traverse from 45 to 47 degrees of latitude.”** He adds **“to do your endeavor to keep in the height of 46 degrees, so near as you possibly can, because Cape Race lieth about that height.”**

(Hayes in Quinn, p. 395).



Cape Race is the extreme southeastern corner of Newfoundland. (Hayes’ latitude figure was slightly off; Cape Race is closer to 47°.)

If the ships somehow got separated, they were to rendezvous at the harbors of Rogneux or Fermous, the two small inlets just north of Cape Race.

Rogneux, now called Renew, is 56 miles south of St. Johns. Jacques Cartier (French, 1536) referred to it as Hable Rougnose: meaning “Haven with rugged or scrappy shore.” It was known to French, Portuguese, and English fishermen as early as 1500.

Fermeuse, the next harbor to the north was also on maps dating to the early 1500’s. It’s thought that the name R. Fermoso or Rio Fremoze derives from the Portuguese word “fermosa” meaning “beauty.” (www.theirishloop.com)

### ***“Great Fogges”***

Gilbert soon had more “bad happ.” For almost two weeks, from June 15 to June 28, the ships were enshrouded in fog. It rained every day. The wind, coming from the west-northwest, blew the ships as far south as 41 degrees latitude. Hayes blames the unfavorable winds on the late start. He claims the England-Newfoundland trip has been made in “22 days and less” in the months of “March, April, and May.” (Hayes, in Quinn p. 397)



After being blown so far south (to 41°) then the current then swept them far north (to 51°). There they hit more “Great fogges,” where the cold Labrador Current and the warm Gulf Stream intermingle. **“Also, we were encumbered with much fog and mists in manner palpable, in which we could not keep so well together, but were dissevered, losing the company of the Swallow and the Squirrel upon the 20th day of July.”**

On July 27, out of the mists appeared huge icebergs, **“mountains of ice driven upon the sea.”** Hayes conjectured that **“some current doth set that way from the North.”**

To ensure the ships didn’t run aground continuous depth soundings were made. A sailor designated as the “lead swinger” would cast a sounding lead, attached with a line, off the bow of the ship. The lead would sink to the bottom, and when the line was vertical, the depth would be measured. The line had pieces of cloth, rope, or leather tied to it to mark various depths, so the “lead swinger” could determine depth by sight, or at night, by touch.

Depth was measured in fathoms, which was the distance from fingertip to fingertip of outstretched arms. (In Elizabethan times, this was about 5-1/2 feet, but was later standardized to exactly 6 feet.)

Tacky animal tallow was inserted in a hollow at the base of the lead weight. This would pick up bits of mud, sand or shells providing information about the seabed below.

The lead swinger alerted the Captain that the ships were passing over a **“vein of mountains within the sea.”** The water was only 25-30 fathoms (about 140-160 feet deep).

They were passing over the Grand Banks, the fishing grounds of **“sometimes a hundred or more”** French and Portuguese vessels during the April to July cod fishing season.

Finally, on July 30, after 49 days at sea, they got sight of land through the **“great haze and fog.”** They then were **“embayed,”** caught between two jutting headlands where there was no wind. (Probably the entrance of what is now Notre Dame Bay.) Judging that **“the bay and uncomfortable coast”** of **“hideous rocks and mountains”** was dangerous, they stayed well away from the coast, but followed in southward.

### ***Auks on Penguin Island***



The now-extinct Great Auks  
on “Penguin Island”

They came within viewing distance of **“an Island named Penguin, of a fowl there breeding in abundance, almost incredible, which cannot flie, their wings not able to carry their bodies, being very large (not much less than a goose) and exceedingly fat.”**

The description sounds like a penguin, but penguins are only found in the Antarctic, not the Arctic. What Hayes was describing was a huge colony of Great Auks, flightless birds that stood 2 feet tall. They used their wings as flippers to dive underwater and catch fish.

Early explorers killed the auks and gathered their eggs for food; fisherman used them for bait. Sometimes they were simply herded and driven up the gang planks into boats. In the 1700’s they were harvested by the thousands for their feathers, which were used in pillows and mattresses. By the mid 1800’s, they were extinct.

One of their last breeding grounds was Penguin Island, a 1/4 mile wide by 1/2 mile tall, mostly barren island about 30 miles from the northern coast of Newfoundland. It's now called Funk Island, funk meaning a "foul odor." The scent of centuries of bird guano anti-perfumes the local air. Today it's a protected sanctuary, the home to thousands of terns, murres and puffins.

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But for Gilbert, there was no time for auk hunting. They proceeded south to the **"Island called Baccalaos"** (Portuguese for codfish). (This 1-mile wide by 4-mile tall island, which is about 3 miles from shore at the mouth of Conception Bay, is today called Baccalieu Island and is an Ecological Reserve.)

There they were reunited with the Swallow, whose crew was so delighted that they **"cast up into the air and overboard, their caps and hats in good plenty."** But Captain Maurice Brown was not in such great spirits. His crew that he had just spent two months with was mostly comprised of "pirates." Being low on food, they convinced Captain Brown to approach two French barks to see if they were willing to spare some food.

Once on board, the pirate crew of the Swallow tied up to the French sailors. They wound **"cords about their heads"** to get them to explain where things might be hidden. They loaded food, cables, tackle, and even sails in the French boat's dinghy. Heading back to the Swallow, the overloaded rowboat capsized, and several of the pirates drowned. The French sailors, whom they had just plundered, were gracious enough to save several men and return them to the Swallow.

It was just at this moment that Sir Humphrey Gilbert had appeared. Piracy was forbiddin on this expedition done in the name of the Queen, and Gilbert probably expressed his anger in no uncertain terms.

### ***Gilbert's grand (but embarrassing) entrance into Saint John's harbor.***

The fleet continued south to the mouth of St. John's Bay where they were reunited with the Squirrel, **"lying at anchor."**

Saint John's Harbor was a busy place. The various fishing boat captains took turns being "Admirals" of the harbor community that included 20 Spanish and Portuguese ships and 16 French and English ships.

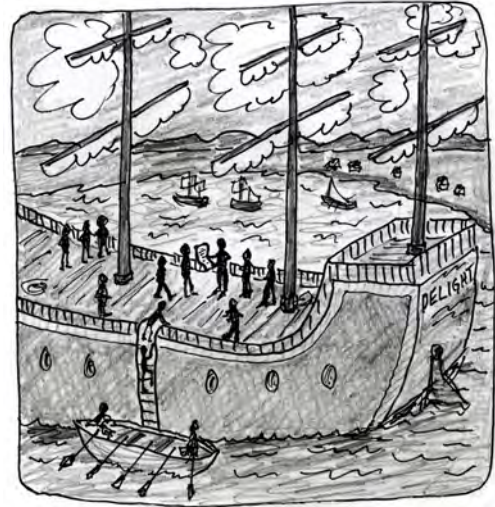
The Admiral had forbidden the Squirrel entrance to the harbor fearing that they were pirates. Suddenly, when 3 larger vessels, laden with cannons loomed into sight, the fishing boats guarding the harbor became really concerned.

Gilbert dispatched a negotiator in a rowboat who explained that they had a commission from the Queen and were **"coming for no ill intent."** (Hayes, in Quinn, Voyages, p. 400).

Besides, Gilbert wasn't about to take no for an answer.

They acquiesced, and the proud **“new owner”** proceeded into the mouth of the harbor. The narrow entranceway required experienced maneuvering for a big galleon like the *Delight* and shortly Gilbert found his ship embarrassingly stuck on a rock. The English boats guarding the entry helped out by anchoring their boats and winching the 120-ton ship free.

Once in the harbor, Gilbert summoned all the ship Captains and Masters aboard the *Delight*. He showed them his 1578 ***Letters Patent*** from the Queen. As the new Governor, he informed the leaders of their duty to help repair the expedition’s vessels and supply food and clothing. He also explained that he was not going to be staying long, as he was also anxious to **“proceed further south.”**



Sir Humphrey Gilbert shows the “Admiral” of the harbor his Patent from the Queen



Sir Humphrey Gilbert claims a 500-mile radius around Saint John’s harbor

The next morning, the Captains took Gilbert for a tour of their wild “Garden,” abundant with fragrant roses and **“plenty of raspberries.”**

Gilbert set up a tent and in front of the whole populace **“took possession of the harbor of St. John and 200 leagues every way in the name of her Queen Magestie.”** (This is equivalent to a 500-mile radius, which would include all of Newfoundland and parts of present-day Nova Scotia, Quebec, and Labrador.)

The Captains returned to their boats and simultaneously fired off their large cannons as a **“token of Welcome.”** Gilbert’s fleet was immediately provided with fresh salmon, trout, lobster and fresh cod. The Portuguese fishermen were the most generous, supplying **“wines, marmalades, fine rusk [toasted sweet bread] of biscuit, sweet oils, and sundry delicacies.”**

Gilbert had one of his crew present him with a ceremonial rod and a piece of local turf. He explained three laws that would take effect immediately:

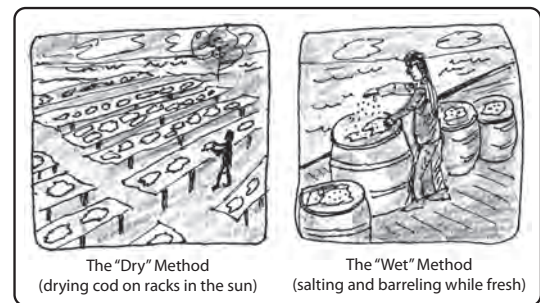
1. The official religion **“in public exercise”** was to be the Church of England.
2. Anyone who attempts to prejudice the Queen’s right to possession would be judged by the Laws of England, and if found guilty of high treason, be executed.
3. Anyone speaking dishonorably about the Queen would lose his ship, his property, and have his ears cut off.

Gilbert asked the crowd if they would obey the rules. In unison they all voiced approval. He then had a wooden pillar erected upon which was affixed **“The Arms of England engraved in lead.”**

On behalf of the Queen, Sir Humphrey and his heirs forever, parcels of the land surrounding the harbor were granted to the various ship captains in exchange for annual rents.

This was particularly welcomed by the English fishermen as they processed cod using the “dry” method. The fish fillets were allowed to dry and cure on long tables that lined the shore. The Portuguese and Spanish preferred the “wet” method – salting the fillets on board ship, and packing them tightly in barrels. The Southern Europeans had more access to salt. In their sunny climate, salt producers would direct seawater into a series of shallow ponds. Evaporation would make the water brinier, then eventually it would crystallize into salt.

Hayes made a record of the various fish, birds, beasts, trees, plants and minerals native to Newfoundland. He notes that **“Peason,”** (peas) planted in May were fully grown by August. A dish was prepared for General Gilbert, perhaps pottage( pea soup, an Elizabethan favorite). Hayes remarks that these peas are the **“first fruits coming up by art and industrie in that desolate and dishabited land.”**



Gilbert had brought a German mineral expert named “Daniel” on his journey, who found what he determined to be silver ore. The General was so pleased with the abundance of fish and minerals that he declared **“he was now become a Northern man altogether,”** (even though he hadn’t even seen the “South”).

Also along on the voyage was Stephen Parmenius, a poet from Budapest Hungary. He wrote to Richard Hakluyt of his distaste for the harsh climate the inhospitable terrain of rocks and thick underbrush. (Bower et al, *What Strange New Radiances*, p. 16)

### ***The “oldest” street***



Speaking of firsts, some Newfoundlanders claim that Water Street, the path to the garden of roses and strawberries, is the “oldest street in North America.”(Perhaps this should be qualified as the first non-Native American and non-Spanish street in North America).

But the claim goes back to before Sir Humphrey’s arrival. Some historians believe John and Sebastian Cabot explored this beautiful, natural harbor on the Feast day of St. John the Baptist, on June 24, 1497. The first appearance of this name is on a 1519 Portuguese map by Jorge Reinel, where he calls it São João.



In 1527, the English mariner John Rut entered “**a good harbor called St. John**” and found 11 Norman, 1 Breton, and 2 Portuguese fishing ships. The Nicholas Desliens *World Map of 1541* calls it St. Jehan, and João Frieres 1546 *Atlas* calls it San Joham.

This means that the street now called Water Street was in use even before Sir Humphrey Gilbert was even born (ca.1545). (Wikipedia, St. John, Newfoundland and John Rut).

However, Sir Humphrey’s special ceremony claiming the harbor for England might make it the first English street in North America. (Four hundred years later, in 1983, the city officials commemorated Gilbert’s proclamation by erecting a memorial at King’s Park, along Water Street.)

### ***The restless crew and the promise of plentiful victuals on the Isle of Sablon.***

Meanwhile, many of Gilbert’s crew had tired of voyaging with him. Some plotted to steal away with one of Gilbert’s boats. Another group went to a nearby harbor and stole a vessel full of fish, abandoning the owners on the shore. Some simply hid in the woods, waiting for Sir Humphrey to leave, after which they planned to hitchhike a ride home on a fishing vessel. Some were “**sick of fluxes,**” or dysentery. (An intestinal infection from contaminated water or food resulting in severe diarrhea). Many had already died from it.

Gilbert made the decision to leave the Swallow behind for the “**sick people.**” When fit, they were to return to England.

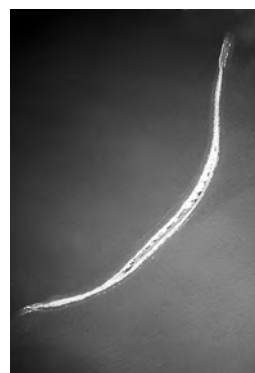
This left three ships, the Delight (galleon), the Golden Hind (carrack), and the tiny Squirrel. Gilbert chose to command the Squirrel on the trip southward so he could search “harbors” and “creeks” where the larger ship dare not go.

The ships were stocked with sails, nets, fishing lines, even small rowboats and pinnaces. The Portuguese sailors brought them figs and barrels of lemons (to prevent scurvy). One Portuguese sailor told Gilbert of **an island called Sablon**, just down the coast, where the Portuguese had left “**Neat and Swine**” (cattle and pigs), which were “**exceedingly multiplied.**”

Gilbert decided to “**shape their course**” towards “**the Island of Sablon... seaward of Cape Breton about 25 leagues.**” [About 60 miles east of the northern part of Nova Scotia.]”

What the Portuguese sailor may or may not have mentioned, was that the vast shoals (submerged sandbars) to the north, west, and south of the Isle of Sablon were treacherous for large galleons like the Delight.

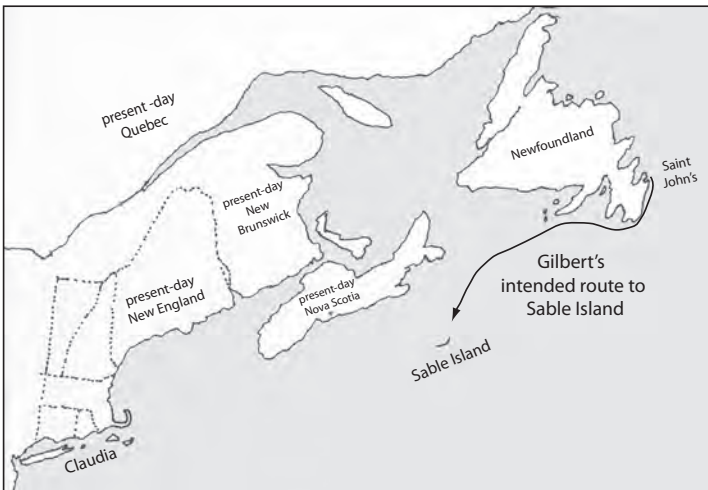
Today, the Isle of Sablon is called Sable Island. It’s a narrow, crescent-shaped, giant sandbar about a mile wide and 26 miles long. It sits all alone on the edge of the continental shelf, actually about 110 miles off the Nova Scotia shore.





Various authors (Laurence A. Marshall, Marq de Villiers and Sheila Hirtle) have called it “A Dune Adrift in the Atlantic” or the “Graveyard of the Atlantic.” Its hazardous waters have caused over 300 recorded shipwrecks. Besides the shallow shoals, it’s clothed in fog most of the year and is right on the path of hurricanes that blow up the North Atlantic Coast as well as Nor’easters. (Sable Island is mentioned in the book “A Perfect Storm” and a “staged version” of it appears in the movie). It is treeless, but covered with grass and low-growing vegetation, much like the outer arm of Cape Cod.

Around 1760, the Boston merchant Thomas Hancock (John Hancock’s uncle) deposited horses on the island and today there still is a colony of 250 free-roaming horses. Only about 15-20 people live there today – doing meteorological studies at Sable Island Station. A few miles off shore are several huge natural gas and oil drilling rigs. Natural gas is pumped through a pipeline to Nova Scotia, then through more pipes to Eastern Canada, New York and New England. (www.greenhousesociety.com)



Sir Humphrey Gilbert was determined to see this interesting island within his domain, not only to stock up on steaks and pork chops, but to determine its suitability as a future cattle farm. (Grassy islands solve a lot of fencing headaches for cattle farmers.)

### *Heading south to Sable Island, then Refugio*

On August 20 (only 16 days after their arrival) the fleet of 3 departed from St. John’s Harbor. The next day they passed by the harbors of Rogneux and Fermous (their earlier rendezvous destinations) and passed around Cape Race, the southeastern tip of the Avalon Peninsula.

Maps from the early 1500’s call this “Cape Raso.” In Portuguese *raso* means “bare,” a good description of this flat, treeless headland. It was probably named after another barren tip of land, Cape Raso at the mouth of the Tagus River, the largest river in Portugal, on which the port of Lisbon is located.

As the wind had died, the crew tried their hand at fishing and in 2 hours had caught so many large cod that they had food for “many days after.”

They followed the coast westward to the Bay of Trepassa, another early haven for European fishermen. The name Trepassa (now Trepassey) comes from the French word “trepasses” meaning “dead or departed,” probably a reference the many shipwrecks that occurred off its coast. (www.theirishloop.com)

At the westernmost promontory of the mouth of the bay (now called Cape Freels), they sent men ashore who reported excellent soil and wild peas growing **“in great abundance everywhere.”**

Hayes notes that they did not proceed further up the coast to the next large bay, which had a much nicer name (the Bay of Placentia, meaning “a pleasant, delightful place” in French). Instead they ventured across the wide mouth of the St. Lawrence Bay, headed towards Cape Breton and Sable Island.

Again they encountered trouble. The wind was **“indifferent good.”** They lost sight of land for 8 days and were hindered by the current.

On Tuesday, August 27th, soundings showed they were in 35 fathoms (almost 200 feet) of water above a seafloor of white sand.

On Wednesday, August 28th, Sir Humphrey Gilbert sailed the Squirrel alongside the Golden Hind and asked Richard Clark, master of the Delight, **“what course was best to keep.”**

Clarke recommended west-southwest. Gilbert disagreed, he felt they should head west-northwest, and he commanded Clarke, in the name of the Queen, to obey his orders. (Richard Clark, in Quinn p. 423).

The evening was **“fair and pleasant”** but Hayes reports 3 premonitions of ensuing danger.

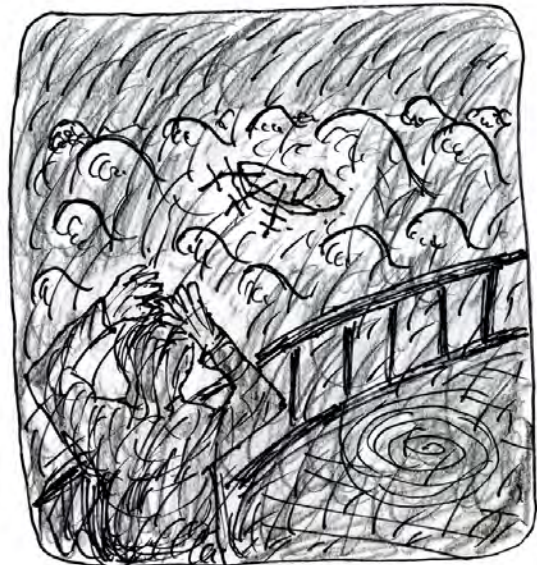
A pod of porpoises were leaping around the Golden Hind. The sailors tried to harpoon them, but only got parts of their flesh. Finally, they hauled in a “very mighty” one. But Hayes notes that porpoises **“pausing through the Ocean, in herds, did portend storm.”**

The mood was upbeat aboard the Delight. Musicians were playing trumpets, cornets, and haughtboys (oboes), and fifes (flutes), to the beat of drums. But as the **“jolitie”** died down, they ended with the **“battell and ringing of doleful knells.”** Hayes later likened it to **“a Swan that singeth before her death.”**

Later that night, several men of the Golden Hind were awakened by **“strange voices”** and climbed from the helm to the deck to investigate. (Hayes, in Quinn, P. 412).

On Thursday morning, August 29, the wind started to blow **“vehemently”** from the southeast. Soon the rain and mist was so thick they **“count not see a cable length before us.”** The sounder reported that they were being blown over shallow shoals. Master Cox saw what he thought were **“white cliffs”** and started crying **“land.”** But they haze was so thick others felt he had simply seen the **“sea white”** of breaking waves.

Gilbert signalled to the Delight, which was leading the fleet to **“cast about”** and head southeast towards open sea. But it was too late. The Delight had run aground and tipped to the side. The huge waves crashed on the hull, **“her stern and hinder parts beaten in pieces.”**



The Delight gets stuck on a sandbar and is crushed by pounding waves

The Golden Hind and Squirrel saw quickly turned around and headed out to sea to avert further disaster. They passed over a shoal that was only 3 fathoms (or about 16-1/2 feet below the surface), and although the sea was churned up **“mightily and high”** they somehow made it out to deeper waters.

They rode out the storm but didn’t venture too far, hoping they might catch sight of a pinnacle-full of survivors.

Hayes laments **“This was a heavy and grievous event, to lose at one blow our chief ship freighted with great provision, gathered together with much travail, care long time, and difficulty. But more was the loss of our men, which perished to the number almost of 100 souls.”** Among those lost were the Hungarian poet Stephan Parmenius, the German mineralogist Daniel (and all his ore samples), as well as the Captain Maurice Brown, who refused to be the first to abandon ship.

### ***16 men actually survived the wrecking of the Delight***

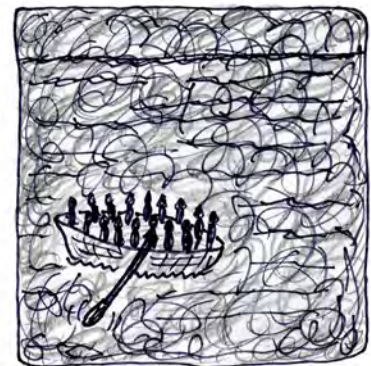
Richard Clark later wrote an account of how he and 15 others were able to survive. The previous day, a crewmember had shot a bird with a gun. A small pinnacle that had been built by the fishermen in St. Johns, was hoisted down from the deck to the water to retrieve the bird. That night the pinnacle was left tied to the stern. When the Delight struck ground and the stern broke apart, the pinnacle drifted away. Several crew members who could swim recovered the boat. In total, 16 men, including Captain Richard Clarke, made it into the boat. They rode out the storm, all the while afraid that the **“Sea would eat them up.”**

On following day, when things had calmed down, they confronted the fact that there were 16 men in a tiny boat with a sail, but only one oar. Edward Hedley suggested they make 16 **“lots”** and those 4 men who drew the **“shortest lots”** would be cast overboard so the remaining dozen would have a better chance of survival. Captain Clark vetoed the idea saying **“no, we will live and die together.”** Clark told them they were 60 leagues (175 miles) from land, even though he knew it was more like 190. The weather was so foul they only saw the sun once in 5 days. (Hayes says ate seaweed and even drank their own urine). Edward Hedley and another man named Brasile died, famished in the cold, wet boat.

On the 6th day the sailors were **“very weak and wished all to die,”** but Clark was optimistic. He said if they didn’t see land on the 7th day, they could throw him overboard.

Sure enough, the next day at 11:00 in the morning, land was sighted. They made it the shore, found a brook, berries, made a shelter of boughs, and recuperated.

Over the next week, they rowed up the coastline and came upon Basque fishing vessel which was kind enough to take them to St. Jean de Luz, in Northern Spain. The survivors journeyed north through France and were in England by December of 1583 to recount their misadventure. (Richard Clarke, in Quinn, *Voyages*, p. 423)



16 men survive the destruction of the Delight

### *More challenges: From pea-soup to pyramids*

Meanwhile, the Golden Hind and the Squirrel were together, but they were lost in a sea of fog. They sensed they were not far from the coast because the lead-thrower reported bringing up pebbles the size of oats and sometimes a shell with a little sand in it.

But the crew **“lost courage daily.”** The weather continued **“thick and blustering”** and with **“Winter drawing on,”** the air was getting colder. Some thought they had been blown into the Bay of St. Lawrence with its **“coast full of dangers.”**

Worst of all, **“provision waxed scant, and hope of supply was gone.”** The Squirrel steered close to the Golden Hind and **“made signs of their distress, pointing to their mouths, and to their clothes thin and ragged.”** (Hayes, in Quinn p. 316)

Gilbert recommended calling it quits and sailing back to England. The Captain and Master of the Golden Hind felt they should carry on, having come this far. Gilbert promised he would set them **“forth royally the next Spring, if God send us safe home.”** He felt they had **“seen enough.”** Bower (et al) suggests that Gilbert said this **“surely more for morale than anything else since his plans had been so pointedly directed at reaching the site of his projected colony.”** (Bower et al, What strange... p. 17)

On August 31, the **“very instant”** they were headed home, they saw **“monster at sea.”** It had the shape, hair and color of a lion, but swam like a dolphin, **“showing himself above water without hiding, then diving under.”** The crew waved their arms to scare it, but the creature simply turned his head from side to side, opened his mouth wide showing his **“long teeth”** and with **“glaring eyes”** he **“sent forth a horrible voice, roaring and bellowing as doeth a lion.”** Sir Humphrey saw this strange spectacle as a **“Bonum Omen”** (a good omen).

With a swift tail-wind they made it back to Cape Race in only 2 days. Heading northeast they encountered another **“sharp storm.”**

When the weather broke. Gilbert boarded the Golden Hind for a conference with the Captain Hayes and Master Cox. They lamented their losses, but Gilbert announced plans for 2 voyages next spring. Gilbert was headed back “North” and Captain Hayes and Master Cox were to lead an expedition in the Golden Hind to the “south.” He was confident he could get the Queen to give him 10,000 pounds for the missions.

The Captain, Master, and other **“well willers”** of the Golden Hind encouraged Gilbert to stay aboard the larger, safer boat. But Gilbert would not hear of it saying, **“I will not forsake my little company going homeward, with whom I have passed so many storms and perils.”** Gilbert returned to the Squirrel with some much-needed provisions.

At this point they were about 750 miles (300 leagues) from England. They had passed the Azores and were headed north when “bad happ” again struck the expedition. The weather turned foul, with **“terrible seas, breaking short and high Pyramid wise.”** Hayes and his crew had never seen **“more outrageous Seas.”** He wondered if it was caused by **“hilly grounds high and low within the sea”** or powerful, shifting winds. (Quinn, p. 419)

During the tempest, on the afternoon of September 9, Hayes saw the Squirrel nearly capsize, **“oppressed with waves.”**



It recovered and Gilbert and his crew “gave forth signs of joy.” Gilbert sitting on deck in a chair with a book in his hands, cried out to the crew of the Golden Hind, “**We are as near to heaven by land as by sea.**” He bellowed that line several times “**well beseeeming to a soldier, resolute in Jesus Christ, as I can testify he was.**”

It’s thought he was either holding his Bible or a copy of Sir Thomas More’s *Utopia* (of 1516) which contains the adage “**He that hath no grave is covered with the sky: and, the way to heaven out of all places is of like length and distance.**”

(More, *Utopia*, Arbor’s reprint, p. 30 and Quinn, p. 89, note 1).



Sir Humphrey Gilbert and the Squirrel  
get swallowed up by the waves

Around midnight, Hayes was keeping a close watch on the Squirrel’s signal lights – when suddenly they all went out. Another watchman cried out, “**the General was cast away.**” The tiny Squirrel had been “**devoured and swallowed up by the Sea.**”

They searched all night and all the next day for survivors or remnants, to no avail. Twelve days later, on September 22, the Golder Hind made it back to England, anchoring at Dartmouth Harbor.

Hayes and a few crew members rowed ashore and walked to Compton Castle to give Sir John Gilbert the sad news. Hayes then took his weary sailors further east to Weymouth harbor. They had suffered “**long expense of time, much toil and labor, hard diet and continual hazard of life**” and were seriously “**unrecompensed**” for all their effort – but at least they were alive.

Hayes summarizes his narrative by commenting on Sir Humphrey. While admitting “his zeal deserves high commendation” he was also overabundant in “temerity and presumption.”

(Hayes in Quinn, p. 422)



### ***The aftermath of Gilbert's failed colonization effort.***

Edward Hayes' 38-page narrative, *Sir Humphrey Gilbert's Last Expedition*, was published around October of 1583. On November 12, 1583, Sir George Peckham had published his 47-page *True report, of last discoveries... by that Valiant and worthy gentleman Sr. Humphrey Gilbert*. Peckham tried to keep the colonizing momentum going by promoting subscriptions for another expedition.

Peckham's text attests to the fact that he was quite well educated. He makes numerous references to the Bible, classical sources, and geographical literature.

He was also well-connected. The book was dedicated to Sir Francis Walshingham and begins with poems of praise signed by Sir Francis Drake, Sir John Hawkins, Sir Henry Pelham, Anthony Parkhurst, Martin Frobisher and other important courtiers. (These intrepid explorers probably didn't actually write the verse, but they certainly approved it.) Presumably these men had already signed on as investors in the revived project.

These are the general themes of the 8 chapters in Peckham's promotional book:

- 1. A brief recounting of Gilbert's taking possession of Newfoundland and a summary of earlier expeditions by English, French, Italian and Spanish adventurers.**
- 2. The benefits of trade with the Native Americans.**
- 3. The Queen's lawful title to North America.**
- 4. Trading and planting in North America would benefit all of England.**
- 5. Trading will especially benefit the Adventurers.**

(A list of beasts, birds, fish, trees, fruits, metals, and commodities found in North America.)

- 6. Trading and planting will benefit the Native Americans.**
- 7. Planting is not difficult, citing the successes of the Spanish.**
- 8. Articles of Assurance for 4 levels of investors:**

**Associates      100 pounds**

**Assistants      50 pounds**

**Adventurers in the first degree      20 pounds, 10 shillings**

**Adventurers in the second degree      12 pounds, 10 shillings**

Peckham wrote to the Major of Exeter, and on January 30, 1584 seven men joined as "Adventurers in the second degree." But 87 pounds was not a huge investment.

Martin Frobisher was selected to lead this grand expedition. But suddenly the momentum simply stopped. In 1584, Peckham was again imprisoned for some offense related to his Catholic activities. The whole idea of a colony at the John Dee River came to a grinding halt.

Peckham had squandered his family's wealth not only in the unsuccessful colonization project but in the payment of fines for being a recusant. In 1595, part of his estate at Denham went to the crown to pay his debts. He had given it his best shot, but all was now lost. He lived modestly for another 13 years, dying on June 21, 1608.

(McDermott, *Oxford Dictionary of Nat. Bio*, Peckham).

# JOHN DEE WAS STILL AT THE CENTER OF THE EFFORT TO DISCOVER THE NORTHWEST PASSAGE

John Dee apparently didn't try to exploit his 1580 grant to lands above the 50th degree until around January 23, 1583, when he writes in his diary:

**January 23, 1583, The right Honorable Mr. Secretary Walsingham  
cam to my howse: where by good hap  
he found Mr. Awdrian Gilbert,  
& so talk was begonne of Northwest straights discovery &c.**

Walsingham must have been pretty enthusiastic about the project. On the very next day he arranged for the Dee, Gilbert and John Davis to meet with the Clerk of the Privy Council, Robert Beale.

**January 24, 1583, I, Mr. Awdrian Gilbert, and John Davis went (by appointment)  
to Mr. Secretary to Mr. Beale his howse:  
where onely we 4 were secret, and we made Mr. Secretary  
privie of the N W passage: and all chartes and rutters wer agreed upon in generall.**

(Charts and rutters means maps and routes.)

Apparently they were told to get approval from the Muscovy Company. Dee had provided expert navigational advice to the company over the years and a meeting was arranged with four top members of the Company:

**March 6, 1583**

**I, and Mr. Adrien Gilbert and John Davis,  
did mete with Mr. Alderman Barnes, Mr. Towrson and Mr. Yong and Mr. Hudson,  
about the N W voyage.**

Quinn notes that this group probably discussed how far the Muscovy Company was willing to share their monopoly with an “independent expedition.” Christopher Carleill had proposed a similar arrangement with the Company, but he had gotten nowhere.

Dee wrote in his diary that on March 18, 1583, John Davis and Adrian Gilbert “**went to Devonshire.**” Quinn suggests they were preparing shipping for an expedition.

***“New Worlds, shall Spring from these”***

A week later on Sunday, March 24, 1583, at 8:00 in the morning, the angels spoke philosophically through Edward Kelly:

**“... Love one another; live with humility...  
Great are my words, great is thy thought;  
Greater shall be the end of these God’s Mercies...  
New worlds, shall Spring from these.  
New manners: Strange men:  
The true light, and thorny path, openly seen.  
All things in one, and yet, this is but a vision.”**

(Peterson, p. 262)

Dee liked what he was hearing. Kelly knew Dee’s mind was on “**New worlds.**” Kelly lay down for a while, and when he arose he saw someone holding a book of golden pages written in red blood.

Dee asked Kelly to count the pages. Kelly couldn’t quite count them, so he proclaimed “**I will raze out [erase] thy dullness and at length, make thee clear.**”

Apparently that clarified things because Kelly could now count the leaves, saying “**There are 48 leaves.**” (An important number for Dee, as we shall see)

Shortly, Kelly had another vision,

**There appeared one like myself laying his two arms,  
one, on EK’s [Edward Kelly’s] shoulder:  
and the other on another man’s shoulder,  
unknown to us,  
but somewhat like to Mr. Adrian Gilbert, & c.**

(Peterson, p. 263)

Kelly seems to be painting the picture that Dee can depend on his two trustworthy associates Kelly and Gilbert.



Edward  
Kelley

John  
Dee

Adrian  
Gilbert

The very next day, Monday, March 25, 1583, Dee apparently allowed Adrian Gilbert, (now back from Devonshire) to sit in on the angel conversations. Dee didn't transcribe the proceeding but described what happened in a question he asked on the next day (Tuesday, March 26, 1583).

**Δ: Our desire is to Know what we are to think of the Man  
which came out of my Oratory [Dee's small chapel room]  
and laid the fiery Ball at Mr. Adrian Gilbert's feet yesterday,  
as he sat in my study with Mr. Kelly and me;  
whether it were an illusion, or the act of any seducer?**

The Angel replied via Kelly, **"No Wicked power shall enter this place..."**

Dee also asked, **"Must Adrian Gilbert be made privie of these Mysteries?"**

He notes the apparent response in a footnote

**"A. Gilbert may be made privie, but he is not to be a Practiser."**

Dee then asked:

**"Δ: May I note to your name any particular character or Syllable  
to distinguish your speech from ours and others?"**

The response was :

**"Medicina Sum"** which is Latin for "I am the medicine."

(Peterson, p. 273)

Dee queries:

**"Δ: I may then use this syllable Me to Note Medicina or Medicus Dei"**  
[these translate "doctor" or "God's medicine"]

Next, Dee asked:

**"Δ: Then, this Adrian Gilbert shall carry the name of Jesus  
among the Infidels to the great glory of God ..."**

[In other words, "Is Adrian Gilbert the one to help spread  
the English Church to the Native Americans?"]

The angel "Me," through Kelly, responded curtly,

**"Who made my mouth to prophesy?"**

Further avoiding the question, "Me" adds that God

**"shall use you as his instrument to a mighty honor."**

Dee took another tack, asking for practical information

[perhaps hoping the angel could fly above the 50° latitude  
and do a little reconnaissance for him.]

**Δ May we require description**

Dee writes in a footnote:

**"Description geographical" of the Countries, for his better instruction &c. ...  
For discoveries making of the seas and their bounds."**

Again, “Me” retorted :  
**“These things belong not to my charge. Thou Knowest them, which are sufficient”**

In another session, two days later,  
on Maunday Tuesday morning, March 26, 1583,  
Dee persists, asking:  
**“As concerning Adrian Gilbert, there might be some doubt  
in common external Judgment, of his aptness  
to the performance of the voyage with appertances...”**

Dee seems to doubt that Adrian Gilbert has the aptitude to be able  
to pull off the Northwest passage mission.  
“Me” gives a long winded response that seems positive.

Next Dee asked,  
**“When shall I make him privie of these things?”**  
“Me” responded:  
**“When thou will.  
For everything is acceptable to those that are accepted.  
See thou council him, and be his Father.”**

Dee then inquires:  
**“concerning John Davis.”**  
This response wasn’t as positive, as Me announced:  
**“John Davis is not of my Calendar...”**

That afternoon, at 3:30 PM, Maunday Thursday, March 28, 1583)  
they had another session, in which Dee asked “Me:”  
**“As concerning the Calendar to be reformed,  
I am grieved that her Majesty will not reform it in the best termes of veritie.  
And as for the privilege of Mr. Adrian Gilbert’s voyage,  
I think not well of it, that Royal ties should not be granted.  
Therefore both these points, respecting her Majesty,  
I would gladly have council,  
such as in the Judgment of the highest might be most for my behoove to follow.”**

“Me’s” grandilogent response sidesteps Dee’s two specific questionsbut mentons  
**“the prophet that slew that Monstrous Giant”**  
referring to David and Goliath.

Dee seems to have travel in mind, as he asked “Me” if he and Kelly  
can converse with spirits in  
**“places other than this house.”**

The response seemed positive:  
**“Truly thou has said, and shall it fall unto thee.”**



“Me” then added,  
**“The other shall be, but as necessary help to the first Practices, to plant the Tree:  
 which being confirmed and strongly rooted shall bring forth fruit, most abundantly.  
 The Earth and the tree, cannot be separated.  
 This is the end, and true it is.  
 Let him be record, whom I bear record of here.  
 And so with thee, Amen.”**

Dee’s foot note explains how he interprets who the “other” are  
 and their roles in the metaphor:

**The earth – 1. EK  
 The Tree – 2. Δ  
 The Planter – 3. AG**

“Me” concludes by reminding Dee to say his  
**“Philosophical Harmony in prayer,”**  
 which Dee abbreviates in his footnote:

**Deus in a m ind a a m f G P e F e S & c**

Peterson interprets this as meaning:  
**“Deus in adiutorium meum intende:  
 Domine ad adiuvandem me festina:  
 Gloria Patri et Filio et Spiritu Sancto.”**

(O God, be pleased to deliver me;  
 O Lord, hasten to help me.  
 Glory be to the Father, to the Son, and to the Holy Spirit,”  
 (which seems to be a shortened version of Psalm 70

(Peterson, p. 286, note 121)

Here’s another example of wordsmith Dee making a “beginning letter” acrostic.  
 [keep an eye peeled for Dee’s use this technique elsewhere]

Several weeks later, on April 18, 1583, around 8 in the morning,  
 Dee asks the angel Uriel:

**“Whether we shall give Council, or consent to the Captain  
 to go down into his Country, as he presently intends.”**

[Dee writes in a footnote that “Captain” refers to Adrian Gilbert]

Ur seems to approve, and indeed Dee reports that Adrian Gilbert  
 took a boat to Branford, then rode to Devonshire.

But before he left, Gilbert and Kelly got into a “great discord” on April 25, 1583.

Apparently, Gilbert apologized a few days later, as Dee says:

**“Mr. Gilbert his means, and pacifying of E K his vehement passions and pangs...  
 [they made] “a new pacification on all parts.”**

***Adrian Gilbert joins forces with John Dee and John Davis  
for a “Northerly Voyage”***

Elizabeth’s Domestic State Papers record another undated document that Quinn feels is also from early 1583. It’s a draft of the patent that Adrian Gilbert, John Dee and John Davis asked the Crown to approve.

It declares these three men as the:

**“chiefest travailers to find the Northerly voyage”  
and calls their “Incorporation” the  
“Collegats or fellowship of New Navigations Atlantical and Septentrional”**

[travailers means laborers] [Septentrional means Northerly, as The Great Bear has 7 stars]

Quinn recognized right away that the draft “bears distinct traces of Dee’s style,” and I fully agree. Even their “corporate title” reads like something out of Dee’s *General and Rare Memorials*.

**Privileges Desired by Adrian Gilbert (including John Dee and John Davis)**

(The proposal has no date on it.

Quinn guesses that the date might be “September 1583?”

Based on Dee’s Diary accounts, I think it was made around mid-March 1583.

The following is my modernized transcription of the document.)

**Privileges desired by Adrian Gilbert.**

**That Adrian Gilbert has heretofore greatly travailed and still continues to his great charges in travelling to discover the northerly parts of Atlantis called Noblus Orbis not inhabited or discovered by any Christians hitherto but by him.**

**That the said Adrian’s purpose is by traveling into those parts of the North, and be a means to win the people there to the knowledge of God, & to open a profitable traffic for this realm.**

**That her Majesty, for the considerations aforesaid, licenses the said Adrian and his associates (to be named in a schedule) as also their heirs and assigns of his & every of them to depart out of this realm with shipping, men, armor & all necessities unto the said Northerly parts lying (according to the earthly globe) between the aequinoctial line & the North Pole, any law or ordinance to the contrary notwithstanding; and to inhabit and enjoy to him & them all such places as he & they may possess themselves in those Northerly parts with all manner of liberty & royalties by land and by sea there.**

**That the said Adrian & the rest of his Associates and heirs & assigns shall for this license & grant yield to her majesty & her successors a fifth part of all such gold, silver, pearls, etc. as they shall get in those northern parts.**

**That the said Adrienne and the rest shall load, charge and discharge the commodities bought from those North countries only at the ports of London & Dartmouth; and the customers of these ports to receive the said fifth part for her Majesty.**

**That is said Adrian etc. shall hold all the said Northerly parts to him, them, their heirs & assigns forever, of her Majesty, her heirs & successors by homage & by the said fifth part received.**

**That case any other besides the said Adrian & his Associates do traffic into those parts of the North, their ships & goods to be confiscated, one half to her Majesty and the other to the said Adrian etc. and the said Gilbert etc. to sue for them and [if need be] in any court of record in this realm under the name of the Collegiates or the fellowship of New Navigations Atlantical and Septentrional, by which name they are Incorporated.**

**That the said Adrian & his Company shall have full power to make laws & decrees for all matters [whatsoever] among themselves & in those Countries, and the same not being contrary to the religion & laws in this realm now established.**

**That the said Adrian Gilbert, John Dee & one John Davis having been the chiefest travailers to find out this Northerly voyage and being of that Company as also their heirs or assigns shall be specially forever exempted from all customs and payments for anything they [carry] from here to those Northern parts, or bring from the there back to here, with a straight provision that, by this special exemption, they collect no other men's goods going or coming to other places than is aforesaid.**

**Then they said Adrian, in case any person of & in his Company grow mutinous by the way, may lay such punishment upon such person or persons as the cause shall be found in justice to require by the verdict of 12 men of the Company sworn thereunto.**

**Endorsed: -- A brief collection of the substance of the grants desired by the discoverers of the Northwest parts.**

[The comments in brackets here are from a second copy of the proposal in the Elizabethan State Papers 12/161, 24; see Quinn, *Voyages* p.486-8]

Each member of this trio had a different role:

**John Dee** was to be the navigational and legal expert,  
and use his influence with Walsingham and the Queen.  
**Adrian Gilbert** was to solicit investors and assemble a fleet.  
**John Davis** was to command the mission at sea.

The trio requested the rights:  
**to discover and occupy all lands in the “Northerly Parts”  
from “the aequinoctial and the North Pole.”**

[The “Aequinoctial” means the equator,  
which the sun is directly above on the equinoxes]

This might sound like the Adrian is trying to claim all of his brother’s land. But remember, Dee received rights to everything above the 50-degree north line in September of 1580. They were not doing anything behind Sir Humphrey’s back, they were simply promoting a second exploration to the Northerly parts.

The Sir Humphrey Gilbert/Peckham/Dee deal was a separate venture. Dee’s hopes for that colony had probably diminished after he heard that about 110 sick men (out of 260) men and half of the Company’s victuals and cargo had returned to England with Sir Walter Raleigh, only 3 days after its departure.

### *Adrian Gilbert’s personality*

Not much is written about Sir Humphrey Gilbert’s younger brother. The two were apparently close, as Sir Humphrey named his second son Adrian (the first he named after himself, Humphrey). But the two brothers had different personalities. Adrian never led armies and fought battles like his aggressive older brother.

John Aubrey included a brief sketch of Adrian Gilbert in his *Brief Lives*. **“This Adrian Gilbert was an excellent chemist, and a great favorite of Mary, countess of Pembroke. For a long time Gilbert resided at Wilton and ran Mary’s Laboratory [Sir Philip Sidney’s sister].”**

Aubrey adds **“He was a man of excellent natural parts; but very Sarcastic, and the greatest buffoon in the Nation; cared not what he said to man or woman of whatever quality so ever. Some curious ladies of our country have rare receipts of his.”** Apparently he was quite the Lothario (although at least for a time he was married to Emma, widow of Andrew Fulford).



Mary Sidney Pembroke also had an active interest in spiritual magic and alchemy (she devised a recipe for disappearing ink). Adrian designed a huge garden for her at Wilton, which was “heavily geometric and symbolic,” which had both “devine and moral rememberances.” It has been described as a “personal iconographic program based on symbolic geometry.” (You can see how he would get along with Dee.)

One recipe that has survived (if you want to try it) is “Adrian Gilbert’s Cordial water.” Into pure water, put roses, cinnamon, scallions, cloves, peaches and various other herbs and spices. Distill the water out and put in a linen bag with civer, musk, and ambergris (secretions from civit-cat, deer, and whale). This water, fortified by plant and animal, would cure colic, consumption, measles, pox, and fever. As Gilbert puts it, a good spoonful is good in all diseases and hurtful to none; in case of extremitie, 2 spoonfuls can be given.” (Margaret Hannay, Philip’s Phoenix: Mary Sidney, p. 131).

Adrian Gilbert was never Knighted like his brothers Sir John (who inherited the Sir distinction from his father) and Sir Humphrey. When he and Dee were associates in 1583, Dee was 56 years old, Adrian was only 38.

### *What about John Davis?*

John Davis (1550 – 1605) was born and raised at Sandridge, the mansion house just down the River Dart from the Gilbert’s homestead of Greenway. In 1583, he was only 33 years old. Roberts and Watson suggest Dee knew Davis when “he [Davis] was a boy.”

He was quite well educated and knowledgeable about mathematics, astronomy, navigation as well as classical literature.

(Roberts and Watson, p. 52). (We’ll explore more about Davis in a moment.)



### *Their Proposal to discover the Northwest passage was apparently rejected*

As there was no recorded response from the Privy Council, and the mision never came together at that time, it appears as though the trio’s proposal was rejected. Perhaps the Queen wanted first learn about the outcome of Sir Humphrery Gilbert’s expedition first.

**REJECTED**

Meanwhile, Dee was absorbed in another monumental project for the Queen and the Privy Council.



## *Dee's Calendar Reform Treatise*

While all these expedition plans and conversations with angels were occurring, Dee was also busy writing a 62-page treatise (in two books) entitled “*An advice and discourse for her Majesty about the Reformation of the Vulgar Julian year, by her Majesty's and the right honorable Council their commandment.*” (Dee, *Compendious Rehearsal*, p. 26).

In 1582, Pope Gregory XIII issued a papal bull removing 10 days from the calendar, which had drifted out of alignment with the actual equinox and solstices. (The spring equinox was falling on March 11, not March 21, as the Council of Nicea had decreed in 325 AD.) One of the main reasons for the decree is that Easter, earlier defined as the first Sunday after the first full moon following the spring equinox, was frequently celebrated on the wrong day.

Walshingham hired Dee to give his knowledgeable opinion on the Papal bull.

Dee, an expert on timekeeping (horology, sundials and solar disc calendars) and the history of astronomy, explained that the Pope's advisors were correct, the calendar was off. But they had made one small error. Their calendar corrections went back to the date of the Council of Nicea (325 AD), a man-made date. Truly the correction should go back to the birth of Christ, which Dee calls the “Radix of Time” (Radix means root, foundation, or origin, from which we get radish, an edible root). (*Oxford Latin-English Dictionary*, p. 613).

Dee's well-documented advice, with sources from ranging from Hipparchus to Regiomontus to Copernicus, was for the Queen to remove 11 days from the calendar.

Dee delivered his treatise to Lord Burghley on February 26, 1583. The normally skeptical Cecil felt it was “in the right line.” He added that Dee proved his proposals “by a great number of authorities such as I think the Romanists cannot deny.” (Woolley, p. 172).

Cecil was pushing for a fast approval, (because of some secret matter) and wanted the calendar “reformed before November” 1583. Walshingham approved. The whole Privy council approved. The Queen approved. It only needed the approval of the Anglican bishops.

Unfortunately, the Archbishop of Canterbury, Edward Grindall and Elizabeth had recently been feuding on other issues. Grindall vetoed Dee's calendar reform proposal outright. He claimed that the whole idea of changing the calendar was Papist. Furthermore he asserted that the Protestant calendar could only be changed with approval of all the Protestant churches on the continent, (which he knew right well was never going to happen)

(Woolley, p. 173; Poole, p. 66; Clullee, p. 178).

This was a tremendous blow to Dee. Not only was he hoping that calendar treatise would lead to Royal patronage, it meant that all of England and his envisioned British Empire would still be cosmically misaligned to the wrong time. (It wasn't until **169** years later, in 1752, that the Crown finally realized Dee was right and adopted the 1583 Gregorian reforms.)



**REJECTED**

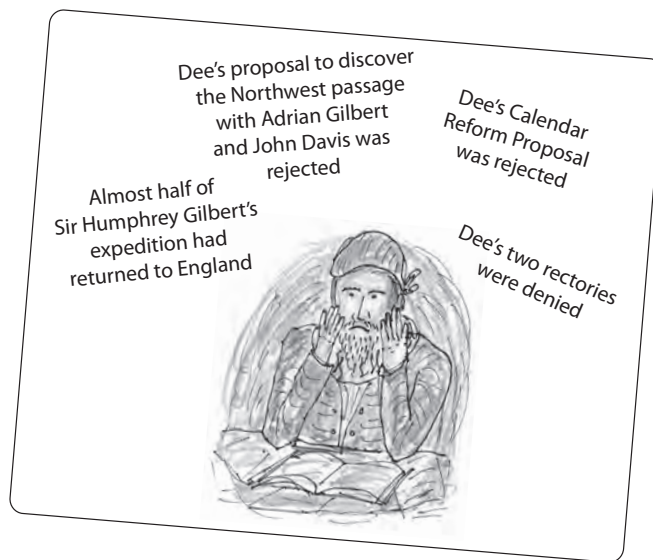
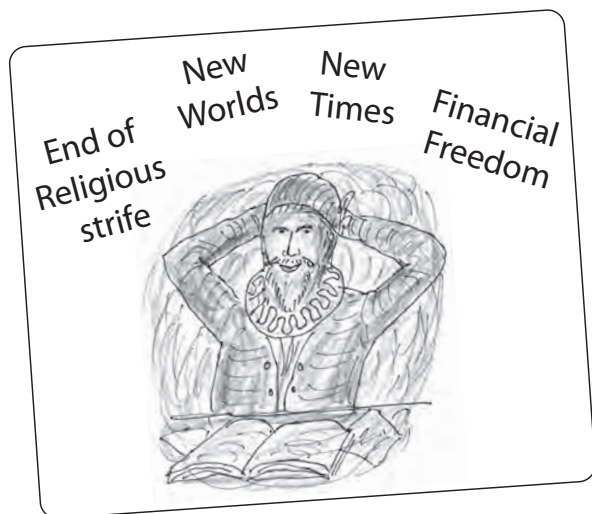
### *Dee's loses his valuable rectorships because of a clerical error*

With little inheritance and a large household to maintain, Dee was continually beset by financial problems. Back in 1553, King Edward VI had given Dee the rectorships of Upton-upon-Severn, Worcestershire (90 miles northwest of London; near Stratford-upon-Avon; the Severn flows south into the Irish Sea at Bristol) and Long-Lednam, Lincolnshire (90 miles north of London). In 1576, with the help of Dee's friend Sir Christopher Hatton, Queen Elizabeth re-granted these two remote directorships to Dee for life, which meant Dee would receive 1000 pounds annually.

**REJECTED**

It took 6 years for the Archbishop of Canterbury to finally put his seal on the documents. Dee had a year to get the official seal of the Crown affixed to the document, but he became so absorbed in the calendar treatise and other activities, he completely forgot to do it. When informed that his rectorships were lost, he pleaded with the Queen that he was busy working on her behalf. But the Archbishop continued his "great hinderance" which grated Dee to no end.

*(Compenious Rehearsal, p. 14 and Poole, p. 66).*



Dee was dejected by these multiple rejections. He was increasingly frustrated with his countrymen and decided he should be playing a role on a much bigger stage: Europe.

In August of 1583 he made an inventory of his enormous library and made arrangements for Jane's brother to live at Morklake.

On September 21 1583, Dee, Edward Kelley and their families left for Europe. Londoners didn't notice their departure because Dee had chosen the night before wedding day of Philip Sidney and Frances Walshingham to sneak down the Thames and cross the English Channel.

This chart summarizes what was happening in Sir Humphrey Gilbert's expedition **and** at Mortlake in 1583. Note that Dee and Kelley left for the continent the day before Edward Hayes and the Golden Hind arrived at Dartmouth Harbor.

<i>John Dee's activities in 1583</i>	1583	<i>Sir Humphrey Gilbert's activities in 1583</i>
Jan. 23, 1583 Dee and Adrian Gilbert discuss Northwest passage with Francis Walshingham	Jan.	
Jan. 24, 1583 Dee, Adrian Gilbert and John Davis meet with secretary Beal with maps and routes	Feb.	Feb. 28 Sir Humphrey Gilbert sells Sir George Peckham 1.5 million acres at the John Dee River and port
Feb. 26, 1583 Dee presents his Calendar Reform treatise to Cecil, Lord Burghley	Mar.	March Sir Humphrey Gilbert's intended departure date
Mar. 6, 1583 John Dee, Adrian Gilbert and John Davis meet with the Muscovy Company	April	
Mar. 24, 1583 Adrian Gilbert travels to Devonshire to arrange for ships for an expedition	May	
Mar. 25, 26, 28, 1583 John Dee and Edward Kelley consult with the angels regarding Adrian Gilbert and "New worlds"	June	June 11, 1583 Sir Humphrey Gilbert's 5 ships depart from Plymouth June 14, 1583 A "contagious sickness" forces the bark Raleigh to return to England
(undated) John Dee, Adrian Gilbert and John Davis send the Queen a proposal to discover the Northwest passage	July	<b>Sir Humphrey Gilbert's expedition</b>
(around April, 1583) Archbishop Grindall vetoes John Dee's Calendar Reform Proposal	Aug.	Aug. 3, 1583 Sir Humphrey Gilbert's 4 ships arrive at St. John's Aug. 20, 1583 Sir Humphrey Gilbert's 3 ships depart from St. John's Aug. 29, 1583 A storm destroys the <i>Delight</i> off Sable Island
(around May, 1583) John Dee loses the annual income for life from 2 rectories	Sept.	Sept. 9, 1583 Sir Humphrey Gilbert drowns in a tempest Sept. 22, 1583 Edward Hayes and the Golden Hind limp back to Dartmouth Harbor
August, 1583 John Dee prepares his Library catalogue	Oct.	
Sept. 21, 1583 John Dee and Edward Kelley depart for Europe	Nov.	Nov. 1583 Sir George Peckham tries to renew enthusiasm with his "True Report..."
	Dec.	

## *The “Big Picture” in Dee’s Mind.*

To Dee, all of his activities were all interrelated: New Lands, New Times, Religious Unity, all were part of a grand plan for a New World that would all be singing Mathematical Harmonies of his *Monas Hieroglyphica*. Dee envisioned a **“Cosmographical Reformation.”** **“Cosmography”** (or the mapping of the cosmos) as Dee explains in the *Preface to Euclid*, is the art which **“matches Heaven, and the Earth, in one frame and aptly applys parts Correspondent: So as the Heavenly Globe, may (in practice) be duly described upon the Geographical, and Hydrological Globe.”** (“Two circles making one” is a major theme for Dee.)

William Sherman writes “no-one went so far as Dee in combining geometrical symmetry, divine will, and the royal person to justify England’s nascent maritime empire.” Robert Poole adds “The Keystone of this whole enterprise was Dee’s new and correct Elizabethan calendar, anchored on the London Meridian.” Dee felt that his 11-day calendar, indeed also the Protestant Religion, would be adopted by the whole world once his envisioned British Empire had spread around the globe.

Dee felt his calendar adjustment would bring heaven and earth back into alignment. Man’s days would be realign with the sun’s days. Dee writes in his calendar treatise that he wanted to achieve **“natural and heavenly Concordances.”**

(Poole, p. 61, and Dee, *Plain Discourse*, fol. 45-7, marginal notes).

Dee’s *Monas Hieroglyphica* is a cryptic explanation of this “as above, so below” Hermetic philosophy. When deciphered, it specifically details the natural flow of number.

As Robert Poole expresses it: “Correct numbering and measurement, in short, were the way for humanity to achieve not only correct knowledge of the divine order but also the right management and exploitation of the world in accordance with divine wishes.”

(Poole, *Time’s Alteration*, p. 61)

As Dee explains in the opening of his Preface to Euclid **“Mathematical things”** are the middle ground between **“super celestial things and natural things.”** (Dee, *Preface*, p. 0, verso)

To Dee, mathematics represented what Poole calls a “higher philosophical unity,” which, when comprehended, would make possible a reunification of Protestants and Catholics.

Poole writes that mathematics “was a way of achieving links with God through numbers.” (Poole, p. 60 and French, p. 103-109)

In short, Dee saw all of his activities as interrelated and he was a self-ordained catalyst for change. His job of returning humanity to, (as French puts it), “a pristine but Christian religion of universal love” was a pretty awesome task. So he turned to “God’s angels” for assistance. Dee explains that right from the start, the visiting angels continually urged him and Kelly **“to a betterment of our life, to piety, and to the practising of peace and charity towards our neighbors.”** (Josten, *Unknown Chapter on the Life of John Dee*; French, p. 120).

## *Albert Laski arrives in London*



By mid-1583, Dee was fed up with his with his fellow Englishmen. The Gilberts, the Archbishop, Walshingham and even the Queen didn't seem to be helping him much help with his grand plans.

Suddenly, on July 15, 1583, a new ray of sunshine broke through Dee's cloudy life.

The Queen's barge was cruising up the Thames, with a group of courtiers including Sir Philip Sidney. They were escorting the Polish prince Lord Albert Laski to Mortlake.

Dee and Laski had actually met 2 months earlier in May 13, 1583, in a meeting with Robert Dudley, the Earl of Leicester at Greenwich Palace. The two found they had much in common with their universalist ideas and interest in spiritual actions. (Woolley, p. 186-188; *Dee's Diary*, p. 20)

Laski stayed at Mortlake for 5 days in mid-July. (Diaries, p. 100; Wooley, p. 320)

Earlier in this book, I mentioned that in the early 1600's John Aubrey interviewed one of Dee's maids for his short biography of Dee. Old Goodwife Faldo told him that Dee "showed the Eclipse with a dark Roome" at Mortlake to the "Polonian Ambassador." (Aubrey, *Brief Lives*, edited by Oliver Dick, p. 90).

The NASA website has a history of solar eclipses by Fred Espenak and Jean Meeus, which shows that there was a partial eclipse that fell over England on July 31, 1583. That would have been July 21, 1583 in Julian years.

Dee reports in his Diary that Count Albert Laski stayed at Mortlake from July 11 to July 16. The 21st was only 5 days later and perhaps the Count, who was most likely staying elsewhere nearby in London, returned to Mortlake to see the event in Dee's camera obscura room. ([www.sunearth.gsfc.nasa.gov/eclipse/solar](http://www.sunearth.gsfc.nasa.gov/eclipse/solar)).

Laski was born in the same year as Dee (1527) and died 3 years before Dee died (1605). He was a writer, an alchemist and a humanist. He had a thick beard that covered his breast and shoulders and loved to dress in **bright scarlet clothes**. (important clue)

## *Did Kelly dupe Dee?*

Dee lived from 1527 to 1608. The year 1582 (when Dee was 55) marked a turning point in his career. Besides having colonization and calendar reform projects in the wind, it was also the year that a 26-year-old man named Edward Kelly knocked on Dee's door at Mortlake. Kelly claimed to have a direct communication line with angels and spirits and was willing to be of service to Dee.

Edward Fenton calls Dee's doings with Kelly "greatest setback of his career," as subsequently Dee never published another book.

But he didn't stop writing completely. He kept an extensive diary of his work with Kelly. The material that has survived chronicles the years from 1577 to 1607, with the bulk of it from the 1580's (when Dee was in his 50's and journeyed to Prague with Kelly).



The diaries would fill 5 volumes, but Edward Fenton has distilled the essence of it into one book, *The Diaries of John Dee*. Fenton's explanatory footnotes, short biographies (of some of the 600 people Dee mentions), and glossary illuminate Dee's entries.

From a literary point of view Dee's diary is important, being one of the first private diaries ever written in English. Sometimes the entries are simply short sentences or phrases, but in describing the angel conversations Dee goes into great detail. Joseph H. Peterson asserts that it is "probably the most detailed records of the actual practice of ceremonial magic extant." Peterson has compiled and added explanatory notes for Dee's diary specifically from the years 1582 and 1583 in a recently published book called *John Dee's Five Books of Mystery*.

Between Fenton's book and Peterson's book, one can get a good sense of what was going on in Dee's mind, Kelly's mind and the fascinating interplay between the two.

The diaries show that Dee was initially skeptical of Kelly. As Fenton puts it, "The story of how he nevertheless managed to ensnare one of the most brilliant polymaths of his day, and maintain his grip for so many years, makes this a document of great psychological and human interest." (Fenton, p. viii).

Dee was looking for the keys to the universe. He knew that the harmonies he found in mathematics, which he cryptically espoused in this *Monas Hieroglyphica*, were part of the answer. This is why he was confident enough to dedicate it to King Maximilian, and why he personally tried to explain it to King Rudolph in Prague.

He told Rudolph that he had spent 40 years with **"great pain, care, and cost"** searching for the meaning of man's place in the universe. **"And I found (at length) that neither any man living, nor any book I could yet meet withal, was able to teach me those truths I desired and longed for."** Dee felt that God's plan could be best understood through God's messengers, the angels. As Woolley phrases it, "This was Dee's hope, and Kelly's promise." (Woolley, p. 298)

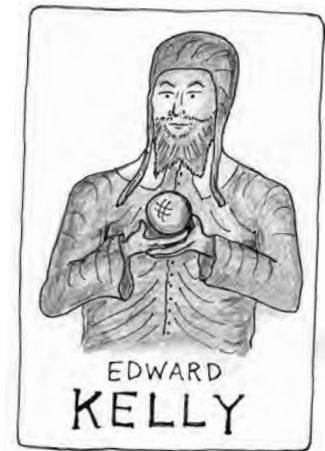
Was Kelly incredibly gifted with abilities to speak to spirits or was he simply an imposter? Peterson suggests the truth lies "somewhere in the middle." (Peterson, p. 38)

Whether Kelly was a charlatan or clairvoyant is not important to decide here.

Dee's format, where he writes down his leading questions, and then the response, provides historians with a remarkable view into the workings of Dee's fascinating mind.

Fenton explains, "Many Renaissance thinkers dabbled in magic, some even conjured up spirits, but none other than Dee claimed to summon the divine secrets of the universe from angles and archangels." And none of them were quite as willing to write down their experiences. Dee wrote for the ages, knowing full-well that his writings could be hazardous to himself and his family.

Clulee writes that Kelly might have made up everything just to string Dee on, but it doesn't seem that it was all "conscious deception." The hot-headed Kelly sometimes got in disputes with the angels. Often Kelly wanted to quit the whole affair, only to be roped back in by Dee's desperate pleas. When the authorities in Prague interrogated him, Kelly admitted to his conversing with spirits, even though it put his life in peril.



Kelly sometimes questioned whether the angels were truly Divine, but he and Dee both were convinced they were real. Dee didn't actually see the spirits, they all came through Kelly. Frequently their revelations were prejudiced "in favor of Kelly's interests."

(Clulee, p. 205 and Peterson, p. 38).

Dee wasn't the only person captivated by the Kelly's skills. Emperor Rudolph, the wealthy Count Rozmberk, William Cecil, and Sir Edward Dyer were all, for a while at least, convinced Kelley could contact supernatural realms. But very often much the Angels' wisdom was a rehash of material found in other Renaissance texts, like Agrippa, Reuchlin, Trithemius, and Peter of Albano. Dee even writes these references in his marginalia when he recognizes them. Kelly lived at Mortlake, so he had easy access to all these texts that he knew inspired Dee. The treatises that Kelly later penned *The Stone of the Philosophers*, *The Humid Path*, *Theatre of Terrestrial Astronomy* are full of references to the early alchemists, from Hermes and Calid, to Avicenna and Bernard of Trevista. (Arthur E. Waite *Alchemical Writings of Edward Kelly*.)

One example of Kelly's telling Dee what he wants to hear comes from an action that took place on February 22, 1584. Dee asked the youthful angel Madimi several questions including, **"As concerning the red powder, which E.K. found with the book in England, what it is : and what is the best use of it, and how that use is practised or performed."**

Madimi, through Kelly, replied, **"That which thou (E.K.) has, is a part of four, and is become the fifth: yet it is none of the four, dignified in a cube, whose root is 252."**

(Fenton, pp. 113 -114)

Kelly obviously knew that 252 was key number in Dee's *Monas Hieroglyphica*, so associating it with the red powder would have caught Dee's attention. The rest of the little math riddle seems to make no sense at all. Dee was one of the top Renaissance geometer's and mathematicians. Kelly knew nothing about mathematics. To me, Kelly's tossing in 252 sets off flashing red warning lights, but perhaps to Dee it was reassurance that the angels were aware of the mathematical harmonies he saw in Nature.

Four days earlier, on February 18, 1584, Kelly declared **"I see a little wench on a bench, all in white..."** The wench explains that she has been to England and **"The Queen said she was sorry that she had lost her philosopher. But the Lord Treasurer answered "He will come home shortly, a-begging to you. They all wear black. Sir Henry Sydney died upon Wednesday. A privy enemy of yours."**

Dee later found out that Sir Henry Sydney was not dead (he lived until 1586) and wrote in his marginalia **"therefore this must be considered,"** but also suggests that it was possible that it was the spirit who was lying. (Fenton, pp. 112 and 116).

### *The end of Edward Kelly's life.*

To very briefly summarize their journey in Europe, Dee and Kelly failed to impress both the Polish King Stephen in Krakow and Emperor Rudolph in Prague. Ordered to leave Prague in 1586, they took up residence in Trebon under the patronage of the wealthy Count Rozmberk. In 1587, Kelly revealed to Dee that they had to share everything, including their wives.

Dee acquiesced, but soon became irritated with Kelly and the angels. It's thought that Kelly was cleverly looking for a way to quit being Dee's scribe so he could concentrate on his alchemical experiments to make gold. The two separated ways in 1588 and Dee returned to England in 1589.

By 1590, Kelly had convinced Rudolph that he could produce large quantities of gold. Rozmberk gave him large estates, from which he became quite wealthy. Rudolph made him a “Baron of the Kingdom.” Kelly owned over 20 houses in Prague. Cecil even sent Edward Dyer to Prague to convince Kelly to return to England.

But in 1591, the Emperor grew weary of Kelly’s all show and no go. Kelly was tossed him into the dungeon. To prove to the Emperor he knew what he was talking about, Kelly wrote alchemical texts, but they were mostly plagiarized from earlier alchemical writers.

In 1594, he was given a second chance. He was released and was reinstated as a Baron. Not only did he fail again, but in a rage, he wounded another alchemist. Once more he found himself imprisoned, this time in the tower of a castle in Brux, in western Bohemia. The tale goes that he used a rope to escape out a window, but the rope wasn’t quite long enough. He leaped, broke his leg, and died from the injuries. (Edward Kelly, Wikipedia, p. 3)

### ***Kelly’s Angel Conversations and Dee’s Monas Hieroglyphica are two separate things***

As you can see, Dee and Kelly’s journey angel magic explorations are so bizarre, they seem stranger than fiction. You can see why many historians over the years have simply dismissed Dee, ignoring his many accomplishments. You can also see why the cryptic *Monas Hieroglyphica* often gets written off as imaginative magical text. But keep in mind that the *Monas* was written in 1564, a full 12 years before Kelly came knocking on Dee’s door at Mortlake.

### ***Laski gets involved with Dee, Kelly, and the angels.***

When Prince Albert Laski had gone to to visit Dee in Mortlake on May 18, 1583, Kelly was away, but Laski left 3 questions for the team to ask the spirits.

- 1. What might be said about the live of Stephen, King of Poland?**
- 2. Will his successor be Albert Laski or someone from the House of Austria?**
- 3. Will Albert Laski, Palatine of Siradia, gain possession of the Kingdom of Moldavia.**

Ten days later on May 28, 1583, Dee and Kelly are discussing Laski’s “**great good liking of all states of the people.**”

Dee appreciated how “**Laski’s heart should so fervently favor me, and that he doth so much strive to suppress and confound the malice and envy of my countrymen against me,...**”

When young spirit, Madini, appears to Kelly, Dee asks, “**I pray you declare the pedigree down to this Albert Laski.**” Madimi, through Kelly deftly sidesteps the questions “**Alas, I cannot tell what’s done in other countries.**” (Fenton, p. 88)

Six days later, on June 3, 1583, Kelly had a vision of **“a husbandman in all red apparel, red hose close to his legs, a red jacket, red buttoned cap on his head, yea and red shoes.”**

A husbandman is a farmer, and Fenton suggests the red clothing might be made from a reddish brown material called russet that country people wear. But that doesn't explain the red shoes. I think the red is meant to mean a vivid scarlet red hat, jacket, pants and shoes, a “country-fied version” of Laski's flamboyant scarlet clothing.

Dee comments that his clothing makes him look like a farmer, not a scholar. Dee then asks **“who sent you”** and **“what is your message?”**



This red-clothed squire, through Kelly suggests that Laski will be elected to **“govern him a people”** who will call him **“O King.”** He urges Dee **“Give him sharp and wholesale counsel. For in him (I say) the state and alteration of the whole world shall begin.”** (Dee's marginalia even says that this refers to Albert Laski).

The angel says his name is “Murifri” and he that Dee has written his name earlier in a table of names. Dee claims he has not ever written that name, but Murifi insists he has. (Dee had a photographic memory and was fluent in many languages, and the name doesn't appear on any of the earlier tables that have survived.) (Fenton, p. 88-89).



Six day later, on June 9, 1583, appearing in front of Kelly was a vision of an old maid with yellow hair. She was wearing a red petticoat and a red silk upper bodice. (In Elizabethan times a petticoat meant a skirt that hung from the waist, not flashy underwear). (OED p. 754)

Dee asks her to explain more about Laski, **“Whom we are certified to be of God elected to govern him a people...”** She responds, **“Ask me these things tomorrow.”**

(Fenton, p. 91)



The next day, Prince Albert Laski, accompanied by Sir Philip Sidney and Lord Russel, stopped by Mortlake from 5 PM to 6 PM, while returning from Oxford on the Queen's barge.

Shortly thereafter, "the old maid dressed in red" reappeared to Kelly saying, **"Whom thou sawest here shall govern over 21 Kingdoms ... the sun shall not pass his course before he is a King. His counsel shall breed alteration of this state, yea the whole world."**

Dee then asked, **"In respect of my own state with the Prince, I pray how much hath he prevailed to win me due credit: and in what case standeth my suit, or how am I to use myself therein?"**

Dee is delighted to hear that Laski will become a King, but wanted to know about his own "suit" to regain the 1000 pound annual payments from the rectorship of Upton-upon-Severn and Long Leadenham.

Four days later, on June 19, 1583, Laski had spent the night at Mortlake and they allowed him to participate in the action. Floating in the air in front of Laski, Kelly saw an angel in a white robe holding a bloody cross in his bloody right hand, who declared **"My name is Jubanladech, I am the Keeper and defender of this man present."** He didn't say much, except that the Queen **"loveth"** Laski **"faithfully"** but Cecil wasn't that keen on him. Laski was triilled have been in contact with his own personal guardian angel.

About 2 weeks later, on July 2, 1583, Dee was writing a letter to Adrian Gilbert who was down in Devonshire. Suddenly, Madimi appeared to Kelly.

Dee inquired if Walshingham was **"alienated"** from Dee.

Madimi replied: **"The Lord Treasurer [Cecil] and he [Walshingham] are joined together, and they hate thee. I heard them when they both said you would go mad shortly..."**

Two days later, on July 4, 1583, Dee asks Madimi **"In respect of the Lord Treasurer, Mr. Secretary and Mr. Rawleigh, I pray you, what worldly comfort is there to be looked for?"**

She replied abruptly, **"Madder will stain, wicked men will offend and are easy to be offended."** (Madder is a plant common in Europe, the root of which is a red dye.) (Fenton, p. 92-99)

Eight days later, on July 12, 1583, Laski gave Dee 200 German thalers (from which we get the word dollars) and Kelly 400 thalers, promising to give them that sum annually for their council. (It should be noted here that Laski never became a King. He ran into his own financial difficulties, and apparently never paid Dee or Kelly any more of their promised annuities.)

It certainly seems to me that Kelly is putting his own spin on things. He paints the picture that Dee is out of favor with the Privy Council and that he'd be better off hanging on to Prince Laski's coat tails, as he will be a King within a year.

This might be because Kelly had an ulterior motive. In the midst of these sessions, on June 5, 1583, Kelly's brother Thomas arrived at Mortlake. He reported that a commission had been appointed to apprehend Edward Kelly **"as a felon for coining of money."** Also, a man named Mr. Husey had reported that Edward Kelly was a **"cosener"** (an imposter, a fake) and had made **"very bitter and grievous reports" about him recently.** Finally, he reported that Kelly's wife was so distraught she left their home to go to her mother's house. This set off Kelly **"in a marvelous great disquietness of mind, fury, and rage"** (as Dee puts it.) In the margin Dee comments: **"A mere untruth in every part thereof, and a malicious lie,"** (defending his scribe's integrity.)



With things not going Dee's way in England, Kelly on the wanted list, and the potential that Laski's star was about to shine very brightly, Dee decided to try his luck with European patronage, and made plans to leave for the continent. On this continental voyage he would not alone. He would be accompanied by his wife, his young children, Kelly, Kelly's wife, and a retinue of servants.

### *Dee's August 1583 Library Catalogue*

That August, Dee spent two weeks in his library compiling a 170-page list of the books, treatises, and manuscripts in his library.

Dee's actual handwritten compilation has survived and has been reproduced and extensively indexed by Julian Roberts and Andrew G. Watson in their 1990 tome *John Dee's Library Catalog*. Woolley calls Dee's document **"one of the greatest works of bibliography to come out in the Renaissance."** (Woolley, p. 201)

Next to practically each of the thousands of entries are the letters **T** or **Fr**, which Dee added later in the 1590's, after he returned to England. The letter **T** means he had taken book with him on his European journey (there are a lot.) The letters **Fr** mean he left it at home in Mortlake under the care of his wife's brother, Nicholas Fromond.

By this accounting, Dee was able to ascertain that 70 books and 1 manuscript were stolen by his ex-partner in the Northwest passage expedition, that pirate John Davis.

In the margin next to Sebastian Meunster's *Cosmographica*, Dee has written **"John Davis took (with other) by violence out of my house after my going."**

Roberts and Watson suggest that Davis' motives were **"born of exasperation at Dee's defection from the cause of exploring the Northwest passage and his drift towards occultism under the influence of Kelly."** Curiously, the mathematics texts that Davis stole were only those written in Latin. He also made off with texts on "astronomy, astrology, geometry navigation and discovery." (Roberts & Watson, p. 50-52 and Dee's book number 88.)

Dee had known Davis as early as May 22, 1568, when Davis was only 16 years old. In his Ephemeride (astrological and astronomical calendar) Dee wrote in the margin (in Latin) **"the birthdate of John Davis is May 3, 1552, elicited by magic by William Emery at my house."**

(Woolley, p. 146, 316 and Clulee, p. 140)

This is one of the first spiritual activities recorded that Dee was involved with. He doesn't seem to be seriously involved with scryers until the late 1570's.

One of the first people to visit Dee after his return was Adrian Gilbert. On December 19, 1589, Dee wrote in his diary, **"Mr. Adrian Gilbert came to me at Mortlake: and offered me as much as I could require at his hands both for my goods carried away, and for the mines."** This suggests that Adrian Gilbert had also made off with some of Dee's books and equipment. In his absence, Dee had apparently lost his percentage of the profits from the Devonshire mining project. (Fenton, p. 247 and Roberts and Watson p. 52)

Woolley has unearthed a manuscript written by the founder of Caius College, Cambridge, John Caius, dated February 24, 1567 of **"Certain strange visions or apparitions of remarkable note. Year 1567, Lately imparted unto me for secrets of much importance. A notable journal of an experimental magician."** Caius notes that the **"Vision"** was seen by H.G. and his "Skryer" John Davis. Woolley suggests that the H.G. is none other than Humphrey Gilbert. Gilbert, born in 1537, was much older at the time (31) and involved with the Irish rebellion. As we shall see, the Davis and Gilbert families were childhood neighbors on the River Dart in Devonshire.

WHAT BECAME  
OF  
ADRIAN GILBERT  
AND  
JOHN DAVIS  
(AND WHO WAS THIS  
ANTHONY BRIGHAM GUY?)

*Adrian Gilbert goes it alone*

In late September of 1583, Adrian Gilbert was distraught. He had lost his brother, and he had lost the brains (Dee) of his proposed expedition for the riches of the Northwest passage. If he didn't assert himself now, the Gilberts' rights to the North America would vanish in thin air.

He jotted out a memorandum to the Privy Council. It's quite brief and hardly as eloquent as Dee's proposal made about a half-year earlier.

The Memorandum as it appears in the Elizabethan State Papers

**Memoranda of things necessary for the discovery of the north-west passage.**

A consideratyon of sooche thinges as shall be necessarye for the advauncement of the discoverye of the northe west passage.

In primis yt yt wouold please her majestie to grawnte unto Mr Adrian Gilbert and unto his assocyattes lyke privyleagues as weare not longe sithence grawnted until Sir H. Gylbert.

That whereas a grawnt was made unto the Company of Moscovia for the dyscoverye of the Northe west passage the seyd compaynye may be dealt with all to grawnt unto the seyd Adrian and unto his assocyattes lybartye to make the said dyscovarye and that the same being dyscovered nowe shall frequent as a trader into sooche contrys as shall be by them dyscovered but the said Adryan and his assocyattes during the space of xx yeeres without the assent of the sayd Adrian [withall?]

To make choyse of sooche adventurers as shall venter the discovery and note ther names.

To make choyse of two shippes the one iiiix tun an other of 50.

To furnishe the said shypes with three score mariners.

To set downe a proporctyon of vycalles for one whole yearre.

To set downe a preporctyon of merchaundyce for to be carryed in the said shippes.

To erect two staples for the placynge of sooche merchaundyce as shall be brought owt of the cuntries dyscoveryd whereof the one to be at London the other at Dartemouthe.

To sende for A. B. owt of hand.

**Endorsed:— Considiretions for ye discovery of ye North Weaste passage.**

(Quinn, Voyages, pp. 485-6)

(My modernized transliteration of the proposal:)

**Memoranda of things necessary for the discovery of the Northwest passage.**

A consideration of such thinges as shall be necessary for the advancement of the discovery of the Northwest passage.

In primis, it would please her majestie to grant unto Mr. Adrian Gilbert and unto his associates like privileges as were not long since granted until Sir H. Gilbert.

That whereas, a grant was made unto the Muscovy Company for the discovery of the Northwest passage, the said compay may be dealt with all to grant unto the said Adrian and unto his associates liberty to make the said discovery, and that the same being discovered now shall frequent as a trader into such countries as shall be by them discovered by the said Adrian and his associates during the space of 20 years without the assent of the said Adrian [withall?]

To make choice of such adventurers as shall enter the discovery and note their names.

To make choice of two ships, the one of 16 tun and the other of 50 tun.

To furnish the said ships with 60 mariners.

To set down a proportion of victuals for one whole year.

To set down a proportion of merchandise to be carried in the said ships.

To erect two staples for the placing of such merchandise as shall be brought out of the countries discovered, either at London or Dartmouth.

To send for A. B. out of hand.

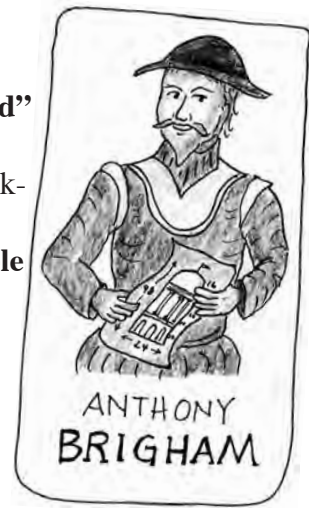
**Endorsed:— Considerations for the discovery of the Northwest passage.**

Both the cryptic initials “A.B.” and the expression “out of hand” seem quite unusual in this otherwise formal, but brief legal document.

These initials, A.B., refer to **Anthony Brigham**, whose name Hakluyt listed along with Sir Humphrey Gilbert and Edward Hayes a part of the Gilbert’s exploration team. Quinn writes that this “**suggests a possible link between Adrian Gilbert and Anthony Brigham, who had been working as a propagandist for Sir George Peckham.**” (Quinn, p. 99)

The expression “out of hand” means “immediately, at once, straightaway, forthwith, speedily, or pronto.” Adrian Gilbert is expressing real urgency. His older brother is dead. His navigational and legal guide, John Dee, has departed to Europe, and the 6-year window of opportunity to settle a colony is about to expire.

Adrian Gilbert is pleading to take his brother’s rights and set up a colony posthaste. Otherwise, the potentially lucrative Northwest passage, as well as the entire continent of North America, would slip from between his fingertips.



### *Adrian Gilbert and John Davis get a new partner*

In January of 1584, “Adrian Gilbert and his Associates” presented a more formal proposal to the Queen.

#### **January 1584. A draft of the grant to Adrian Gilbert and his associates.**

A graunte from her majestie to Adryan Gilbert & his Assocyates & their heyres to be incorporated by the name of the Colliges of the discovery of the north west passage.

That the sayd Adryan Gilbert his Assocyates their heyres & assignes & every of them shall have absolute poure & aucthorytie to trafique, trade, & make their resyance, in those landes to be discovered with all priviledges prerogatives, Jurydictions, & Royalties, both by sea & Land. Paying therfor to her majestie her heyres & successors the tenthe parte of all gold & sylver ore pearles Juells & precious stones to be delyvered to the customers of London, Dartmouthe & Plymouthe at which places only they shall lade & unlade.

That no person or persons shall trafique or trade in this Discovery with oute beinge fre, unles they have the speciall lycence of the sayd Adryan his heyres or Assignes or the more parte of them, so that the sayd Adryan his heyres or Assignes be one upon payne of fortayture ipso facto bothe ship & goodes one halfe to her majestie & thother to Adryan Gilbert & his Assocyates their heyres & assignes for ever.

That the sayd Adryan Gilbert & his Asocyates their heyres & assignes shall make any Lawe statue ordenaunce & decre for the better advauncement of their newe trade & trafique not being contrary to the lawes of this our Realme.

That yf any the Assocyates or other, trafiquinge & tradinge in this dyscovery shall chaunce to make their abode in those landes & there to have yssue, that their yssue shalbe fre denysens & enjoy all priviledges as persons natyve borne within this our Realm.

The sayd Adryan Gilbert, Walter Raley & John Davys to be custome free for their owne proper goodes, duringe the space of .60. yeres. Which they shall bring from those landes to be discovered.

That no person or perons shall visit haunt frequent trafique or trade in this voyage for the space of fyve yers without the especiall good lyking & consent of the sayd Adryan his heyres or assigns first had in wrytinge.

To have aucthorytie by verdit of .12. men of the company to punyshe any offender as the cause in Justice shall require.

Endorsed: - A brefe of the Corporacion for Adryan Gilbert & his Associates.

To briefly summarize:

The Associates would be able to trade “freely with no customs fee, (now with a 60-year limit).

Justice would be dispensed by the verdict of 12 members of the company.

The Associates will pay the Queen one-tenth (previously one-fifth) of all gold and silver ore, pearls, jewels, and precious stones.”

The English ports of trade will be London, Dartmouth, and (newly added), Plymouth.

There were several other, more significant changes:

The range of discovery shrunk “from the equator to the North Pole” to just the Northwest passage.

The name was shortened to simply “Adrian Gilbert and his Associates.”

Many of the details are the same that Dee had written about in the earlier proposal, with the one major exception: **John Dee had now been replaced by Walter Raleigh!**

On February 3, 1584, the patent was approved by the Queen, but it only named Adrian Gilbert and allowed for settlement rights only along the passageway. The “customs-free” clause was also removed. As we shall see, Adrian Gilbert was the political heavyweight who stayed in England, while his comrade John Davis actually commanded the expeditions.

### ***Sir Walter Raleigh scores big: essentially inheriting Sir Humphrey’s grant to North America***

There was, however, another colonizing effort that was gaining momentum.

Sir Walter Raleigh had been saving capital for a new mission. At first, he planned to partner with Adrian Gilbert in a search for the Northwest Passage, but by the spring of 1584, he had turned his attention to colonizing further south.

Perhaps because he had become one of Elizabeth’s favorite favorites, Raleigh was able to obtain a much wider grant than his half-brother Adrian.

On March 24, 1584, the Queen gave Raleigh the **same letters patent that she had given his Sir Humphrey in 1578.** (The only difference was that it excluded monopoly rights for the Newfoundland fisheries.)

Raleigh sent expeditions to “Virginia” in 1584, 1585 and 1587, but they all failed to plant a “lasting colony.”

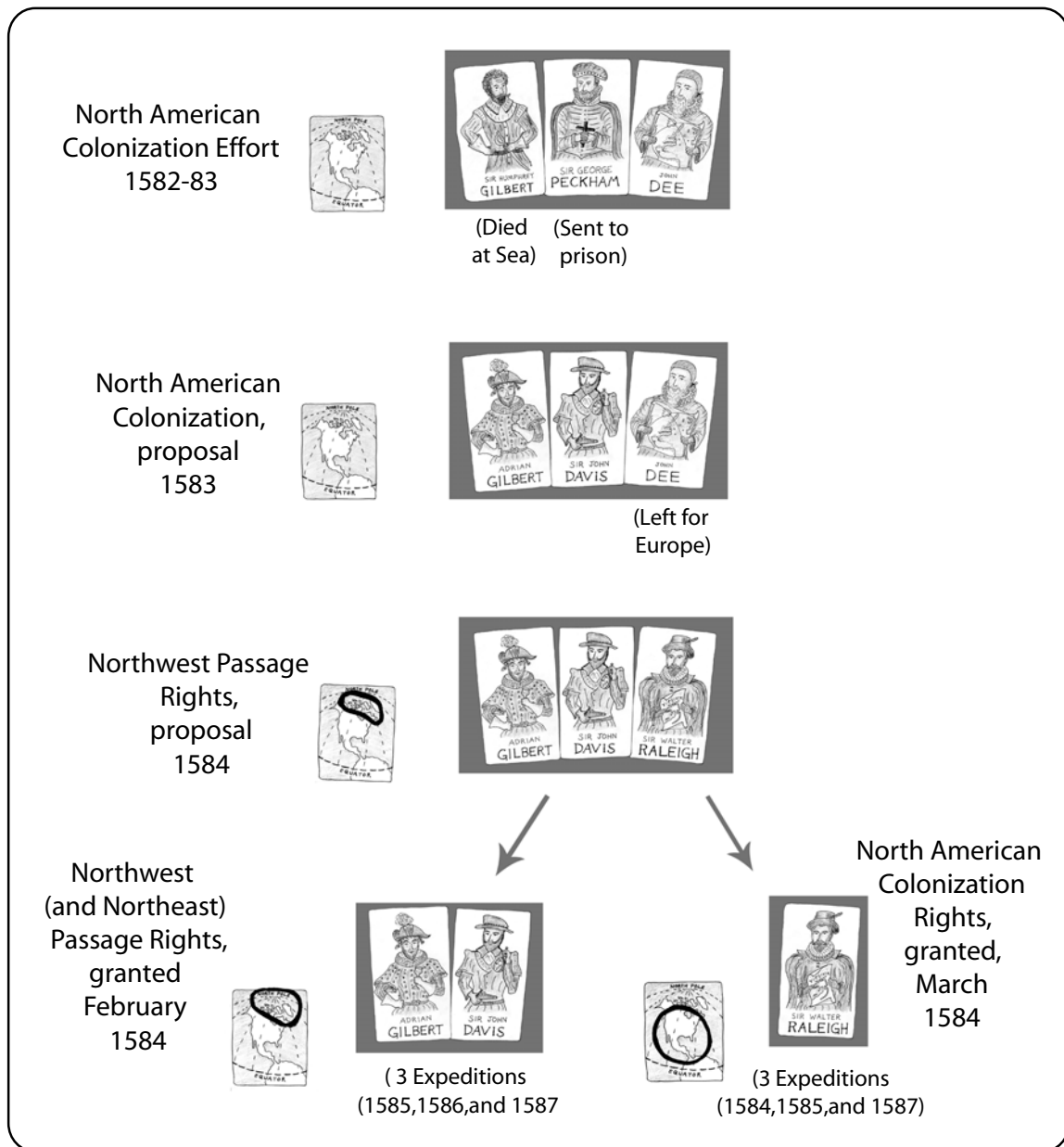


## *Summary Chart*

Quinn writes that “Sir Humphrey Gilbert’s activities and projects, under the patent of 1578, led to three important developments:

- 1 “The establishment of the first English colony in Virginia”
- 2 “The stimulation of a new interest in the Newfoundland fishery”
- 3 New attempts “to discover the Northwest passage round America”

Here’s a brief graphic summary of the North American exploration efforts of the early 1580’s, in which Dee played a leading role.



## *Gilberts, Raleighs and Davises were childhood chums*



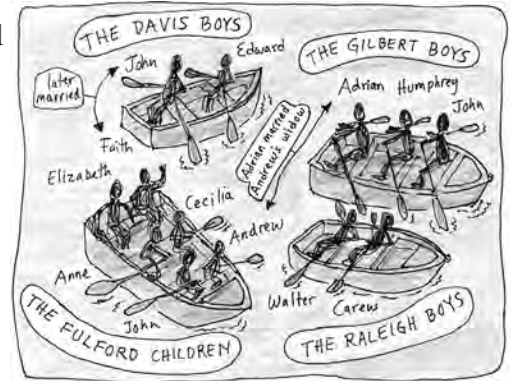
Adrian Gilbert (1545 – 1628) and John Davis (ca. 1550 to 1605) were childhood friends. “Greenway,” the Gilberts’ manor, was about a mile away from “Sandridge,” the Davis’ manor. Both manors overlooked a wide section of the River Dart which, at high tide, looked like a lake. At low tide a crescent-shaped sandbar which rises at the river’s elbow made an ideal playground for young mariners.

Across the River Dart was “Bozomzeal” the manor of the Fulford Family. John Davis was later to marry Faith Fulford (on September 29, 1582), and they named their first child Gilbert (born on March 27, 1583).

Faith’s brother, Andrew, died in his 20’s and his widow, Emma, married Adrian Gilbert.

(Markham, p. 11) (Gosling p. 1, Gilbert Pedigree).

Humphrey Gilbert (born ca. 1538) was about 15 years older than his stepbrother, Walter Raleigh (born ca. 1553). When Humphrey’s father died in 1547, his mother moved to her new husband’s estate in on the coast about 20 miles north-east of Greenway in East Budleigh, Devon.



## *Davis’ 3 voyages to find the Northeast Passage*

Like his older brothers, Sir Humphrey and Sir John, Adrian Gilbert had the connections to the Court. John Davis, who had more seafaring experience, actually commanded 3 expeditions.



1585 DAVIS VOYAGE



1586 DAVIS VOYAGE



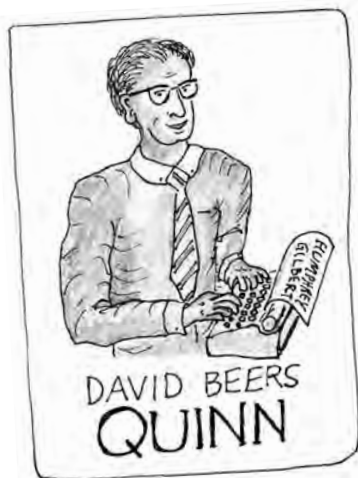
1587 DAVIS VOYAGE

None of his valiant ventures into what is still called the “Davis Strait” made it through the Northwest passage, but they provided inspiration and important navigational information, like data on terrestrial magnetism.

Davis made a major improvement on the navigational instrument called the Cross staff, which required the blinding task of sighting by aiming it at the sun. He added a pinhole and instrument was now aligning the by using the small projected solar disc, making it much safer for the eye. He called it the “back-staff,” but it was later renamed the “Davis Quadrant” and was used for the next 200 years. (Markham, p. 164)

# ANTHONY BRIGHAM'S 1582 PRELIMINARY EXPEDITION: “TWO SHIPS AND A PINNACE”

*David Beers Quinn's clues about  
Anthony Brigham's 1582 preliminary voyage  
for Sir Humphrey Gilbert's colonizing effort.*



Perhaps the most noted authority on English colonization is David Beers Quinn (1909-2002). In 1974, he published *England and the Discovery of America, 1481-1620*.

The chapter entitled “The English Catholics and America 1581-1633” deals with Sir Humphrey Gilbert’s 1583 Expedition. Many of the specifics are a reiteration of his *Introduction in The Voyages and Colonizing Enterprises of Sir Humphrey Gilbert* published 36 years earlier, in 1938, by the Hakluyt Society.

By piecing together various parts of the historical record, Quinn discovered that Sir Humphrey Gilbert had planned to go on two expeditions to America. The first was a **“prospecting voyage,”** to set out as **“soon as possible,”** in June of 1582. He expected to return in time to set out on the **“more elaborate expedition”** scheduled for March 31, 1583. That would give him 9 months to sail east, explore a bit, sail west and prepare the larger fleet to sail – a pretty ambitious plan. (Quinn, *Voyages*, p. 62 and Quinn, *English*, p. 374)

Sir Humphrey did not go on that preliminary voyage, but it seems that he did send one of his captains, **Anthony Brigham**, with **“two ships and a pinnace,”** to accomplish that mission.

Let’s review the series of events at the beginning of June 1582:

### ***June 6, 1582***

On this date, the “Agreement between Sir Humphrey Gilbert, Sir George Peckham, and Sir Thomas Gerrard” (the two Catholic adventurers) was signed. Subsequently, Peckham and Gerrard petition Sir Francis Walsingham, the Queen’s Principal Secretary for a license to travel out of England. (Quinn, *Voyages*, p. 255)

### ***June 9, 1582***

Three days later, Gilbert granted Peckham and Gerrard 1,500,000 acres to inhabit and govern. In this agreement, Sir Humphrey’s preliminary voyage is mentioned.

**“Sir Humfry will make them better assurance of the premisses within three months after ‘the first and nexte return of the seyd Sir Humfry from the discovery or voyage aforesayd’.”**

This confirms that Sir Humphrey was originally intending to travel to America and return three months later. If he left July 1, he would return October 1.

The very next sentence says, **“They promise to assist him at their own costs ‘in his or there nexte Journey or voyage into those partes after the laste daie of ye monthe of March next ensuing’ with two hundred armed men who shall inhabit there and remain with him until a year after the arrival of Sir Thomas and Sir George.”**

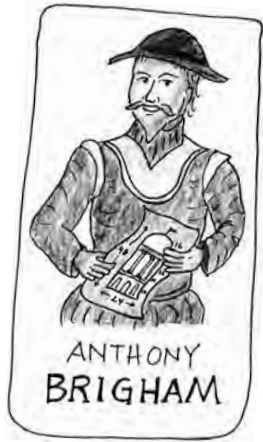
The major 200-man expedition was scheduled for March 1583.

### ***Also in June, 1582***

(Presumably after the June 9th Gilbert/Peckham/Gerrard agreement) an Agreement was signed between **Sir Thomas Gerrard, Sir George Peckham, Sir Edmund Brudenell, Sir William Catesby, William Shelley, Philip Basset, Sir William Stanley, Richard Bingham and Martin Frobisher.** (I call this the “9 Catholics’ Agreement.” It was a preparation for a back-up plan if Sir Humphrey was not able to lead the mission)

**Anthony Brigham  
and the June 1582 Agreement between the 9 Men**

The June, 1582 Agreement involving these 9 men is comprised of 38 Articles. Article 5 mentions “two voyages” and Article 10 even names Anthony Brigham as the leader of the “first journey”



**Article 10.**  
**“Sums adventured with Anthony Brigham**  
**‘in his late intended voyage’**  
**to be allowed as adventurers in this second voyage**  
**if the persons are ‘not satisfied thereof in the first journey’.”**

The term “his late intended” voyage means it was running behind schedule, and had not yet departed as of June, 1582, (it was “lately” (soon) to depart).

David Beers Quinn summarizes: “It is clear from the arrangements made in the summer of 1582 that two expeditions were intended to be made that year. One was to be under the leadership of Anthony Brigham, with whom certain of the Catholic group were associated, and which it was assumed would leave during June.” (Quinn, *Voyages*, p. 62).

Articles 33, 34, and 37 explain the ultimate goal of the mission:

**Article 33**  
**The general at sea shall fortify**  
**a fit place on the mainland or on an island,**  
**leaving [blank] persons, provisioned for a year**  
**to hold it in the name of all the land**  
**granted by Sr. Humfrey to Sir Thomas and Sir George.**

**Article 34**  
**Gentlemen wintering there**  
**to have four times the land due to them**  
**and others double**

**Article 37.**  
**A speedy supply to be sent to those who winter there.**

Note especially that in Article 33, the “fit place” to be fortified can be “on the mainland” or **“on an island.”** (The idea that they even considered “an island” suggests they may have already had a particular island in mind)

It has been noted that Sir Humphrey Gilbert was **not** on this first voyage, and Edward Hayes probably was not on it either. Each of them commanded ships during the second, large voyage. But Anthony Brigham was **not** on that second voyage. He was responsible for the “first journey,” as Article 10 of the June “Agreement of the Adventurers” indicates.



## Anthony Brigham and Richard Hakluyt's 1582 *Diverse Voyages*

When Richard Hakluyt's *Diverse Voyages Touching on the Discovery of America* was printed in 1582, it included a list of "**Travellers, which also for the most part have written**" [about America].

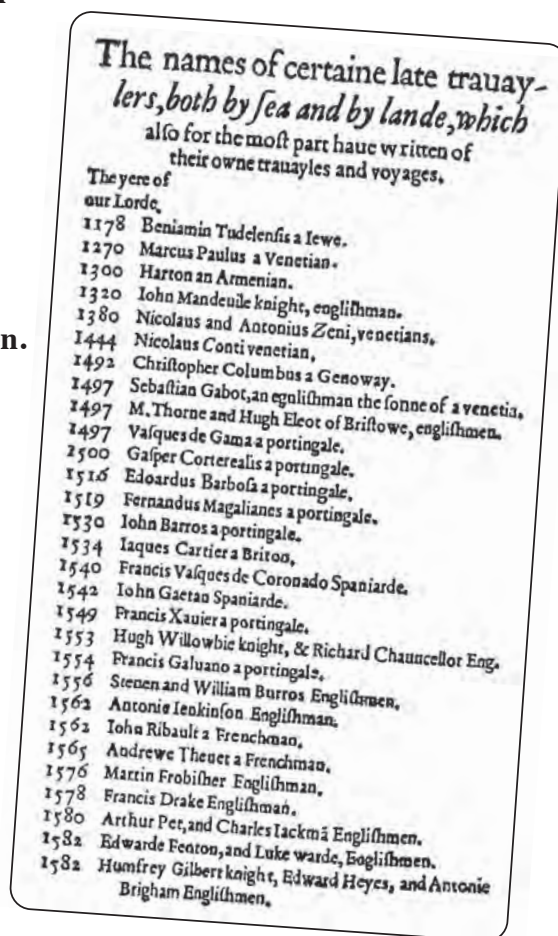
The list starts in 1178 and includes such heavy hitters as Columbus, Sebastian Cabot, Vasco de Gama, Cartier, and more. It's a mix of mostly Spanish, Portuguese, French and English explorers.

Quinn notes that the list is "largely compiled from Ramusio," who was an earlier Italian geographer and traveler writer (1485-1557).

### Travellers Which also for the most part have written

- 1178 Benjamin Tudelensis.
- 1270 Marcus Paulus Venetian.
- 1300 Harton an Armenian
- 1320 John Mandeville K Englishman.
- 1380 Ni. and Ant. Zeni Venetians.
- 1444 Ni. Conti Venetian.
- 1492 Christopher Columbus Genoway.
- 1497 S. Gabot an Englishman the son of a Ventian.
- 1497 M. Thorne and Hugh Eliot of Bristol gentlemen.
- 1497 Vasques de Gama a portingale.
- 1500 Gaspar Coreterrealis portingale.
- 1516 Edoardus Barbosa portingale.
- 1519 F. Magalianes a portingale.
- 1530 John Barros a portingale.
- 1534 Jaques Cartier a Briton
- 1540 Francis Vasques de Coronado Spaniard.
- 1542 John Gaetan Spaniard.
- 1549 F. Xavier a portingale.
- 1553 Hugh Willowbie K and Ri.  
Chancellor Englishmen.
- 1554 F. Galvano a portingale.
- 1556 St. and W. Burros Englishmen.
- 1562 A. Jenkinson Englishman.
- 1562 J. Ribault a Frenchman.
- 1565 Andrew Thevet a Frenchman.
- 1576 M. Frobisher Englishman.
- 1578 F. Drake Englishman.
- 1580 A. Pet and C. Jackman Englishmen.
- 1582 Edward Fenton and Luke Ward Englishmen.
- 1582 H. Gilbert K. Ed Heyes and Anthonie Brigham Englishmen.

The final entry lists Sir Humphrey Gilbert, Edward Hayes,  
and Anthony Brigham with the date 1582!



Hakluyt's book is a collection of documents on the prospect of colonizing America and finding the Northeast passage. He details many of the early voyages, from John Cabot's adventures to Jean Ribault's account of his colony (in what is now the state of Florida) to Verrazzano's trip along the North Atlantic Coast.

Hakluyt's final chapter is about Sir Humphrey's early colonization efforts. He includes a list of Gilbert's "assignees," which included Philip Sidney. Also on the list are **"certaine late travaylers" of 1582 – Humfrey Gilbert Knight, Edward Heyes, and Antonie Brigham Englishmen."**

Quinn adds **"Whom Hakluyt expected to have set out before it [Diverse Voyages] was published."** In other words, Hakluyt saw his book as a timely promotional piece to stir up public enthusiasm for the colonizing efforts. Quinn writes that it was published "probably in the autumn of 1582." This means it was at the printers during the summer of 1582. So Hakluyt had to hand in his manuscript before all the details of the two "journeys" were ironed out.

Quinn notes that "Brigham did not sail with Gilbert as the event proved, and the voyage was postponed until 1583, but this entry indicates that Hakluyt believed it would take place in 1582." (Quinn, *Voyages*, p. 63 and Taylor, *Hakluyt*, p. 175-81)

### ***More clues about Anthony Brigham's journey –from the Spanish Ambassador's espionage reports***

For 20 years (from 1562 to 1582) there had been Spanish ambassadors in London. They each kept a close eye on any English plans to colonize anywhere in "Florida" (the Spaniards' name for the whole eastern coast of North America). In 1563, Alvaro de la Quadra protested to Queen Elizabeth when explorer Thomas Stuckley had settlement plans for Florida. In 1565, Guzman deSilva reported to the King of Spain that Hawkins had visited a French colony in "Florida." (Quinn, *England* p. 266)

In 1578, Berdardino de Mendoza had kept a close eye on Sir Humphrey Gilbert's activities, but the expedition shortly fizzled out anyway.

But in 1582, when he found out about the Gilbert/Peckham/Gerrard agreement and plan to relocate English Catholics, **he stormed to the Queen's court to protest.** As Quinn puts it, "times had changed... he was refused a hearing."

Mendoza was furious. He started conniving ways to thwart the English colonizing efforts. (As noxious as he was to the English colonizing efforts, historians today might be grateful to Mendoza, for his correspondence to the King of Spain has survived and it helps paint a fuller picture of Elizabethan activities.) Quinn found Mendoza's letters in a compilation of Spanish documents entitled *Documentos ineditos*, gathered by Navarette.



In late April of 1582, Mendoza reported to the Spanish King about Gilbert (whose first name doesn't seem to translate very well into Spanish).

**April 26, 1582.**

**Don Bernardino de Mendoza to Philip II.**

**I have had news today that the ships,  
which I wrote to your majesty were ready to sail for the Malucos,  
have now left,  
and also that Onxiginberto [Humphrey Gilbert]  
is fitting out three more with which to go to Florida  
and settle there in the place where Estucle [Stukeley] was  
and Juan Robero [Jean Ribault], (the man whom Pero Melendez beheaded),  
with the French.**

**When he asked for the Queen's assistance  
he was answered in council that he might go,  
and, that when he had landed and fortified,  
the Queen would send 10,000 men  
to conquer the territory and safeguard the port.**

(Quinn, *Voyages*, p. 244)

(The Malucos, or the Spice Islands, in Indonesia had been settled by the Portuguese in the early 1500's. Edward Fenton's Spice Island expedition, which soon failed, was quite separate from Sir Humphrey's planned adventure.)

Note that the Queen's Privy Council not only gave Sir Humphrey permission, they offered to send 10,000 troops. All he had to do was "fortify." (To me, this implies building a fort).

Even if the "10,000 men" was an exaggeration (or a lie Mendoza had been fed), it suggests that the Queen heavily endorsed the project.

About 2 weeks later, he wrote the King of Spain, (still struggling with Sir Humphrey's name).

**"Ougi Gamberto [Humphrey Gilbert]  
continues to fit out the ships of which  
I have written to your Majesty..."**

(Quinn, *Voyages*, p. 245)

In June 1582, all the agreements had been signed between Gilbert/Peckham/Gerrard and also between the "9 Men" leading the Catholic colonizing effort. Mendoza was livid. On July 11, he wrote the Spanish King a long letter (in which Mendoza gets a somewhat firmer grasp on Sir Humphrey's name)

**July 11, 1582.**

**Don Bernardino de Mendoza to Philip II.**

**As I wrote to your Majesty some day since,  
Ongi Gilberto [Humphrey Gilbert] was fitting out several ships  
for a settlement in Florida  
and as this was not only prejudicial to your Majesty,  
but also the English Catholics as giving advantage to heretics,  
Walsingham put it secretly to two spendthrift Catholic gentlemen  
who have some land that if they helped Ongi Gilberto in his expedition,  
they would escape losing life and property,  
by asking the Queen to allow them, in consideration for this service, to live in those parts  
with freedom of conscience and enjoy the use of their property in England  
– for which purpose they might rely on Phelippe Sideney.**

Of course, Gerrard and Peckham are the two spendthrift Catholic gentlemen. But here in this centuries old letter from the dusty Spanish archives is a phrase upon which America was founded and which has made it special even today – **“Freedom of conscience.”**

Mendoza, then suggests that the Queen condoned the program to “weaken and destroy” the increasing Catholic population:

**As these men were anxious to live as Catholics without risking their lives,  
they thought it a good plan, and informed other Catholics of it.  
These also have approved and offered to help with money,  
petitioning the Queen on the subject.**

**She has given them a patent under the Great Seal of England  
to settle in Florida on the coast of Noromberga  
and live there with freedom of conscience,  
enjoying the use of their English properties  
– this not only for those who leave the realm for the purpose  
but other English abroad, although declared rebels.**

**The Queen restores them to her favour  
and accepts them as loyal subjects and vassals  
– this for no other motive that, in spite of persecution,  
imprisonment and the blood shed of martyrs, Catholics were increasing.  
These it was expedient to weaken and destroy in some way.”**

(Quinn, *Voyages*, pp. 278-9)

Noromberga or Normbega is the area, which today includes “New England” and possibly eastern New York state. But “on the coast” is specifically the Atlantic Coast.

(Quinn, *England*, p. 268).

Then Mendoza explains how he has warned the English Catholics they **“would immediately have their throats cut.”**

**When this was done, there would be no maintaining of seminaries abroad nor would priests living here be able to continue their preaching if there were no one to receive and shelter them. In this way once and for all the small remnant of good blood in this sick body would be drained away.**

**Through the clergy here I made known to the Catholics the purpose of the Queen and Council in admitting them to favour – and that those lands belonged to your Majesty, that you had garrisons and fortresses there, and that they would immediately have their throats cut as happened to the French who went with Juan Ribao [Jean Ribault, in 1565], that further they were imperilling their consciences by engaging in an enterprise prejudicial to His Holiness and that it would be well for them to report the matter to him through Dr. Alano [Dr. Allen] and learn if they could justifiably make the voyage.**

(Quinn, *Voyages*, p. 279)

Dr. William Allen “was the adviser to the Pope on English Catholic affairs.” Bernardino has also found out the “the spendthrifts” (Peckham and Gerrard), claim their maps say New France, not New Spain:

**Some have withdrawn on this, but others who are spendthrifts persist in wishing to make the voyage, convincing themselves that there is nothing in it against your Majesty because in the map it is marked as Neuva Francia [New France], which proves it was discovered by the French, and that since Cortés fitted out ships at his own expense to make conquests – and he was a Catholic – they could do the same. At the same time, I have notified the Abbot Briceño in Rome and have written to Alano [Dr. Allen] how necessary it is for the reduction of this kingdom that he make every effort to prevent the expedition.**

(Quinn, *Voyages*, p. 279)

Besides Dr. William Allen, Mendoza has appealed to Abbot Briceño, the Spanish adviser to the Pope, “to bring the strongest ecclesiastical pressure to bear against their participation.”

(Quinn, *England*, p. 267)

### ***John Dee reassures Sir George Peckham***

This “throat cutting” business scared Sir George Peckham. He didn’t want to be putting his followers in harm’s way. What if Mendoza was right about Spain owning all of North America? To whom could Peckham turn to find out?



As David Beers Quinn puts it,

**“The two leaders were not without their anxieties.  
Rumors had begun to circulate in Catholic quarters  
that Spain owned the land it was proposed to settle.**

**On July 16, 1582 Peckham, on his own behalf and Gerrard’s,  
visited Dr. John Dee, the eminent astrologer and geographer, at his  
home in Mortlake. They wanted assurances that Spain had no title  
to the land Gilbert proposed they should occupy in America.  
Eventually, Dee assured Peckham that Spain had no rights in the area;  
on the maps it was New France, having been claimed  
for Francis I by Verrazzano in 1524 but not occupied.”**

Quinn adds,

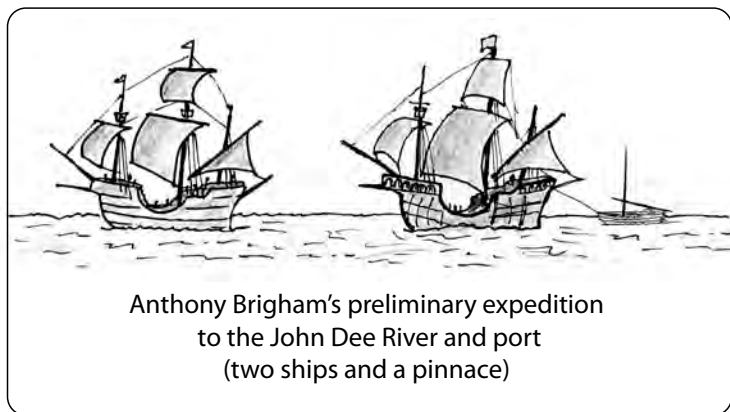
**“Moreover, Dee was able to point out to them on the large map  
of North America he had drawn in 1580 the precise place  
he thought their settlement should lie. Verrazzano had stayed  
for some time on Narragansett Bay in modern Rhode Island,  
which he called his “Refugio,” and there it was decided  
that Peckham should lay out his seignory.”**

On July 25, 1582, Mendoza sent a follow-up report off to Spain (with an even more poetic name for Sir Humphrey). (Quinn, *England*, p. 376)

**July 25, 1582.**

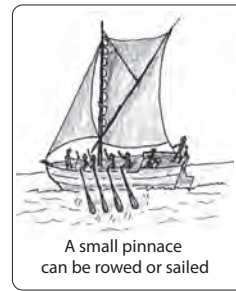
**Don Bernardino de Mendoza to Philip II.**

**As to the ships which as I previously wrote  
to your majesty the Catholics were getting  
ready here, it turns out that not more than two  
are going this year with Hongigiberto [Humphrey Gilbert]  
to reconnoitre the place where they can land next year.  
These ships are already riding in Sotamton [Southampton] harbour,  
only waiting for the weather to set sail, and with them a pinnace.**



He's pretty clear. There are 2 ships and a pinnace in Southampton harbor with a green light to go. Their destination is the place where next year's grand colonizing effort will be.

(A pinnace is a smaller craft with sails and oars for multiple rowers, better suited to navigating along a coast than the open ocean)



The basis for Quinn’s conclusion that the “first journey” had in fact departed comes from another Mendoza letter to the King of Spain. This one was sent 8 months later, on March 17, 1583, as Sir “Hongi” was readying the 5 large ships for his grand colonizing effort.

**March 17, 1583.**

**Don Bernardino de Mendoza to Philip II.**

**The ships, which I wrote to your majesty that Hongi Gilberto [Humphrey Gilbert] was fitting out on behalf of the Catholics to go to the Florida coast, as now getting ready to start, as they think that the two which they sent to reconnoitre last summer are delaying too long.**

This very clearly refers to Anthony Brigham’s “two ships and a pinnace” expedition, and confirms that they actually departed. It also suggests that they were to return to England prior to the second expedition’s departure, but instead remained in America.

What were they doing for 9 months? I assert they were building a small fort to the specifications of the master “archiect” behind this whole colonizing effort, John Dee.

### ***What became of Anthony Brigham?***

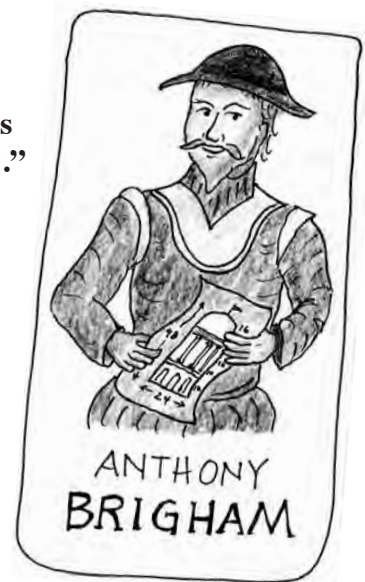
Anthony Brigham returned England in the late winter or early spring of 1583. Quinn s writes,

**“If Brigham was their commander he returned safely, for he was doing propaganda for Peckham some time after March 25 [1583].”**

(Quinn, *Voyages*, p. 62).

Quinn cites a “Circular letter” that Sir Francis Walshingham wrote to potential Adventurers, in which he says has spoken with Anthony Brigham. The term “Circular letter” means that Walshingham expected a response from every one he sent it to.

The letter is dated simply 1583, but it seems to have been a recruiting letter for more funding. It was written at least before September 22, 1583 when news had arrived of Sir Humphrey’s demise.



1583

**Circular letter from Sir Francis Walsingham  
to potential adventurers.**

**After my Hartie Commendacions whereas I am enformed by Mr. Anthonie Brigham  
that upon some conference he findeth in you a verie good enclynacion  
to the western discoveries so as you maie be sufficientlie aucthorised  
so to doe and have a Societie by yourselves without joigneing  
with anie gentleman or anie other Citties or Townes  
other then suche as yourself shall make choise of.**

**I am of opinion you shall doe well to herken unto suche offers as  
Sir Philipp Sidney & Sir George Peckham will make unto you  
who have sufficient Aucthoritie by & under her Majestes Lettres patentes  
to performe the effect of your Desire.**

**No whit mystrusteng but that this voyage will prove profitable  
to the adventurers in particlear & generallie beneficiall to the whole realme,  
So expecteing your annswere I bidd you hartelie farewell the {blank} daie of [blank] 1583**

**Your loving friend**

**Endorsed: - The mynnute of a lettre for Mr. Secretary.  
Minute of a Letter touching the discovery in America 1583.**

*(Quinn, Voyages, p. 375)*

Below is my modernized transcription of this “minute of a letter.”

[A “minute” is an original draft of a letter or document.]

1583

**Circular letter from Sir Francis Walshingham  
to potential adventurers.**

**After my Hearty Commendations whereas I am informed by Mr. Anthony Brigham  
that upon some conference he findeth in you a very good inclination  
to the western discoveries so as you may be sufficiently authorized  
so to do and have a Society by yourselves without joining  
with any other gentlemen or any other Cities or Towns  
other than such as yourself shall make choice of.**

**I am of the opinion you shall do well to harken unto such offers  
as Sir Philip Sidney & Sir George Peckham will make unto you  
who have suffucient Authority by & under her Majesty’s Letters patent  
to perform the effect of your Desire.**

**Not at all mistrusting but that this voyage will prove profitable  
to the adventurers in particular & generally beneficial to the whole realm,  
So expecting your answer, I bid you heartily farewell the [blank] day of [blank] 1583**

**Your loving friend**

**Endorsed:-The minute of a letter for Mr. Secretary.  
Minute of a Letter touching the discovery in America 1583.**

Apparently Anthony Brigham had received enthusiastic response among the Catholics when he returned from his year-long venture. But the potential investors were still justifiably skeptical whether their own personal involvement would be approved by the Crown.

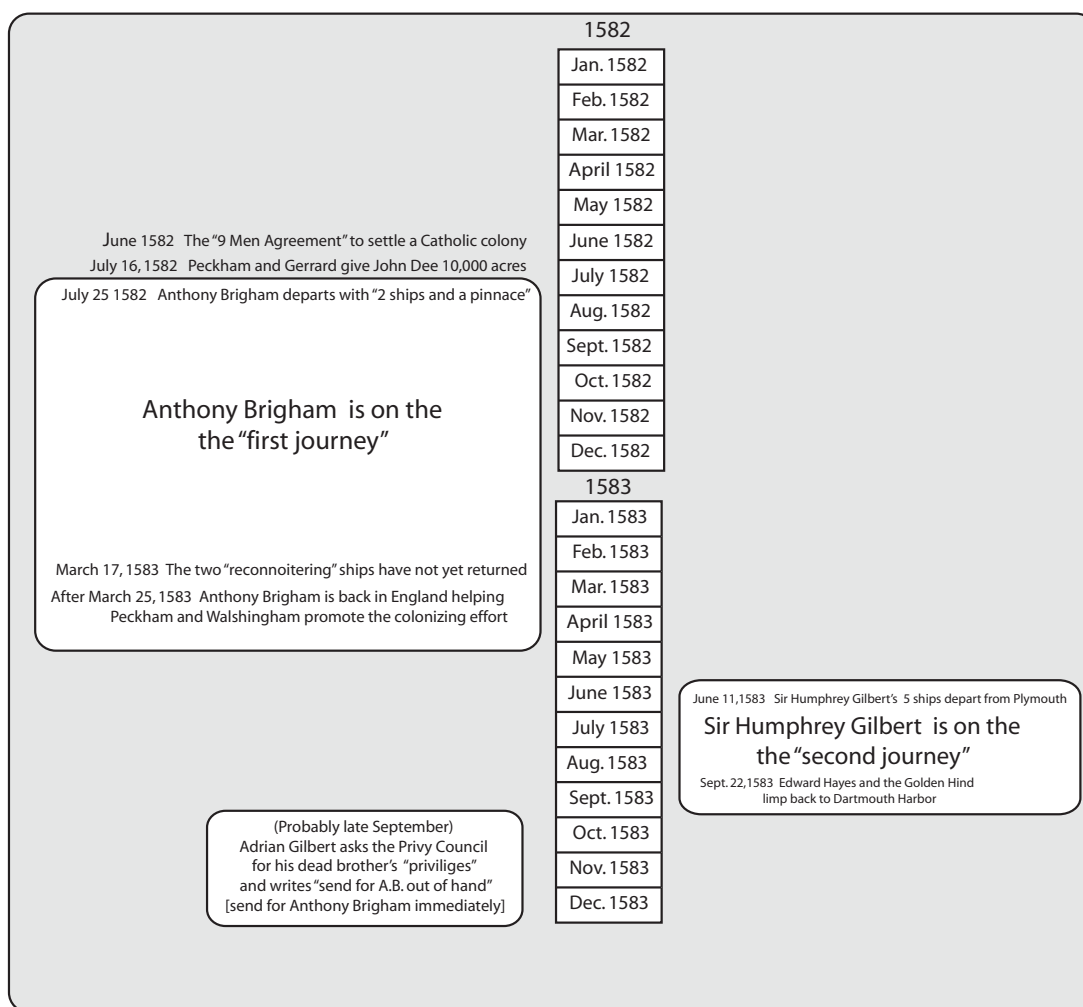
So Anthony Brigham met with Secretary Walshingham, gave him a progress report on the John Dee River colony, and had Walshingham write this confirming letter, encouraging the “potential adventurers” to join with Sir Philip Sidney (his Protestant son-in-law to be) and Sir George Peckham (the prominent Catholic who had already been authorized).

It’s not known if Anthony Brigham returned with both ships and all his men. But it’s most likely that he left some men and one ship behind to defend the fort they had just constructed and await the anticipated arrival of Sir Humphrey Gilbert.

Also, make special note of the subject of the letter in its last 5 words:

### “the discovery of America 1583”

Here’s a chronological summary of the “two journeys”:



*All this colonizing momentum imploded in late September of 1583.*

On September 9, 1583, **Sir Humphrey Gilbert** drowned.

On September 21, 1583, **Sir Philip Sidney** married Walshingham's daughter Frances.

Also on September 21, 1583, the frustrated **John Dee**, Edward Kelly and their families sneaked out of London, bound for European adventures.

On September 22, 1583 **Edward Hayes** and the Golden Hind limped back to Dartmouth Harbor.

Probably in late September, **Adrian Gilbert** applied for his dead brother's privileges, adding "send for A. B. out of hand." [send for **Anthony Brigham** immediately]

**Richard Hakluyt** wanted to join the effort, but Elizabeth forbade him from going to America, so he became chaplain to the English Ambassador to France.

Late in 1583, **Sir George Peckham** tried to revive the Catholic colonizing project with his "True Report...", but his efforts fell flat and he was shortly imprisoned for other activities.

Even **Anthony Brigham** seems to have shifted gears. Quinn reports that in the following year (1584), "he planned to go whale-fishing off the Newfoundland coast, though perhaps not with Catholic support." (Quinn, *England*, p. 374)

The winds of enthusiasm for the Catholic colony at the John Dee River had died down. All that remained was the well-built stone fort that was intended to be the city-center of a grand colony.

*Thomas Bavin, surveyor*

The only other thing known about Anthony Brigham's "obscure" project with "two ships and a pinnace" is a set of instructions for a surveyor named **Thomas Bavin**.

(Quinn discovered this memorandum in "The Commonplace book of Edward Hoby, B.M.)

On this "preliminary voyage," Bavin and another man were to make a complete survey of the area around the new colony.

**"Let Bavin carry with him good store of parchments,  
paper royal, quills, and ink, black powder to make ink,  
and of all sorts of colours to draw all things to life, gum,  
pencil, a stone to grind colors, mouth glue, black lead,  
two pairs of brazen compasses, and other instruments  
to draw cards [charts], and plots [maps]."**



Another item reads:  
**“Also let Bavin draw to life one of each kind of thing  
that is strange to us in England,  
by the which he may always garnish his plot,  
as he shall so cause upon his return...  
And also draw to life all birds, beasts, fishes, plants, herbs, trees and fruits’  
’Also...the figures and shapes of men and women in their apparal...in every place.”**

(Quinn, *England*, p. 375)

Quinn writes, “The fate of this versatile artist-surveyor is unknown; prolonged search by the late Eva Taylor failed to uncover a single map or chart drawn by him. Only a copy of his instructions survives.”

### ***The Peckham Family and the Brigham Family were closely connected***

Anthony Brigham’s father, (who I call Anthony Brigham Sr.) was born in 1503. He became moderately prosperous by his career in the Royal household. At about age 34, (in 1537) he became a clerk to King Henry VIII’s cofferer.

And guess who Henry’s cofferer was: Sir Edmund Peckham – the father of Sir George Peckham!

(A cofferer is someone who oversees financial reserves of an institution.)

Sir Edmund Peckham was not only Anthony Brigham Sr.’s employer, but his friend as well. In 1540 (at age 37), Anthony Brigham Sr. appointed Sir Edmund Peckham and his eldest son Sir Robert Peckham as Trustees to his property in Caversham (about 30 miles west of London).

(This eldest son, Sir Robert Peckham, was a fervent Catholic who served Queen Mary. But he fled to Rome when Elizabeth came to power, and died soon thereafter, leaving his father’s estate to his younger brother, Sir George Peckham)

Anthony Brigham Sr. also had a home in London in the parish of St. Michael Queenhide, near the Thames.

When Edmund Peckham left his office to become Master of the Mint, he was replaced by John Rither. Anthony Brigham Sr. continued his job under Rither, and they became trusted friends as well. In his will, Rither chose Brigham to be an executor of his estate.

Brigham also continued his job under the next cofferer, John Weldon. Brigham’s son Christopher later married into the Weldon family.

Brigham must have been quite competent and well-liked. His job duties included management of internal matters as well as disbursements and tax collections. He died fairly young, at age 50, in 1553.

He and his wife Margaret had 7 children. Thomas, their eldest son, inherited the estate. However, Thomas was still a minor, so his wardship was given to Hugh Miners, one of Queen Mary’s Sargeant-at-arms. (Alsop, 16th Century journal, p. 67)

One of the other 7 children was Anthony Brigham, the one who commandeered Sir Humphrey Gilbert’s preliminary voyage with “two ships and a pinnace.”

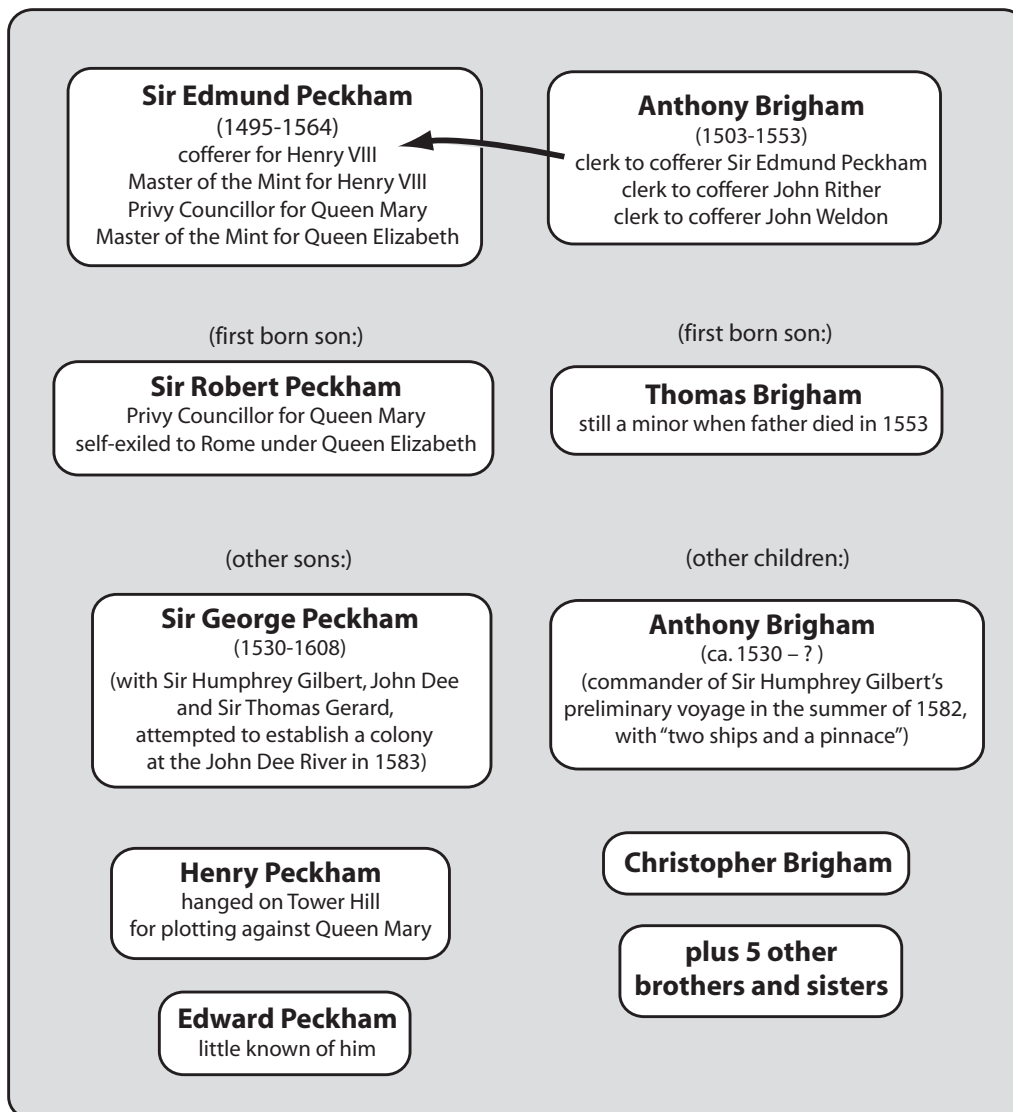
Because of primogeniture, (first born inherits everything) these “not-first-born” children had to fend for themselves and were often prepared to take risks in order to get ahead. Some became lawyers or clergymen, but many went overseas to fight for foreign armies, or became privateers (in times of war) or even pirates (in times of peace). (Quinn, *Sir Humphrey Gilbert and Newfoundland*, p. 11)

It should be noted that Anthony Brigham Sr.'s younger brother, **Nicholas Brigham**, (that is, Anthony Brigham (Jr)'s uncle) was also a successful and trusted member of the Royal household. In 1544, he became "fourth teller" for the Exchequer, and slowly worked his way up to "first teller." Nicholas made use of his trusted association with the Exchequer to gain access to the depositories where English history books were stored. As a result Nicholas became "one of the most important Latin scholars and antiquaries of his generation." He left a huge library, but his only known extant writing is a four line Latin epitath used on the marble monument to Chaucer that he lobbied to have erected in Westminster Abbey around 1556.

(Alsop, 16th Century Journal, p. 63-67)

Comparing the Peckham and Brigham family trees, it's clear to see that Sir George Peckham and Anthony Brigham were family friends and it's easy to see how they became associates in the colonizing attempt.

The Peckhams' Catholic devotion can be seen in their family motto: **"The Way Must be Held."**



To summarize, it was John Dee who drew up the plans for the John Dee Tower. In 1582, two crew of talented builders, led by Anthony Brigham were sent in 2 ships to construct the fort. This was done in anticipation of the 200 men that would follow in Sir Humphrey Gilbert's expedition of 5 ships.



"two Ships and a pinnacle"  
at the John Dee port in 1582

John Dee and Anthony Brigham did their part.

Sir Humphrey Gilbert failed at his.

Had he simply decided to had "south" first, instead of "north," the Catholic colony might have flourished. Instead, all hope for it died after Sir Humphrey's demise.

The beautiful Tower was abandoned.

# EVIDENCE THAT BENEDICT ARNOLD AND OTHER COLONIAL LEADERS KNOW ABOUT THE JOHN DEE TOWER

## *Opinions of Dee at the end of his life... and after*

After Dee teamed up with Kelly, the “pursuit of angelic revelations ... were seemingly his greatest devotion for the rest of his life.” (Clulee, p. 229)

In a global context, Dee’s hard-earned position as England’s premier philosopher, prompted him to “go for the gold.” As Benjamin Woolley puts it, “His collection of books and scientific instruments, his contacts with Europe’s most powerful monarchs and courts, his philosophical, geographical, political and mystical works, his imprisonment, his religious struggles, his involvement with ciphers and spies, all of these meant that he could see as well as anyone, perhaps better, that the world was in a state of transformation, and the angels captured this perfectly.” (Woolley, p. 296-7)

In 1590, he named his daughter Madinia, a name similar to one of the Angels: Madimi.

Dee used Bartholomew Hickman as a scriber during seances even as late as 1607 (a year or so before Dee’s death). Even though Queen Elizabeth still gave Dee some money, it was not enough to maintain his family and household.



He spent much effort defending his reputation. In 1594, Dee wrote his *Compendious Rehearsall*, a summary of all the books and inventions he had produced for the good of England. In 1599, he wrote the *Letter Apologetical* to justify his studies to the Archbishop of Canterbury, who had to approve all church appointments.

Most biographers portray the end of Dee's life as filled with failure and disgrace. But William Sherman reveals that,

**“Dee not only maintained his earlier contacts  
(at least those that were alive and still in favor)  
but continued to gain new ones:  
far from having fallen from grace, he seems to  
have reached as high a position as was possible  
for someone of his class and reputation.”**

(Sherman, p. 16)

The godparents to Dee's newborn children in 1590 and 1595 (Dee was age 65) were important English royalty, including Lady Walshingham. In 1592, Dee dined with Lord Burghey and his son Robert Cecil. In 1603, Dee served James I as “his mathematician.” (Sherman p. 18-19)

My own sense is that the charmer Dee was able to renew old friendships with his Court buddies, but the general populace, who didn't know him personally, were a bit skeptical of Dee based on rumors that had spread through the grapevine of England.

After his death in December of 1608, Dee's life still had mixed reviews.

(Roberts and Watson claim he died three months later, in March of 1609, p. 78)

Around 1615, the antiquarian Robert Cotton decided to do some digging in the fields around Dee's house. He unearthed some legible, yet damaged documents. Later, his son Thomas Cotton asked Meric Casaubon to copy them. Casaubon published the papers in 1659 as *A True and Faithful Relation of What Passed for Many Years Between Dr. John Dee and Some Spirits*. He degradingly referred to it as a “Work of Darkness,” and that Dee “mistook false lying spirits for Angels of Light, the Divil of Hell (as we commonly term him) for the God of Heaven.”

(Wooley, p. 294)

Royal Society member Robert Hooke called the angel conversations “Dr. Dee's Delusion,” although he felt Dee was “an extraordinary Man, both for Learning, Ingenuity and Industry.” (Wooley p. 223)

The antiquarian Elias Ashmole was kinder. He interviewed one of Dee's housekeepers Goodwife Faldo who shared fond memories of Mortlake's “Wel beloved respected” magus. (Not to mention his use of the camera obscura to view an eclipse.)

The poet Samuel Butler satirized Kelley's “feats upon the Devils looking-glass.” Thomas Smith, who wrote the first Dee biography in 1707, considered Dee “insane.” When historian Anthony á Wood read about the actions with Angels, he was “overwhelmed with melancholy.”

(Wooley, p. 294)



In the 1700's, Dee was considered "extremely credulous, extravagantly vain." In the 1800's, he was described as "weak and wrongheaded ... all but an idiot withal." The Germans called him a "Dummkopf." (Wooley, p. 294)

But in the world of mysticism, Dee continued to be popular. His work influenced the German Rosicrucian movement, which began around 1610. Dee's experiments were adapted by the Hermetic Order of the Golden Dawn in the Victorian Era of the early 1900's. (Peterson p. 3, 33-4)

### ***Dee Today***

Even today, Dee is considered to be a minor footnote in history (and in the history of mathematics as well). His post-1583 work with Kelley and the angels has caused his pre-1583 work to be largely ignored.

At the risk of overstating his importance, I feel that the world might be a different place if it weren't for John Dee. Had Dee not been so enthusiastic about England beefing up its Navy in the 1580's, the Spanish Armada might have conquered England in 1588. England very well might have become "Inglaterra." (Spanish for England)

The legal and historical arguments that Dee presented in *General and Rare Memorials* convinced the Queen and Privy Council they were entitled to the land in the "northern part of North America."

Though the colony of the John Dee River, and Sir Walter Raleigh's colonies at Roanoke and Jamestown failed to take root, they put the idea of settling on the "northern coast of North America" in the minds of the early settlers of Plymouth, Boston, and Virginia.

### ***Two key clues in the Colonial records***

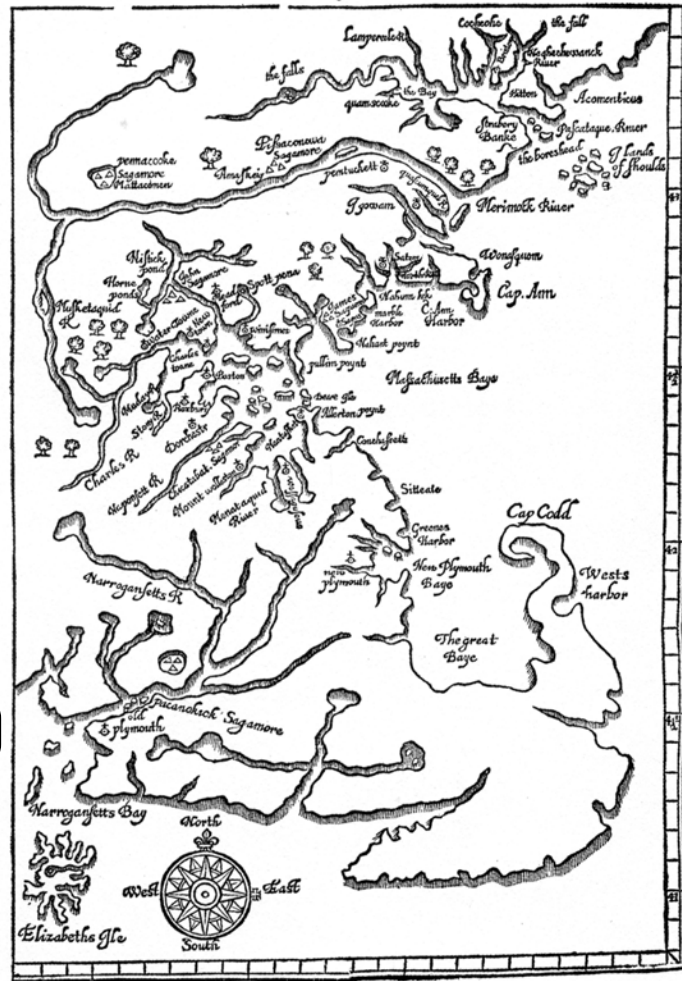
Historians who maintain that the Tower could not have been built before Benedict Arnold's time cite the lack of evidence. I feel that the knowledge about the Tower was intentionally hushed up early on by the colonial leaders.

But two very convincing primary documents suggest that the leaders of Plymouth and Boston knew about the Tower and the failed Elizabethan settlement of 1583.

### ***"olde plymouth" on William Wood's map of 1634***

The most convincing evidence is a map drawn by William Wood published in his 1634 book called *New England Prospect*. Wood lived in New England from 1629 to 1633. Part one of his book describes New England's climate, soil, minerals, herbs, fruits, beasts, fowls, and fish. Part two describes the Indian tribes, their apparel, diet, government, customs, and hardiness. Woods purpose was to entice other Englishmen to travel to the Americas. He minimized the hazards and promoted the benefits and opportunities. (Vaughn, p. 1-14)

## The South part of New-England, as it is Planted this year, 1634.



old  
plymouth

Map drawn by William Wood  
(who lived in New England from 1629 to 1633)

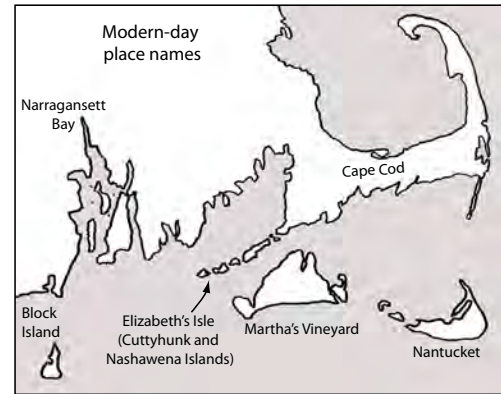
Judging from his map, it's apparent that he journeyed all around the Massachusetts Bay area from Portsmouth (Strawberry Banke) to New Plymouth. He probably didn't visit Cape Cod or present day Rhode Island as the scale and orientation of the land and rivers is a bit off.

But on the edge of "Narrogansetts Bay," he has clearly marked "old plymouth" precisely where present-day Newport is located. This has perplexed historians for years, but it is powerful evidence that the early colonials were aware of the Elizabethan colonizing attempt of 1583. Sir Humphrey Gilbert's ill-fated voyage sailed from Plymouth, England in 1583 and the Pilgrims left Plymouth, England in 1620.

This "old plymouth" is marked with the same symbol as all the other towns, yet this is 2 years before Roger Williams and the Arnold Clan even arrived settled Providence. And none of the Plymouth Pilgrims lived there as they didn't consider Aquidneck to be part of their lands.

On the map, “Narrogansetts Bay” is dotted with 4 small islands, including a long one that might be Jamestown.

There is a fifth island that Woods calls Elizabeth’s Isle. This was a name Bartholomew Gosnold had given to Cuttyhunk and Nashawena (they are only separated by a small channel). They are the outermost islands of a chain of small islands off the southwest corner of Cape Cod. So Woods or the early colonists apparently knew about Gosnold’s 1602 voyage that had taken place 32 years earlier, when Elizabeth still reigned).

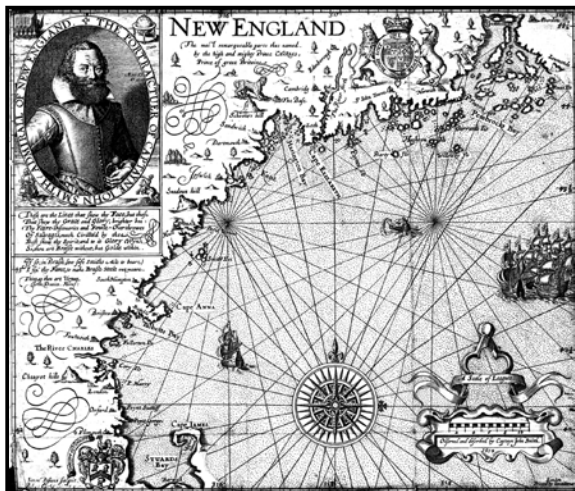


But Woods’ depiction of it is very un-island-like. It look more like an amoeba with arms. Also it’s much further west than its actual location in Buzzards Bay.

It could be that Woods drew this island with the name Elizabeth in it as a cryptic hint about the Elizabethan settlement in “old plymouth” located just above it on the map.

Perhaps Woods drew the 12 bays and 12 promontories as a cryptic reference to the Dee’s mathematics, hinting about the remains of what I call the “architectural Monas” at the mouth of the John Dee River to those “in the know” back in England.

It is such a wierd shape, it certainly seems more symbolic than realistic. If he was going for realism, why didn’t he include Martha’s Vineyard (or Nantucket or Block Island).



Here’s a closeup view of that map, zooming in on the coast, between Cape Ann and Cape Cod.

Two chartered companies in England had claim on the East Coast of America, called “Virginia”. The London Virginia Company had jurisdiction over land from from North Carolina to New Jersey. The Plymouth (Devon) Virginia Company had jurisdiction over the land from New York to Maine.

It seems reasonable that the Pilgrims named their new home Plymouth after one of their ports of departure back in England. But there’s a definite problem with this idea. That very bay was called “Plymouth” on John Smith’s 1614 map of the New England coast.



### ***Plymouth's Governor Bradford calls Aquidneck Island "Monachunte"***

I think William Bradford (1590-1657), who was elected 30 times as the Governor of Plymouth Plantations knew about the John Dee Tower. The Pilgrims claimed that their lands extended west to Narragansett Bay, but did not include Aquidneck or any of the islands in the Bay. Those islands were part of Narragansett territory, not Wampanoag territory.

When Anne Hutchinson, William Coddington, John Clarke, and the rest of the "Antinomians" were banished from Boston, Roger Williams suggested they might settle either at Sowams (now Barrington and Warren, Rhode Island) or on Aquidneck Island.

Coddington, Williams, and others journeyed to Plymouth to clear their intentions with the Pilgrim leaders. William Bradford would not allow them to settle in Sowams, but had no objection to their settling on Aquidneck.

After the meeting, Bradford wrote to Governor John Winthrop to keep him informed him as to what had transpired. Here is my modernized transcription of part of Bradford's letter, written in April of 1638:

**"We desire you will give us a reason of your proceedings herein,  
so that there may be a fair and friendly decision of the controversy,  
so that we may preserve peace and brotherly love among ourselves,  
we that have so many enemies abroad.**

**There was not long since, here with us,  
a Mr. Coddington and some other  
of your people, who brought Mr. Williams  
with them and pressed us hard for a place at  
or near Sowams, which we denied them.**

**Then Mr. Williams informed them of a spacious Island called Monachunte,  
touching which they solicited our goodwill,  
to which we yielded (as long as they compounded with Ossamequine).**

**We heard this was Ill taken by you,  
but you may please to understand that it is not in our Patent  
(though we told them not so) for It only was excepted out of it.**

**And we thought (if they like it) It were better to have them,  
(though they differ in opinions)  
than (happily) worse neighbors, both for us, and you.**

**We think it is also better for us both to have some strength in that bay."**

(Bradford, Winthrop collection Vol 1, p. 195; 4 Collections 6: 156-158)

Bradford's term "Monachunte" sounds like an Indian name. It clearly refers to Aquidneck Island, but nowhere else in the early colonial records have I found Aquidneck Island called that name or anything similar to it.

The home of Massasoit, in present-day Bristol, RI was called Montaup, but that is thought to be an equivalent of the English term "Mount Hope," as the Indians called it Cawsumsett.

(Native American Place Names of Rhode Island, p. 18 and Arnold, *Lands of R.I.*, pp. 162-168)



And Montauk is the eastern tip of Long Island. Sometimes Nantucket was called Moona. But the word Monachunte never seems to appear anywhere except in this letter written by Bradford.

I think it was Bradford's cryptic way of saying the island that has the Dee's "Mona(s)" tower on it. If Bradford was writing cryptically about the Monas-tower-island, this suggests that that Governr John Winthrop would was in on the secret as well.

### ***John Winthrop Jr. used the Monas symbol as his personal mark***

I had always envisioned the early colonials as narrow-minded, conservative types; banishing folks that fell out of line, going on witch-hunts, locking people in pillories, etc. So I was surprised to come across Walter Woodward's thesis paper entitled *Prospero's America: John Winthrop Jr., alchemy, and the creation of the New England culture, 1606-1676*.

(ETD Collections for U. Conn AA 13008146, Jan. 1, 2001 and published in 2010)

Alchemy is the precursor of chemistry and it evolved into the scientific study of things like agriculture, metallurgy and medicine. Winthrop was a noted Paracelcian physician, sometimes administering medicine to a dozen people a day in his journeys through the colonies. He was instrumental in setting up the first iron furnaces in Braintree and Saugus. He also had planned an alchemical project to evaporate salt form the sea on large flats of land.

But I was even more surprised to find out that John Winthrop Jr. was a big fan of John Dee. Winthrop owned at least 10 books that had once been in Dee's library at Mortlake. In Dee's copy of Paracelsus' *Buch Meteororum I*, Winthrop wrote:

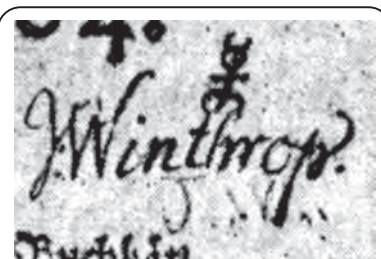
**"I have divers of his bookes both printed  
& some manuscript yt came out of his study,  
in them he hath written both his name & notes,  
for w[hi]ch they are farre the more precious."**

(Wilkinson, p. 38)

John Winthrop Jr. not only owned a copy of Dee's *Monas Hieroglyphica*, he used the Monas symbol as his own personal mark in his books! (Winthrop's son Wait Winthrop and his grandson John used the Monas symbol for their bookmarks as well.)

(Roberts and Watson, p. 67-8)

Around 1630, Arthur Dee, John Dee's son, gave John Winthrop Jr. a personally inscribed, author's copy of *Fascilus Chemicus* [Chemical Collections].



John Winthrop Jr.'s signature  
and his Monas symbol mark

Besides being the leader of the effort to settle Connecticut, John Winthrop Jr. was an assistant in the Mass. Bay Colony from 1631-1649. As explained earlier, on his 1645 journey from Connecticut to Boston Winthrop stayed overnight with William Arnold (in Pawtuxet) and then Benedict Arnold (in Providence).



### ***Benedict Arnold's letter to John Winthrop Jr. in 1652***

Benedict Arnold wrote John Winthrop Jr. a letter on Jan 30, 1652 shortly after Arnold had moved to Newport. It begins:

**“Worthy Honoured Sir,  
The last time I saw you (being at Dedham)  
I presumed to discourse with you about Tho [Thomas] Doxey,  
but (so Vain a thing is man) I understand he is gone the way of all Flesh,  
to the Pitt of oblivion the Contemplation whereof, not better  
to be used, then for the Living to Lay it to heart ...”**

Thomas Doxie was a young Scottish sailor who had married one of John Winthrop Jr.'s household servants named Katherine Warren. The Doxies lived in Providence for a while, but Thomas was somewhat carefree, continuously sailing off his various business ventures. Roger Williams empathized with Katherine, writing that the, “poore woman is much disconsolate.” Benedict Arnold wrote a letter on her behalf to her guardian Richard Warren of London.

(Lafantasia, p. 314, 315, 327)

Apparently she became a household servant for William Arnold and gave her itinerant husband the cold shoulder. In a letter to Governor John Endicott (dated September 1656) Roger Williams gossips: **“Thomas the Scot (as this bearer Henry Fowler hath said) hath wept To him about his wife that he could not get her from Old Arnolds.”** That very month, Thomas Doxie got intoxicated drinking peach beer with his neighbor and drowned when his canoe capsized.

In December of 1656, Williams wrote John Endicott again: **“Sir of this (and no small presumptions of Old Arnolds uncleanness with his maid and a powder trade driven by his son Stephen, worthy inquisition by Yourselves or us.)”**

Old William Arnold was apparently having an affair with young Katherine Warren Doxie.

(Lafantasia, p. 472-473)

My point in relating this juicy tale is to show that John Winthrop Jr. and Benedict Arnold and William Arnold all knew this woman. New England was one big “small town.”

### ***Benedict Arnold's letters to John Winthrop Jr. in 1559***

In the late 1650's, John Winthrop Jr. became Governor of the Colony of Connecticut. He and Benedict Arnold butted heads in the Conn/RI border controversy. Winthrop claimed Connecticut was entitled to all the lands west of Narragansett Bay. Benedict Arnold was defending the Providence Plantations charter that included lands 25 miles west of the bay, up to, and including, the Pawcatuck River (the mouth of which now Westerly).

On September 16 and October 20, 1659 Benedict Arnold sent two firm, yet polite letters to John Winthrop Jr.:

**“Much Honored Sir  
... our Colony has appointed four men to take the notice of the bounds of the Colony  
and on this witness and as they find it, so to make report to the Court thereof.  
And if any English be found inhabiting thereabouts within our Line,  
they are to be Either approved or discharged according  
as they do comply, or not apply themselves  
to the Colony's just proposals ...”**

At the end of the letter, he writes:

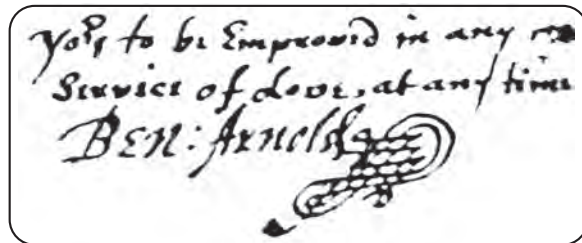
**Sir the most undoubted apprehension I have of your own sincere Love and respect unto us doth cause me thus to be bold, in laying these hints of our cogitations before you.**

**Not at all questioning your willingness and readiness to persuade  
(to your utmost power) your friends to do what may tend to their  
own Honor and to the Peace of all their Countrymen in riteousness.**

**And in the Confidence of receiving a loving return from your self,  
I rest, Yours to be Improved in any Service of Love, at any time,**

**Ben. Arnold**

He accompanies his signature with a flourish that shows he has some artistic ability. If you ignore the dark horizontal lines, underneath is a carefully drawn Möbius-strip-like figure 8.



### ***John Winthrop Jr. wins a (legal) battle, but Benedict wins the war***

Even though the two men found themselves on opposite sides of this land dispute, they were still cordial. As the controversy continued, Winthrop sailed to London to convince the officials of Connecticut's position. Fortunately, the stalwart John Clarke was in London to defend the Providence Plantations. After heated debate, Clarke won and obtained the charter of 1663, (which appointed Benedict as the first Governor).

Disappointed at his lost case, Winthrop pulled a little last minute chicanery and had the boundary line adjusted so that Benedict Arnold's garrison was no longer within the Rhode Island boundary.

The London officials decreed that the Pawcatuck River "shall be the certain bounds between those two Collonies." The Thames River watershed was to be part of Connecticut, but about 25 miles north of the coast part of the Thames Watershed is actually east of parts of the Pawcatuck River. (Now western Coventry, RI)

To solve this problem the London officials gave Connecticut all lands 6 miles east of any stream that was part of the Thames River watershed. Winthrop and Clarke agreed to this language. As the documents were being prepared, John Winthrop Jr. had to catch his boat heading back to New England. He had his associates return to the officials and complain that the boundary language was still so vague that it might be the source of future disputes.

The Pawcatuck River runs north-south for about a 5 mile stretch near Westerly. But above that are 3 tributaries; one comes from the west, one from the northwest and another from the east. Winthrop's associates convinced the officials that the boundary should still be the Pawcatuck River, but from the point where the tributaries converge. From there the line should run due north (about 35 miles) to the Massachusetts border.

John Clarke agreed that this more definitive language was acceptable. Unfortunately this new language put Benedict Arnold's garrison house in Connecticut. I suggest Winthrop did this to snub Arnold. Arnold might have lost a battle, but he won the war.

In a later border dispute (in 1703) the north-south line was shifted two miles eastward (from a point further up the eastern branch of the Pawcatuck River.) This is the boundary line still in effect today.

The western tributary of the Pawcatuck (now in Connecticut) and the eastern tributary (now in Rhode Island) were originally considered one large "territory." This can be seen by the fact that each of these tributaries were referred to as the Shannock River. (The Connecticut branch still is called that. The RI branch runs through a town called Shannock.)

### ***More on John Winthrop Jr***

Winthrop also corresponded with scientists in England, and around 1662 he was elected a fellow of the Royal Society. He was an avid astronomer and owned a 3 ½ foot telescope.

What John Winthrop Jr. knew about the tower is unknown, but if he was enthusiastic about John Dee, perhaps other educated colonials were as well.

The title of Walter Woodward's thesis paper begins with the words "*Prospero's America.*" Dee has sometimes been called the inspiration for that character in Shakespeare's *The Tempest*. Whether this is so, I'll leave for literary historians to debate. What is important is that Dee clearly influenced and inspired at least some of the educated colonizers of New England.

# THESE GUYS ALL KNEW EACH OTHER

## *The connection between the Sir William Pelham (ca. 1530 – 1587), Sir Philip Sidney, and Sir George Peckham (and others)*

One notable Elizabethan relative of Herbert and Edward Pelham (who married Frelove Arnold) was Sir William Pelham.

In the 1570's Sir William Pelham was named Lord Justice of Ireland for his tireless efforts to control that rebellious island. After returning from the pillages he had funded with his own money, he found himself £13,000 in debt. He asked the Queen to relieve him of some debt, but she refused. Only with the help of Leicester and Burghley did he get a mortgage and commission to join Leicester's attack on the Spanish in the Netherlands.

Leicester selected Pelham as Marshall, irritating his brother Sir Edward Dudley and Sir John Norris. On August 6, 1586, during a "drinking bout" in Netherlands, the irascible Pelham started a brawl that nearly killed Sir Edward Norris. Sir Philip Sidney and Essex helped quell the officers' quarrel. (*Dic. of National Biography*, p. 701)

Several days later, Pelham and Leicester were "inspecting trenches." Suddenly, enemy gunfire wounded Pelham in the stomach. He was pleased to have saved Leicester who was standing behind him. He resolved to continue the fight, with this non-fatal bullet lodged in his belly.

At the battle of Zutphen, the wounded Pelham was unable to wear his cuisses (thigh protection.) Sir Philip Sidney, "in a typical gesture of chivalry, threw away his own, that their danger might be equal." Or as Fulke Greville later put it "to venture without any inequality." Other sources contend that, "under-arming in warfare was the new trend of the 1580's."

(Harrison, p.18, and Stewart, p.312)

When the mist cleared away, the English were facing 4,000 Spanish soldiers. Sir Philip took a bullet in the left thigh, shattering the bone. Gangrene soon killed him.

Pelham and Leicester returned to England in the spring of 1587, spending much time recuperating at the "waters of Bath." In autumn of 1587 Pelham returned to Holland with reinforcements, but died shortly after his arrival, on November 24, 1587.

Let's briefly return to Sir Humphrey Gilbert's death in 1583. Sir George Peckham and Sir Philip Sidney joined forces to organize a new American expedition. To attract subscribers Peckham wrote *A True Report of the Late Discoveries... of the Newfounde Lands*. To add credibility he got ten men of great prominence to lend praise to the venture in the form of short poems.

Franklin McCann call these poems "the sixteenth-century equivalent of the elaborate modern letterhead, listing names in the news as members of the board of directors." (McCann, p.195)

The very first poem, placed immediately after George Peckham's dedication to Walshingham is by Sir William Pelham, Knight. Here's a complete list of the dignitaries:

Pelham shamed Englishmen into action by asking why his country was so slow to exploit the rich lands of the New World.

William Pelham – army commander  
Francis Drake – sea captain, voyaged around the world  
John Hawkins – sea captain, Treasurer of the Navy  
John Bingham – sea captain  
Martin Frobisher – sea captain  
John Chester – sea captain  
Matthew Roydon – professional poet  
Anthony Parkhurst – early explorer  
Arthur Hawkins – sea captain  
John Achelley – citizen and Merchant Taylor of London

Our forren neighbours bordring hard at hand,  
Have found it true, to many a thousands gaine:  
And are inricht by this abounding land,  
While pent at home, like sluggards we reamine.  
But though they have, to satisfie their will:  
Inough is left, our cofers yet to fill.

(There are 3 additional verses to this poem.)

Our foreign neighbors, bordering hard at hand,  
Have found it true, to many thousands gain.  
And are enriched by this bounding land,  
While we pent at home, like sluggards we remain.  
But though they have [enough] to satisfy their will,  
Enough is left, our coffers yet to fill.

My transcription

In 1940, David Beers Quinn suggested that these authors didn't write the actual poems, that they were "names attached to the laudatory poems" of Peckham.

However, more recently, in 1996, Quinn implied that Drake actually did pen his poem. Drake's biographer John Cummins claims the poem is attributable to Drake. (Kelsey, p. 500)

So it might follow that Pelham actually wrote his words. Perhaps Poet Matthew Roydon helped with the editing. Regardless, Pelham must have agreed to allow Peckham to use his good name as a colonizing enthusiast, back in 1583.

In Brockelsby Hall, Lincolnshire there is a sculpture of Sir William Pelham with his wife and children, all kneeling, with males and females facing each other. (www.churchmouse..., p.2)

The point I'm trying to make here is that all these guys knew each other. The exploits of the Elizabethans (Pelhams, Sidneys, Peckhams, Dee, etc.) were well known to the generations of Englishmen that followed (Herbert, then Edward Pelham; William, then Benedict Arnold, etc.)

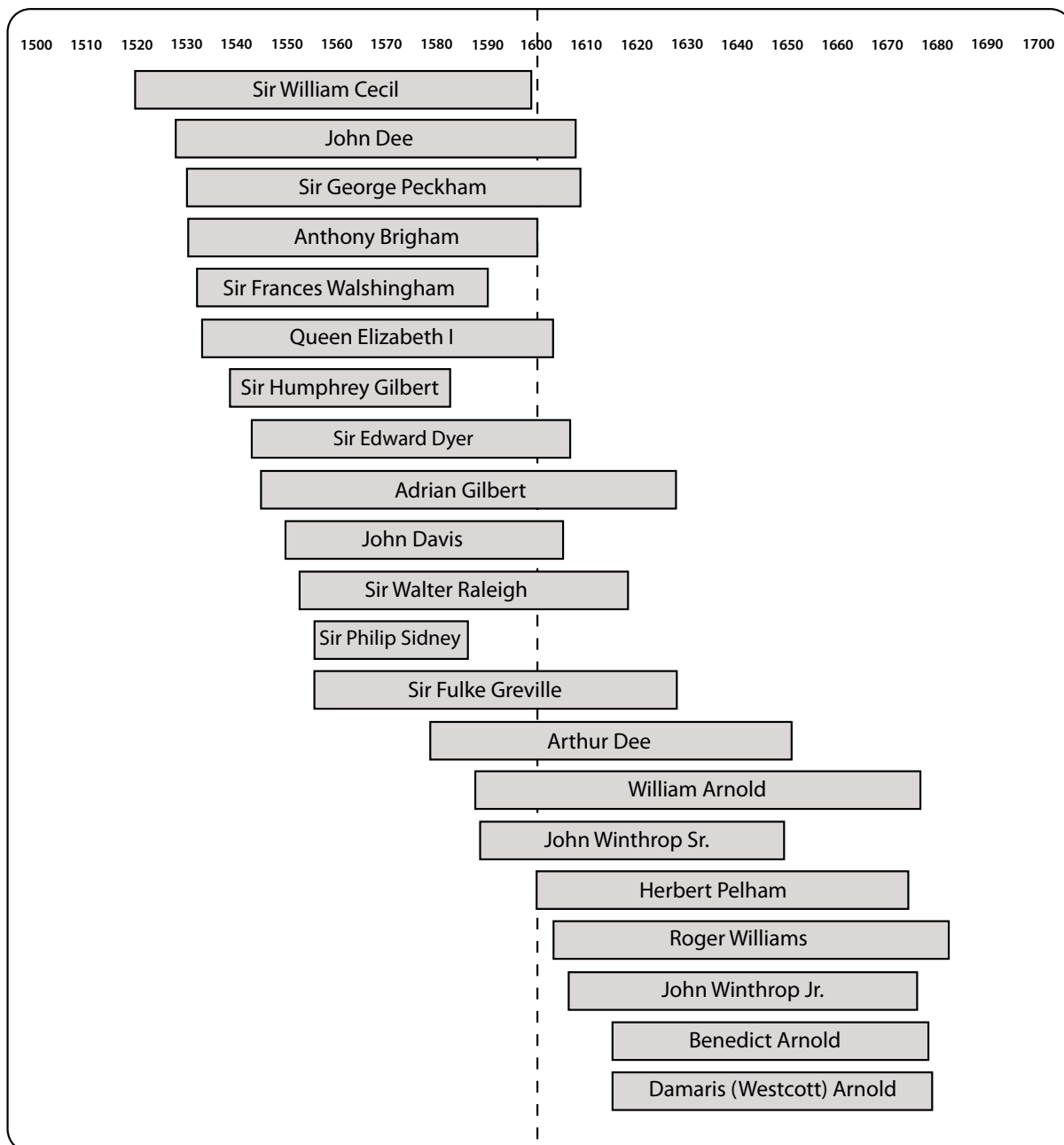


### *Overlapping lifespans of characters in this story*

Because all the Elizabethan colonies in America failed to take root, they seem to be relegated to a different chapter in American history books than the Colonial history of the Pilgrims and Puritans.

Indeed, in the years around 1600 there was a “changing of the guard,” but some of these Elizabethans lived well into Jacobean times. Also, some of the older Colonial settlers had been born in Elizabethan times.

Even without this overlap, people were certainly well-aware of the exploits of notable characters from the times of their parents and grandparents.



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## WHO IS JIM EGAN, AND WHY WAS HE ABLE TO PERCEIVE WHAT PREVIOUS RESEARCHERS HAVE BEEN UNABLE TO SEE?

I was born a baby boomer in Belmont, Massachusetts in 1950. At age 9, I won the (much-coveted) First Prize in the Belmont Elementary School Science Fair for my exhibit on *The History of Time, from primitive sundials to electronic watches*.

Here I am all suited up to deliver a presentation to the president of the Hamilton Watch Company for whom my father was the New England sales representative.

At Franklin and Marshall College, I majored in Business and Art. One of the highlights of my education was the semester I spent at the City of London College. In Art History class we would see slide shows of famous masterpieces, and in the afternoon I would bicycle over to the National Gallery or the Tate Gallery to see the originals.



Upon graduation, I worked as a graphic artist for a while, then landed a job as a salesman for one of the largest offset presses in Boston. Daniels Printing Company printed corporate annual reports, packaging for Gillette, and even the Monopoly money for Parker Brothers. While most of the work was done on 6-color offset presses, some were still done letterpress from photo-engraved plates.

I yearned for an even more creative career, so I took night classes in photography at the Museum of Fine Arts School and the Rhode Island School of Design. In 1977, I opened a commercial photography studio on Westminister Mall in Providence. Over the next 30 years, I took over one million pictures.



I started out doing public relations photography (I was the photographer for Buddy Cianci's mayoral campaign in 1978), but soon learned that the real money was doing commercial photography for advertising agencies. Instead of being just "a guy with a camera," I became a "visual problem solver," turning art directors' dreams into reality.

As many magazines and newspapers were printed in black-and-white, clients wanted 8 x 10 glossy prints. So, in my darkroom I would load film onto reels and process them with developer, stop bath, and fixer. When dried, the film went into the enlarger where I would burn and dodge to make a perfect print.

With black-and-white film, everything is backwards. The black parts print white. The white parts print black. Dark gray prints light gray. Light gray prints dark gray.

White dust spots could be retouched on the print, using black dyes and a fine tip brush. But black spots had to be retouched on the negative.

I lived in the land of reversals.

Even the camera controls had reversals. To let more light into the camera, you use a smaller f-stop (f 4 is a wider aperture than f16). All the shutter speeds were actually fractions (with the numerator of 1 understood). Thus, faster shutter speeds are actually lower numbers (125 is faster than 30, as 1/125th of a second is faster than 1/30th of a second.)

My better commercial clients wanted their products shot on large format film for really sharp prints and chromes, so I soon became adept at using a 4 x 5 and even an 8 x 10 camera. More reversals. This time the image on the ground glass was upside down.

With a dark cloth draped over my head, I viewed the image was like it was a miniature movie. If I wanted piece of jewelry moved the right, I'd ask assistant to move to move it to the left. If I wanted to move a piece of jewelry down, I'd ask him to move it up. At first this reversal was quite confusing, but eventually my brain learned to flip the image, making "reverse reality" somewhat normal.

One advantage of the 4 x 5 camera over a 35 mm camera was the ability see all the details on the large screen. Another advantage was that the front and rear standards are adjustable, allowing the photographer to correct for distortion caused by parallax (the way a tall building appears to taper as you look up at it).

Image results were not instantaneous. We shot Polaroid test prints so the art directors could make sure the proportion of the photo would fit their layouts (but we still had to wait a minute for "roids" to develop). Even after shooting film, we couldn't see the final results until the next day.

### *One Million Camera Obscura Images*

I wanted to be the consummate photographer, so I shot a wide range of subjects. Some days I shot portraits of children, nurses, welders, or corporation presidents. Other days I photographed food, jewelry or medical products in the studio. Occasionally I traveled to Minnesota or Barcelona shooting manufacturing facilities.



The reversal of tones in a negative and a print



The reversal of the image on the groundglass of a large format camera



a few of the my one million photos

A camera is essentially dark box with one hole to let in light. It's a miniature camera obscura. Most 35 mm cameras have a mirror and pentaprism that correct the image so it's not upside down and reversed. Large format cameras don't have these correction mirrors, so the camera obscura correlation is more obvious. The lens is the "camera obscura hole" and the ground glass is the "projected image on the interior wall."

So essentially, I used to camera obscura over 1 million times in the course of 30 years.

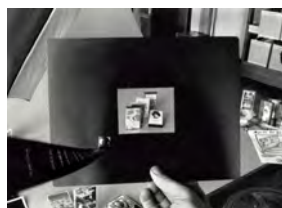
To assist other photographers with some of the technical parts of photography I invented, designed and manufactured a line of photography tools. They are still distributed by Visual Departures Ltd. of Stamford, CT ([visualdepartures.com](http://visualdepartures.com)) and sold at large photo stores like B& H Photo in New York City.

**The Quick Stick** for 4 by 5 cameras is an easy-to-use slide rule that determines the "bellows extension factor" or the amount of light diminution inside a camera for various focal length lenses.

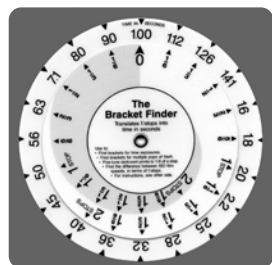


The Quick Stick for bellows extension exposure calculations on large format cameras

**The Visualizers** allow you to frame a picture and determine the best lens to use before without putting the huge 4 by 5 camera (with its upside-down image) and bulky tripod in place. Visualizers come in three sizes: 35mm; 2¼ or medium format; and 4 by 5 (which also has a scale for 8 by 10 cameras).



The Visualizer helps you determine the best lens and best camera angle

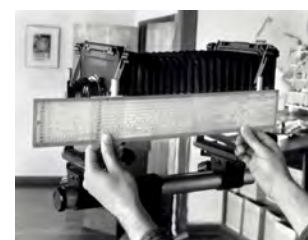


The Bracket Finder indicates f-stop equivalents for bracketing with exposure time.

**The Bracket Finder** is a dial that converts "time" (in terms of seconds) into fractions of f-stops.

In the studio, it's useful in bracketing film exposures. In the darkroom, it's helpful when determining enlarger times. It also will tell you the difference (in terms of f-stops) between various ISO film speeds.

**The Depth of Field Finder** tells you how much of the scene will be in focus, at any given shooting distance, and for any large format lens.



The Depth of Field Finder for large format cameras

Whether you understand all these technical tools or not, you can see I've had a lot fun exploring the arithmetic and geometry of photography.



Aside from the camera, the photographer's main tool is light. Different subjects demand different illumination. Sometimes I used a "soft box to envelop the subject in soft light. Sometimes a harsh spotlight was required to rake across the texture of cloth or add some sparkle to gold jewelry and gems. Some large scenes would require over a dozen lights of all different kinds.

For architectural photography, understanding the path of the Sun is essential. Frequently the sexiest light was at dusk or dawn.

While I was shooting outdoor events, people would frequently say to me "Too bad the Sun is not out for you today."

I'd respond, "Are you kidding? It's so much easier shooting people on cloudy days. They don't squint and there are no dark shadows in their eyesockets." Photographers develop a keen understanding of light, as it's one of their primary tools.

### ***The Digital Photography Revolution***

When the digital revolution hit the photography industry around 2000, (throwing Kodak and Polaroid for a loop) I was eager to ride the wave. No more darkroom, no more film inventories, no more Polaroid tests, no more photo labs! I didn't even have to make deliveries. I could send the photos online immediately after "capturing" them.

Photoshop became the new digital darkroom. The burn tool, the dodge tool, the distortion correction tools, the contrast and color correction tools, the retouching brushes were all at my fingertips on a keyboard.

Cameras became auto exposure, autofocus, auto everything. I could capture high resolution images and they would appear instantly on my wide-screen computer monitor. Saying goodbye to all that "reversalness" or mathematics seemed like a blessing.

But alas, after that abrupt metamorphosis, I found that of the some of the magic was lost. Nowadays, most people don't realize that the image is upside down and reversed inside **any** camera whether it be a cell phone camera, a point-and-shoot, or an 11 by 14 film camera.

### ***History, Architecture, and NEARA***

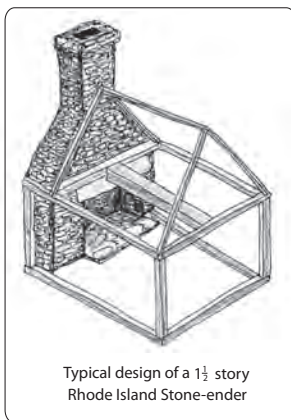
Besides photography, my other passions are history and architecture. My wife and I live in a colonial house on a dirt road in Foster, Rhode Island that was built in 1726. When our two boys were born, we needed more room and wanted to put on an addition that would be in keeping with the old house.

From an ad in the Providence Journal we bought the remains (a pile of chimney stones and beams) of a 1709 Rhode Island Stone-ender originally built by Roger Burlingame. This one-and-a-half room house had been the oldest house in Gloucester RI, but had fallen into disrepair and had been meticulously dismantled by Tom and Audrey Monahan.

A Rhode Island Stone-ender is an architectural style that was used exclusively in Colonial Rhode Island. In Massachusetts and Connecticut the earliest settlers preferred to build center-chimney houses.

My wife, Lucinda Landon now uses the addition as a studio where she writes and illustrates the Meg Mackintosh books, a series of mysteries for young readers.

My studies in Rhode Island history led me to join the New England Antiquities Research Association, a group of amateur historians dedicated to exploring and protecting the stonework found in the landscape all across New England.



Typical design of a 1½ story  
Rhode Island Stone-ender

One building that the inquisitive folks at NEARA were investigating was the Newport Tower, the remains of which still stand in Touro Park, in the middle of Newport. No one could quite explain it. Some thought it was built by Vikings, some thought by the Templars, some thought by Portuguese explorers, but most historians felt it was the remains of an early colonial windmill. Over the past 25 years, I have delivered 13 presentations to NEARA on the progress of my investigations.

### ***Buckminster Fuller and John Dee***

In our modern world, there is so much to learn about so many subjects there is a tendency is to specialize. One of my heroes, Buckminster Fuller, saw things differently:

**“I refuse to treat diverse subjects as specialized areas of investigation, because it inhibits my ability to think intuitively, independently, and comprehensively.”**

(Buckminster Fuller, [http://www.crucialminutiae.com/ who's-a-comprehensivist](http://www.crucialminutiae.com/who's-a-comprehensivist) )

I've taken this “comprehensivist” approach and have synthesized various fields of knowledge in order to understand the Newport Tower.

Little did I know that my background in “reversalness” in photography, my understanding the behavior of light, the history of Time, the mathematics of optics, colonial history, and my organizational skills were just what was required to make sense out of the this structure that has perplexed historians for centuries.

It turns out that the designer of the Tower, John Dee, was also fascinated by history, mathematics, camera obscuras and “reversalness.” And he left behind a plethora of clues.

As we shall see, John Dee was enthusiastic about the future of England and had a grand vision for the British Empire (a term which he coined).

But he also saw himself as a citizen of the whole world and even coined the term “cosmopolite.”

(*cosmos* means “world,” and *politês* means “citizen”)

Just as Buckminster Fuller saw humanity as a united group of “passengers on Spaceship Earth,” John Dee saw himself as a

**“Cosmopolite: A Citizen, and Member, of the whole and one Mystical City Universal.”**

(Dee, *General and Rare Memorials*, page 54)

Even though one of these men lived in the 1500's, and the other in the 1900's, they thought alike.



### ***An Octave of Books***

Sometimes clients would come to me with a rough idea or concept and ask me for ideas on how to convey visually. I learned to make “ideation sketches” so we could discuss which routes to take. And though I'm no da Vinci or Dürer, my storytelling approach is very visual. I feel even a simple illustration or chart can make a long paragraph of words much easier to grasp.

Another skill required in running a professional photography studio is knowing how to run a business. It involves not just getting jobs and shooting them, but also coordinating inventories of film and equipment, plus trying to get paid in a timely fashion. My job was a mix of creativity and organization. I applied these skills to my research of the history-mystery of the Newport Tower.

Like a detective, I would follow an obscure lead that required a better understanding of history, optics, or mathematics. I studied Elizabethan history, early colonial history, and the history of mathematics and optics. I amassed a library of over 1500 books on these subjects. Any out-of-print text that I couldn't locate, I could usually find at Brown University's great libraries (The Rockefeller Library, The John Hay Library, and the John Carter Brown Library). In my research the Web has been an awesome tool in helping me connect the dots, almost giving me an unfair advantage over historians of the 1900's.

I traveled to London, Prague, Rome, Athens, Cairo and Jerusalem to get a better grasp on history and architecture. I took classes in Adobe Photoshop, Illustrator, and a Indesign so I could effectively communicate my findings. I learned how to read Latin and Greek, so I could dig beneath translations and really understand what the authors were saying in their primary documents. I took a two year sabbatical from my photography business to focus on this puzzle.

Over the years many of these pieces started fitting together. Because my conclusion is so startling (a Renaissance building in America, please, how ridiculous can you get), my evidence and decipherments cover 8 books or about 1800 pages. I apologize if the length confounds the reader, but if the solution was easy to understand, certainly other historians would have discovered it long ago. Footnotes have conveniently been placed immediately following the citations as guideposts for future researchers.

I actually consider these 8 books to be one *oeuvre* (or whole work). For example, Book 7 won't make any sense unless you have read Book 3. As you flip through the work, it may appear daunting, but it was written so a High School student could understand it (including the math).

As you follow this scintillating adventure, you'll learn the who, what, where, when, and why of the Tower. But you'll also discover a "blueprint" of its design (done 18 years before it was built) and a small illustration of it (done 5 years before it was built).

Dee's hero, Plato, would begin and end his lectures by telling his a student that all their investigations be done in search of "Beauty, Truth, and Goodness." Dee mentions "Divine Plato" and these three virtues in the opening sentence of his *Preface to Euclid*. I consider them to be the overarching motivation for my books as well.

Jim Egan  
Comprehensivist  
Cosmopolite



A clue to remember:  
There is a common thread in all these eight books:  
the idea of "reversalness."

Enjoy. .yojnE