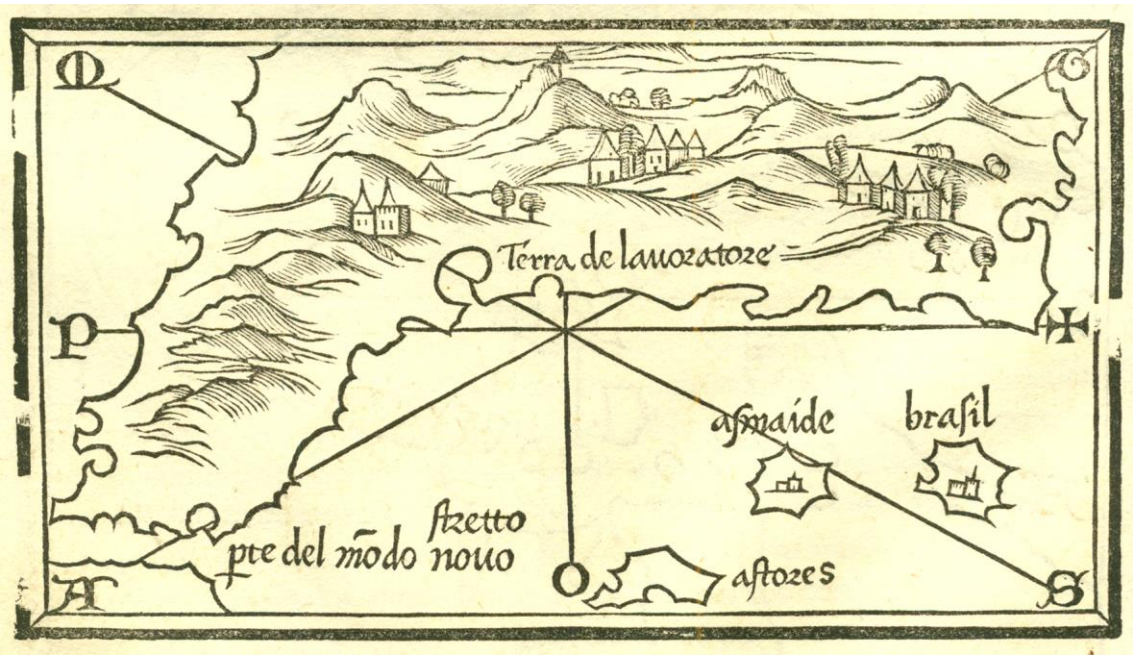
MAKING HISTORY

Reconstructing the Elizabethan Quest for the "Northwest Passage"



An Essay by Charles Sullivan, PhD

Presented to the Chit-Chat Club

San Francisco, California

June 9, 2015

INTRODUCTION

I am grateful to you gentlemen and previous Club members for providing this unique forum, in which each of us is given the latitude and the longitude to pursue virtually any subject he likes. In my case (and somewhat to my own surprise) the subject has turned out to be the discovery and exploration of North America, especially this country, from the perspectives of early modern Europeans. During the past six years, I have been writing about leading navigators and explorers such as Christopher Columbus (c. 1451-1506), John Cabot (c. 1450-c. 1499), and Francis Drake (c. 1540-1596), trying to clarify where they thought they were going, why they were trying to go there, and what they accomplished.

My interests are psychological as well as historical, so I have focused on the documented lives of relatively well-known individuals. And that's the focus from which the history of discovery and exploration has often been written. Columbus discovered America for Spain. Cabot discovered Newfoundland for King Henry VII of England. Drake, two generations later, discovered a better way to please Queen Elizabeth I, bringing home a shipload of stolen Spanish treasure, after sailing past California as he circled the globe.

HEROIC vs. ANTI-HEROIC PERSPECTIVES

Stories like Drake's can be so compelling that we tend to attribute great achievements to one heroic figure or another. This makes for simple writing and simple reading. Recently, however, some anti-heroic historians have gone to the opposite extreme, arguing that early discoveries and explorations

must have been collective efforts in whole or in part. All such activities involved map-makers and ship-builders and financial investors and kings or queens who were supportive but demanding of results, plus any number of other people, usually nameless or forgotten, who processed the paperwork, loaded the cargo, served as a ship's officers and crew, and so on.

I try to steer a middle course through this argument. Each of the leading navigators owed something to others, of their own generation or earlier generations. Yet it appears to me that in navigation, astronomy, map-making and related professions, the most capable individuals were far and few between; there was never a lot of talent in reserve, or what we call "bench strength." Columbus had no back-up, as far as we can tell—nobody else would have been able to get to the New World and home again the way he did, in the event that he had died at sea or been hit by arrows on the beach. But after his initial breakthrough in 1492, traditionally credited as the discovery of America, there was evidently an abundance of other people willing and able to do the follow-up. Thus Columbus returned to the New World on his second voyage, in 1493, with seventeen ships carrying more than a thousand eager young Spanish "conquistadores," who quickly gained control of the Caribbean and beyond. Columbus himself became gradually less relevant to a larger and larger undertaking.

Drake in his turn appears to have been a daring and resourceful seaman, and a very lucky one to boot, who could perform exceptionally well on occasion. He had no obvious replacements, but I find that he sometimes acted in concert with talented contemporaries, most notably Walter Raleigh (c. 1552-1618), who shared Drake's interest in the New World. They both wanted to

claim a large share of it for England, at the expense of Spain, by planting colonies on the Pacific coast of North America as well as on the Atlantic coast: Drake in the region he called "Nova Albion," somewhere between here and Alaska; Raleigh on the coastal islands of what is now North Carolina. This much is generally known.

What is not generally known is that Drake and Raleigh and more than 40 other Elizabethans also took part in a different kind of overseas project: a well-organized effort to discover the "Northwest Passage." I began to find traces of this collaboration last summer, while studying Elizabethan history at Oxford University. In July of this year I am going back to England, not as a student but to present my findings to date, at the annual meeting of the Society for the History of Discoveries. Tonight I will give you a brief preview of this research, after sketching the historical background as I see it.

WHY THE "NORTHWEST PASSAGE" WAS SO IMPORTANT

The title of my essay is "Making History," because I am in the process of constructing a new perspective on certain things that happened long ago. Here's the situation: England was experiencing an economic crisis in the 16th century, during Queen Elizabeth's reign, due mainly to relentless over-production of cloth made from sheep's wool. Additional markets were needed, abroad if not at home. Advisors with some grasp of the wider world suggested Asia, whose inhabitants were believed to be prosperous and in need of sensible clothing, yet somehow incapable of obtaining it themselves. Thus it seemed opportune for English traders to ship their goods all the way to Japan and China and other Asian countries.

But how to get there? The medieval notion of sailing directly westward to Japan or China was no longer an option, thanks to Christopher Columbus and his followers, who had stumbled onto an awkward geographic fact: there was not just one enormous ocean to cross but two oceans, plus a substantial landmass between them, the newly-named continent of America.

LACK OF GEOGRAPHIC KNOWLEDGE

The people of England (and other European countries) knew very little about this continent after its initial discovery in the 15th century. The size and shape of America remained unclear. By the middle of the 16th century, maps were still hard to get, and typically vague or highly imaginative, because nobody from Europe had actually traveled to many of the places depicted. Therefore the geographic reality as it can be perceived today—the solid mass of land stretching more than 10,000 miles from north to south—would have seemed unbelievable to nearly all Europeans of that era. And quite discouraging for those who were anxious to begin trading with Asia.

Yet there was not very much reality-resting going on. Instead, some of the foremost officials and merchants and mapmakers and mariners were engaged in wishful thinking, thereby slowing the progress of fact-based geography for many years to come. The American continent might be a bothersome barrier between Europe and Asia (they told themselves) but there simply had to be some way to get around it or through it. So maps were drawn or redrawn accordingly.

EXAMPLE: A EUROPEAN MAP MADE IN 1528

Here [handout or title page] is one example: an Italian map, made in 1528, which purported to show how easy it was to get to Asia by ship. Labrador (discovered by John Cabot in 1497) is one of the few identifiable places. Also we see the Azores Islands (which Columbus had visited as he returned to Spain in 1493). And several imaginary islands, including one called "Brasil." But the American continent is depicted as a shapeless blob of indeterminate size. About halfway down its length, where Panama is today, a convenient "strait" of water offers an easy passage between the Atlantic and the Pacific. We are to assume that, having sailed smoothly through this passage, the commercial vessels of England or other countries could then head directly for the marketplaces of Asia, hopefully avoiding the Spanish navy and other hazards.

THE REAL GEOGRAPHY AS WE KNOW IT TODAY

Now let me tell you a little more about the real geography. Despite the enormous size of this continent (which consists of North, Central, and South America), there are only four ways for modern vessels to get through it or around it. Only four ways, even today. Just two of them existed, back in the 16th century, and they were extremely difficult for sailing ships to use. Instead of displaying another map, I will describe these four routes, one by one. Try to imagine a slideshow if you will, or a PowerPoint presentation.

Click. First, the *Strait of Magellan*. In 1520, Ferdinand Magellan (sailing for Spain) found a narrow, twisting passage or "strait" some 350 miles long,

the so-called "Dragon's Tail." He preferred to name it the "Strait of All Saints." It is now called simply the "Strait of Magellan." Close to the southern tip of South America, it was the first natural waterway known to Europeans as a direct connection between the Atlantic Ocean and the Pacific. Spanish ships began to use this route on a regular basis, transporting soldiers, settlers, supplies, and trade goods. They were usually unarmed, until the English and others became more aggressive.

Click. Second, the *Drake Passage*. In 1577, Francis Drake left England and reached the Pacific Ocean through Magellan's strait, which was not guarded at that time. Drake was forced by bad weather to go even farther southward, and he saw it might be possible to sail right around the tip of South America, "around the Horn" as mariners say. (Before this time, some geographers had declared that South America was solidly joined to another large continent at the bottom of the globe. Called "Terra Australis Incognita," it was not only unknown but nonexistent, and it disappeared from the maps after a while.)

Drake's southernmost route, later called the "Drake Passage," was very challenging for vessels under sail, due to contrary winds, powerful ocean currents, frequent storms, occasional icebergs, etc. However it proved to be somewhat less difficult than the tortuous Strait of Magellan, so it was used for international traffic until the man-made Panama Canal became available much later.

Click. Third, the *Northwest Passage.* This hypothetical waterway is only now becoming a reality, through Arctic waters north of Canada, with the ice gradually melting enough to open up one or more channels for large, sturdy

vessels to get through. Also, several countries are competing for oil, gas, and other natural resources in the region.

During the Elizabethan era, and for centuries thereafter, mapmakers placed the hard-to-find "Passage" in various parts of North America, sometimes as far south as California and Virginia. Explorers went looking for it, again and again, but always to no avail. Strangely enough this continuing search was often reinforced by repeated failure rather than success. We know that there was no passage to be found, until the melting of Arctic ice in recent times. Yet some of the best and brightest Elizabethans and their successors kept assuring one another, in effect: "Well, if it isn't there, exactly, it must be somewhere nearby." But it wasn't.

The "Northwest Passage" continued to elude discovery until the early 20th century, when the first Arctic traversal was completed by a Norwegian expedition in several stages between 1903 and 1906, using a small ship that was sometimes icebound. This "voyage" was technically successful, and therefore a huge credit to the courage and perseverance of the men who made it. However it had no economic significance for Europe or Asia, because ordinary merchant ships could not be expected to replicate this protracted "do or die" effort.

Click. Fourth, the *Panama Canal.* In 1914, international trade was greatly facilitated by the opening of a much more direct route, the man-made Panama Canal, which cuts through the narrowest region of the American continent. Currently a wider canal is being planned, to accommodate larger ships.

So this is the geographic reality against which navigators and geographers struggled, from England and other countries, over a period of several hundred years. Let's contrast this reality with the limited information that Francis Drake could have possessed, as he left the port of Plymouth in 1577, at the beginning of a loosely-planned voyage that took him around the world in three eventful years.

HOW MUCH COULD DRAKE HAVE KNOWN?

Drake knew about the *Strait of Magellan* in advance, obviously, and he had obtained a chart (said to be a copy of Magellan's) with enough accurate detail to find the Strait's entrance on the Atlantic side. He sailed confidently through this difficult waterway, estimating its length to be about 350 miles. Then, having reached the Pacific fairly quickly, he discovered the *Drake Passage* on his own, and proudly claimed some small islands for Queen Elizabeth, although he was clearly in Spanish waters at that point. (Drake and his companions were the first Englishmen to sail the Pacific Ocean, and the first to set foot on the Pacific coast of the American continent.)

Cruising northward then towards California, Drake eventually passed the narrow neck of *Panama*. He had previously trekked across it, during an English raid in 1573, and had climbed a tall tree to get his first look at the Pacific Ocean. Therefore he believed Panama to be only about 50 miles wide, between the Pacific and the Caribbean Sea. The Spanish sometimes moved freight across here with mule trains, but the big idea of digging a ship canal in this vicinity probably did not occur to them (or to anyone else, for many years to come).

North of Panama, the American continent steadily widens. Drake became aware of this as he continued sailing past Mexico and California; in fact he noted later that the upper Pacific coast (Washington, British Columbia) had been trending to the west as he sailed along, whereas it appeared to go straight north on a Spanish map that he had acquired earlier.

Searching for the Pacific entrance to the legendary *"Northwest Passage,"* Drake must have wondered how long this elusive waterway would turn out to be. More than 50 miles (the width of Panama)? More than 350 miles (the length of the Strait of Magellan)? Could it be entirely too long and difficult for English merchant ships to cope with, after crossing the rough Atlantic? These were questions that armchair experts back in England didn't consider, as they blithely prescribed Asian markets to remedy the country's economic ills. But Drake and a few other well-seasoned mariners had to consider such questions, because they were expected to find the "Northwest Passage," and make it work.

VIEWING THE PACIFIC COAST WITH SATELLITE TECHNOLOGY

Since writing my previous essay about Drake, three years ago, I have learned a lot more about Pacific coastal geography. Especially useful are the satellite photographs and continuous maps available on the World Wide Web (see LINKS TO USEFUL WEBSITES, below). With our computers we can view the coast more fully than Drake or any other Elizabethan could have imagined. I started at Baja California and scrolled my way northward, mile after mile, all the way up to Alaska. (Notice I said *scrolled*, not strolled.) It takes several hours just to do the scrolling attentively.

There are far too many images to show you, by means of PowerPoint or slides, so please take my word for it: you can see hundreds of small coves and bays on this coast, where Drake or other mariners might conceivably have landed briefly, for ship maintenance, fresh water, food, firewood, and other necessities. Also there are larger bays and some promising rivers that Drake or others could have explored, as they searched for a likely opening to the "Northwest Passage." Again the lack of evidence is frustrating. We still don't know exactly where Drake looked, or what he thought he saw; we don't know how far north he really sailed or where he landed, though various possibilities have been advanced by enthusiastic promoters of particular localities (American or Canadian) in recent years.

POSSIBILITIES, PROBABILITIES, AND FACTS

With rare exceptions, these enthusiastic local promoters aren't taken very seriously. Typically they fixate on a single possibility to the exclusion of any other alternatives, whether we are talking about places that Drake might have landed or other issues. Understandably this tends to be a "turn off" for more deliberate historians, to whom a possibility is not necessarily a probability, and a probability is not necessarily a fact. Thus it's *possible* that Drake landed at or near Point Reyes, California. Or Victoria, British Columbia. Or several places in between. But it's not *probable* that he did (although the promoters might get away with saying so). And it is far from being a *fact*, supported by conclusive evidence.

On the other hand, we should not dismiss a possibility simply because it is advanced by an enthusiastic promoter. If we find it sufficiently interesting

and suggestive, let's see where it leads, and what else it might be connected with. I say this now to prepare you for the contributions of some amateur historians who are happily guilty of enthusiastic promotion, with regard to places and things that might possibly have a bearing on the "Northwest Passage" quest of the Elizabethans. For example, something interesting and suggestive has been brought to light on the Oregon coast, south of the Columbia River, near Nehalem Bay.

AN ARTIFACT IN OREGON: THE "POINT OF POSITION"

This is an artifact called the "point of position," a large sort of geometric diagram found on the slopes of Neahkahnie Mountain, Oregon, about 500 miles north of San Francisco. I call it an artifact because it is obviously man-made. Garry Gitzen and other local enthusiasts have been trying to call attention to it for some years, and amateur historians such as Samuel Bawlf have picked it up. But enthusiasts and amateurs can only go so far. As I pointed out in my review of Gitzen's recent book, what is needed here is an objective, multidisciplinary study of the entire site (see SUGGESTIONS FOR FURTHER READING, below). Absent such a study, photographs and verbal descriptions of dozens of physical features indicate that someone came here, long ago, and created this diagram on the mountainside, making patterns with cairns of small rocks and incisions in larger rocks, scattered over several acres, some of them entangled by tree roots. There are lines, arrows, letters, numbers, and other markings, apparently of European origin.

It is claimed by Gitzen and others that some of these markings are consistent with English surveying techniques of the 16th century (specifically those of

an Englishman named William Bourne, c. 1535-1582). Will this claim be validated by further research? Such a connection would immediately narrow down the identity of the "someone" who could have created the diagram. Presumably he or they were Elizabethans. At present, we are reasonably sure that no English expeditions had royal permission to travel this far from home before the time of Queen Elizabeth; only one or two expeditions came here during her reign; and none for nearly 200 years thereafter. So what are the possibilities?

Click. *Drake's* expedition came first. A vessel under his command could have reached this so-called "point of position" in 1579: either his own ship, the *Golden Hinde,* or a smaller ship captured from the Spanish. Drake's companions and crew included one or more men described as "artists," who were making detailed charts and landscape drawings of the coast as they went along, for future reference. And they or others apparently had knowledge of geometry and related subjects, including various systems of measurement. So perhaps they were capable of designing and creating the large diagram still to be seen on the mountainside in Oregon. This would have occurred just before Drake commenced his homeward journey in the *Golden Hinde.* If he had a second vessel at his disposal then, it did not accompany him, and little can be said about its ultimate fate.

Click. Second came the *Cavendish* expedition, which could have landed here in 1587. Thomas Cavendish (1560-1592) was a relatively unknown gentleman, not yet 30 years old. But evidently he had the audacity, the financial means, and the talent or good luck needed to out-perform Drake in circumnavigation and plundering. It's astonishing but true that Cavendish

actually succeeded. He completed his voyage somewhat more quickly than Drake had done, and he got back to England in 1588 with even more Spanish treasure than Drake had seized. But Cavendish suffered from bad timing. England's small navy (led by Drake and other stalwarts) had just defeated the mighty Spanish Armada, and few of Queen Elizabeth's subjects wanted to hear about the deeds of young Mr. Cavendish in the faraway Pacific. They preferred to sing the praises of their familiar heroes, Sir Francis and other salty characters, gloriously fighting Spaniards in the English Channel. So the story of Thomas Cavendish's expedition remains largely untold, its implications unrecognized or untested by most historians.

Was Cavendish the one who caused the mysterious artifact to be created in Oregon? Evidently he followed much the same course as Drake's, through the Strait of Magellan and northward up the Pacific coast. Like Drake, he is said to have had men among his officers and crew who were technically capable of designing and creating the diagram on the mountainside. But after many months of profitable adventure, Cavendish himself was ready to return to England. Leaving one of his two remaining ships behind, he headed home in 1587 to something less than a hero's welcome, with no knighthood from the Queen. After that he squandered most of his plunder very rapidly, and died at sea in 1591, during a failed attempt to repeat his earlier exploits.

The question of what might have happened to the smaller ship that Thomas Cavendish left behind, called the *Content*, is one of those tantalizing loose ends in the history of discovery. It did not make its way through the "Northwest Passage," of this we can be sure, but Cavendish might have left

it behind to create or complete the "point of position" on the Oregon mountainside. According to government records, no other English mariners ventured near the area after that, until Captain James Cook went looking for Drake's "Nova Albion" in 1778.

EVIDENCE OF 16th CENTURY MAPS

Drake or Cavendish? Either of them, neither, or both? We might get closer to knowing who created this artifact in Oregon if we could establish when it was created. Both Gitzen and Bawlf have cited 16th century European maps as sources of the name, "point of position." To learn more, I used the resources of the Library of Congress and the Maritime Research Center (a National Park Service facility) here in San Francisco. On four different maps of undisputed authenticity, the name of this site is given in Spanish ("Punta de pocicion") rather than English ("point of position") or any other language. All four of these maps were produced in the same year, 1589, but not in England. And thanks to cartographic research by the late Henry Wagner, a California historian, we can be reasonably certain that no other maps made before or after 1589 show this name, at this location or any other location, on the northwest coast of America.

So here we have an odd historical twist: the English may very well have created the "point of position" during the 1580s, but for some reason they did not map it. The Spanish mapped it in 1589, but probably did not create it. They had little reason to sail this far up the coast from Baja California and Mexico, except perhaps to see what the English intruders (presumably Drake's men or Cavendish's men) had been up to.

SIGNIFICANCE OF THE "POINT OF POSITION"

Good question! What *had* the Englishmen been up to, if they were indeed the creators of this Oregon artifact? In other words, what was the point of the "point of position"? Local enthusiasts suggest several answers, with elaborate burials (treasure chests or coffins) among others. And it seems that treasure hunters have partially disturbed the site from time to time, but none has reported finding any pirate gold. So let's move on.

LATITUDE AND LONGITUDE OF THE OREGON ARTIFACT

Gitzen and others are now convinced that some of the markings on Neahkahnie Mountain can be used to calculate the approximate latitude and longitude of the site. Simply stated, latitude measures north-south distances, and longitude measures east-west distances, on our planet. Any given place has a unique combination of these two coordinates. For example, the club where we usually meet is located at Latitude 37° North, Longitude 122° West. These are rounded-off numbers. ("North" means north of the Equator, "West" means west of Greenwich, England.)

I'm told that latitude is fairly easy to measure on land or at sea. Measuring longitude, however, is notoriously difficult. Explaining the process is also notoriously difficult, so please bear with me as I try to avoid making an attempt. The basic problem is that measuring longitude requires an accurate knowledge of time, and this could not be done at sea until the 18th century, following the invention of special clocks to deal with the continuous, erratic motions of ships. But prior to that (as early as the Elizabethan era, let's say)

a well-trained ship's captain or master who already knew the latitude and longitude of a particular location *on land,* and had it in view, could figure out the approximate latitude and longitude of his ship's position *at sea.*

The possibility that Drake or Cavendish measured the latitude and longitude of Neahkahnie Mountain, Oregon in the 1580s is much more interesting to me than any buried treasure. Today, using a handy NASA website on our computers, we can easily get the exact coordinates of that location. I will round them off to Latitude 45° North, Longitude 123° West. It's also worth noting that this mountain has the highest elevation on the Pacific coast between British Columbia and Northern California (1,631 ft.). Therefore visibility from the sea could have been an important factor in selecting this site for a navigational diagram or marker.

Next question: what use could it have been, during the 16th century, to know the latitude and longitude of this one obscure location on the coast of Oregon? I have an answer to that, which I will divulge shortly, and hope to discuss with you later. But first. . .

AN ARTIFACT IN RHODE ISLAND: THE NEWPORT TOWER

Fasten your seatbelts, please, for a cognitive leap from west coast to east. While I was reading and thinking about the Oregon site, two years ago, I happened to become aware of something comparable on the Atlantic coast of the United States, in Narragansett Bay. The modern name of its location is Newport, Rhode Island. Here we can see another puzzling artifact, in this case a rough stone tower of indeterminate age, some 28 feet tall and 260 feet

above sea level. Its origins and purpose are highly controversial. Again we have enthusiastic promoters and amateur historians to thank for drawing attention to an unusual place where more sophisticated scholars may not be willing to tread, for fear of embarrassing hoaxes like the University of California's "plate of brass" affair in the 20th century.

But let me take you there now, metaphorically speaking, because two widely separated artifacts, the Newport tower and the Oregon "point of position," appear to have several things in common, namely: (1) the measurement of latitude and longitude at a coastal location; (2) the comings and goings of Elizabethan explorers; and (3) a fairly specific date of activity in the 1580s. As far as I am aware, my essay this evening is the first publication to compare these two sites.

LATITUDE AND LONGITUDE OF THE NEWPORT TOWER

Nobody knows who originally built this Newport tower. Or when. Or why. I am content to accept the structure as a fait accompli, and talk about it as we would see it today. According to James Egan, a local historian, the tower was already in place, its origins already forgotten (or simply unknown) when English colonists began to settle Rhode Island during the 17th century (the post-Elizabethan period). Some of them thought it resembled the base of an old windmill, though there were no remains of blades or machinery. But Egan's book shows that the structure has some much more unusual features. The three crude windows and other openings, seemingly placed at random in its rugged walls, are not really random at all. They can be used to make astronomical observations, from which the latitude and longitude of this site

can be accurately measured. The results are evidently close to the exact coordinates now obtainable from the NASA website: Latitude 41° North, Longitude 71° West.

AN ELIZABETHAN CONNECTION IN 1583

Also, there was an Elizabethan connection with Newport in 1583. There was almost a connection, to be more precise. While we don't know who built this tower originally, or how the Elizabethans found out about it, an authoritative British historian (David Beers Quinn) has documented the fact that Newport Island was the intended destination of one particular group of Elizabethan investors and would-be colonists. They were led by Humphrey Gilbert (c. 1539-1583), a strong-minded adventurer with persistent yearnings for power and wealth. Gilbert passionately believed in the economic value of overseas expansion. He hoped to accomplish this in two different ways: by establishing American colonies to support England, and by finding the "Northwest Passage" for purposes of trade.

With Queen Elizabeth's approval, Gilbert and his followers were headed for this location in the summer of 1583, until their voyage was fatally disrupted by bad weather and navigational errors. In fact, they never actually landed at Newport. Gilbert himself drowned during the return voyage to England. He was replaced in the next round of colonization efforts by Walter Raleigh, his relative and friend. Raleigh preferred locations much farther south (and much closer to Spanish ports and treasure ships in the Caribbean region, which Englishmen used like ATM machines in those days). So Gilbert's final voyage was written off as a failure, and Newport did not reappear on

the agenda of English activity in America for another 50 years or more. The old stone tower seemed to be nothing more than the remains of a mill.

It is understandable, therefore, that the spotlight of historical interest would swing away from things didn't happen at Newport (Gilbert) to the little settlements that soon expired on the coastal islands of North Carolina (Raleigh) and later to the success of American colonies at Jamestown, Virginia and elsewhere, then back to New England, with the Pilgrims landing in 1620 and so on.

But I continued to focus on the era ending with Queen Elizabeth's death in 1603, despite the disappointing failures of the first few colonies in America. I was still fascinated by the shared obsession of so many seemingly rational people with the "Northwest Passage." Also I wanted to find out more about what the Elizabethans had done (or what they meant to do) with those two mysterious sites, the mountainside in Oregon and the tower in Rhode Island.

Then it occurred to me that the two sites might have been parts of one larger Elizabethan project, involving the "Northwest Passage" in some way not previously recognized by historians of the period. An unfinished project, it seemed. But what could the project have been? Something to do with latitude and longitude, perhaps. Something to do with the fact that latitude and longitude could be measured at two widely separated places on opposite coasts of America. At this point, prompted by the research of E. G. R. Taylor and other geographic experts, I had an insight—so I consulted a friendly astronomer who may wish to remain anonymous for now. My question: if we know the coordinates of any two places, the latitude and

longitude, can we calculate or estimate the distance between them? Yes, he told me; and after that it was easy to find a website (thanks to NOAA for this one) which provides the answer: 2,600 statute miles (or 2,259 nautical miles, or 4,123 kilometers) from Neahkahnie Mountain in Oregon to the Newport Tower in Rhode Island. From coast to coast.

WHAT USE COULD BE MADE OF THIS MEASUREMENT?

This measurement and others like it (at different latitudes farther north and farther south) could have been valuable to highly favored Elizabethans such as Humphrey Gilbert or Walter Raleigh, who were half-brothers. They each received extremely generous licenses from Queen Elizabeth (in 1578 and 1584 respectively) for future colonies and settlements in America, including hundreds of thousands or conceivably millions of acres for their personal estates. At a time when so little was known about this continent, much could be asked for, and much was granted.

But apart from measuring the maximum extent of Gilbert's greed or Raleigh's folly, I realized that fairly precise measurements of the width of America could also have been useful to seafaring men like Francis Drake, who never asked for (or received) an acre of land in the New World. Rather than fancying themselves as colonial governors or rich landlords, I surmised that they were thinking about the feasibility of the "Northwest Passage," and wondering how long it might turn out to be, from one end to the other. For Elizabethan mariners, a voyage of two or three thousand miles across the open sea was difficult enough, having currents and wind and weather and the threat of hostile forces to contend with. But a voyage of that distance,

through a narrow, canyon-like waterway (as difficult as the Strait of Magellan and several times longer) would be something else, even for exceptional men like Drake, Hawkins, Frobisher, or others. Indeed an extremely long "Passage" might be no passage at all—really not usable by mariners of average ability and motivation.

But the "Age of Elizabeth" was not about average people. My study of this period indicated that a small number of men and a few women, perhaps four or five hundred in all, were making most of the history. The same names appear in one context after another (at court, on country estates, in Parliament, at government ministries, in business or the professions, defending the realm against Spain and other enemies, exploring the New World, or just getting involved in one another's private lives). Therefore it seemed likely to me that Drake and Raleigh and some of their prominent contemporaries might have communicated with one another, at meetings or in writing, about the "Northwest Passage" in general, and specific questions such as its location and its length.

THE "COLLEAGUES OF THE FELLOWSHIP FOR THE DISCOVERY OF THE NORTHWEST PASSAGE"

To pursue this possibility I devoted my last week at Oxford, using the exclusive resources of the Bodleian Library by day and the wide-open search engines of Google in the evening, and I tell you with mixed feelings that Google Scholar did the trick. By searching for various combinations of *DRAKE* and *RALEIGH* and *GILBERT* and other names, I learned of the existence of a so-called "primary source," in this case a document signed by

Queen Elizabeth in 1584. It authorizes a unique organization called the "Colleagues of the Fellowship for the Discovery of the Northwest Passage." Bingo! The Colleagues' membership list reads like a *who's who* of forward Elizabethans, mostly men of action and influence, rather than theorists or dreamers. I am now working on a longer report that will list all of the names and identify them in detail for those who are interested. Here I'll just say that the 45 members of this Colleagues organization included prominent nobles, knights, other courtiers, government officials such as the Lord Mayor of London and the chief customs tax collector, plus a number of prosperous merchants and legal and financial experts, together with Drake and Raleigh and several other men having practical expertise in navigation and exploration.

For example, an experienced Elizabethan mariner named John Davis (c. 1550-1605) made three voyages into the Arctic region in 1585-87, in search of the "Northwest Passage." I had read about his exploits earlier, but I now realized that Davis (a man of modest means) had not been doing this on his own. He was a prominent member of the Colleagues organization, with financial backing from anxious cloth merchants, several of whom were Colleagues. Although Davis did not discover the direct, open-water trade route that people were hoping for, he found some of the Arctic region to be ice-free some of the time, so the basic idea of the "Northwest Passage" remained viable. The Davis Strait (Latitude 65° North, Longitude 58° West) commemorates him.

I also learned that the Colleagues had played various parts in the Pacific coast search for the "Passage." Drake was a member of this organization.

Thomas Cavendish was not a member, but his best friend was. And when Cavendish attempted a second voyage to the Pacific, he got financial support from one Colleague and practical assistance from another: John Davis, having convinced himself that he had found the Atlantic entrance to the "Passage" in 1587, signed on with Cavendish in order to find the Pacific entrance in 1591. Davis was stubbornly determined to do this, and he gave up only after failing to get through the Strait of Magellan (because of rough weather) despite repeated tries.

These are just two examples of what I have been learning with the help of the Colleagues' original membership list. Knowing their names, I can read about other Elizabethan organizations—such as a Parliamentary committee in London, or the guild of woolen cloth makers in Devonshire—and begin to see how the network of Colleagues collaborated to keep the "Northwest Passage" quest going. Later, as the reign of Queen Elizabeth drew to a close in 1603, most of the original Colleagues died or retired, or changed their priorities. Some English explorers and merchants were getting more interested in other trade routes to Asia, or new destinations in West Africa and elsewhere. However a few surviving members of the Colleagues, and their descendants, launched a series of new efforts with Henry Hudson (1565-1611) and other fresh talent in the post-Elizabethan era that followed.

In the long run, searching for a possible "Passage" that did not actually exist was a plausible excuse for Englishmen to sail anywhere and everywhere around the coasts of North America. Out of these efforts came the doctrine of "freedom of the seas," the rationale for a British navy second to none, and

the drive to create a profit-seeking empire that eventually encompassed or did business with much of the world.

PAUSING A WORK IN PROGRESS

Since my research on this subject is a work in progress, only recently begun, I don't have answers yet for all of the questions I have raised. I can't say for sure that the Colleagues organization was involved in measuring the width of America or the length of the "Northwest Passage," using the two coastal artifacts that I have described. But they had the motives, the talents, and the opportunities to undertake such a task, and they may have brought it to completion, in an atmosphere of deception and disinformation that was typically Elizabethan. So I will keep on delving into their activities.

Thanks for joining me in this attempt at making history. I will pause now, and ask for your questions and comments.

SUGGESTED READINGS

Bawlf, Samuel. *Sir Francis Drake's Secret Voyage to the Northwest Coast of America, AD 1579.* Salt Spring Island, BC: Sir Francis Drake Publications, 2001.

_____ *The Secret Voyage of Sir Francis Drake.* 1577-1580. New York: Walker & Company, 2003.

Childs, David. *Invading America.* The English Assault on the New World, 1497-1630. London: Seaforth Publishing, 2012.

Eagan, James Alan. *Elizabethan America.* The John Dee Tower of 1583. A Renaissance horologium in Newport, Rhode Island. Newport, RI: Cosmopolite Press, 2011.

Gitzen, Garry D. *Francis Drake in Nehalem Bay 1579.* Setting the Historical Record Straight. Wheeler, OR: Garry D. Gitzen, 2008.

_____ *The Treasure Rocks of Neah-kah-nie Mountain.* Wheeler, OR: Fort Nehalem Publishing, 2012.

Gough, Barry M. *The Northwest Coast.* British Navigation, Trade, and Discoveries to 1812. Vancouver, BC: UBC Press, 1992.

Hanna, Warren L. *Lost Harbor.* The Controversy Over Drake's California Anchorage. Berkeley: University of California Press, 1979.

Hayes, Derek. *Historical Atlas of the Pacific Northwest.* Maps of Exploration and Discovery. British Columbia, Washington, Oregon, Alaska, Yukon. Seattle, WA: Sasquatch Books, 2000.

Kelsey, Harry. *Sir Francis Drake.* The Queen's Pirate. New Haven and London: Yale University Press, 1998.

Morison, Samuel Eliot. *Admiral of the Ocean Sea.* A Life of Christopher Columbus. (2 vols.) Boston: Little, Brown, 1942.

_____ (Trans. & Ed.), *Journals and Other Documents on the Life and Voyages of Christopher Columbus.* New York: Heritage Press, 1963.

Nuttall, Zelia. (Trans. & Ed.). *New Light on Drake.* A Collection of Documents Relating to His Voyage of Circumnavigation, 1577-1580. London: Hakluyt Society, 1914.

Penzer, N. M. (Ed.). *The World Encompassed and Analogous Contemporary Documents Concerning Sir Francis Drake's Circumnavigation of the World.* London: Hakluyt Society, 1926.

Quinn, David Beers. *England and the Discovery of America, 1481-1620.* From the Bristol Voyages of the Fifteenth Century to the Pilgrim Settlement at Plymouth: The Exploration, Exploitation, and Trial-and-Error Colonization of North America by the English. New York: Alfred A. Knopf, 1974.

_____ (Ed.). *The Voyages and Colonising Enterprises of Sir Humphrey Gilbert.* (2 vols.) London: Hakluyt Society, 1940.

Sullivan, Charles. As If He Had Seen It Before. Deconstructing the "First Voyage" of Christopher Columbus. An Essay Presented to the Chit-Chat Club, San Francisco, California, October 10, 2011.

_____ Sir Francis Drake's "Nova Albion." The Lasting Value of a British Colony That Never Actually Existed. An Essay Presented to the Chit-Chat Club, San Francisco, California, January 14, 2013.

_____ Tudor America. English Adventures in the New World, 1496-1603. A paper presented in the seminar on "Tudor Kings," Merton College, Oxford University, Summer 2013.

_____ Serving Her Majestie. Elizabethan Knights as Instruments of Royal Power. A paper presented in the seminar on "Courtiers, Conspirators and Adventurers: The Elizabethan and Jacobean Age," Merton College, Oxford University Summer 2014.

_____ New Light on Raleigh, the Gilberts, and Other Elizabethans. The "Colleagues of the Fellowship for the Discovery of the Northwest Passage." A paper presented at the 56th Annual Meeting of the Society for the History of Discoveries, University of London, July 2015.

_____ Review of *Francis Drake in Nehalem Bay 1579*, by Garry D. Gitzen. *Terrae Incognitae*, Vol. 45.1, April 2013, pp. 81-82; Corrigendum, Vol. 46.2, September 2014, p. 151.

_____ Review of *Invading America*, by David Childs. *Terrae Incognitae*, Vol. 45.2, October 2013, pp. 134-5.

Taylor, E. G. R. *Tudor Geography*. 1485-1583. New York: Octagon Books, 1968. Originally published in 1930.

_____ *Late Tudor and Early Stuart Geography*. 1583-1650. New York: Octagon Books, 1968. Originally published in 1934.

_____*The Haven-Finding Art*. A History of Navigation from Odysseus to Captain Cook. New York: American Elsevier Publishing Company, 1971. Originally published in 1956.

_____ (Ed.). *A Regiment for the Sea and other Writings on Navigation by William Bourne of Gravesend, a Gunner (c. 1535-1582)*. Cambridge, UK: Hakluyt Society, 1963. Originally published in London, 1574.

Thrower, Norman J. W. (Ed.). *Sir Francis Drake and the Famous Voyage, 1577-1580*. Essays commemorating the quadricentennial of Drake's circumnavigation of the Earth. Berkeley: University of California Press, 1984.

Wagner, Henry R. *Cartography of the Northwest Coast of America*. (2 vols.) Berkeley: University of California Press, 1937.

LINKS TO USEFUL WEBSITES

http://libweb5.princeton.edu/visual_materials/maps/websites/northwest-passage/bordone.map-full.jpg

https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=google%20maps

http://libweb5.princeton.edu/visual_materials/maps/websites/northwest-passage/bordon.htm

http://mynasadata.larc.nasa.gov/latitudelongitude-finder/

http://www.nhc.noaa.gov/gccalc.shtml

http://www.newporttowermuseum.com/

ACKNOWLEDGEMENTS

Title page map by Benedetto Bordon (1450-1530) from "Of Maps and Men: In Pursuit of a Northwest Passage," Catalogue of An Exhibition of Maps, Books, Artwork, and Photographs. Princeton University, September 2004.

Thanks to T. Benet, P. Dunckel, G. C. Hammond, D. M. Hartley, M. Humphreys, P. J. Karlstrom, A. Lyons, K. McKenzie, M. Neiman, W. North, S. Pearce, R. Reinhardt, M. G. Rivo, J. Schram, C. G. Stephenson, K. Starr, M. Thaler, R. Willis, and other members and guests for their questions and comments about this essay at dinner on June 9, 2015.