

THE EDWARD WRIGHT
WORLD CHART 1599

THE 1ST NAVIGATION CHART TO MEASURE THE ENTIRE
WORLD

&

THE ONLY MAP TO CARRY THE QUEEN ELIZABETH I
PRIVY SEAL

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Captain Francis Drake (1545-1596) was the first man to measure the entire world. He was an English explorer, trader and a privateer in the service of Queen Elizabeth I. He was knighted by the Queen after his voyage of circumnavigation 1577-1580. He was the mayor of Plymouth, England and an Admiral in the Queen's naval service during the 1588 Spanish Armada invasion of England. Captain Drake died of fever during a voyage intending to attack Spanish colonies in the West Indies. He was buried at sea near the west coast of Panama.

The bronze statue (above) by Joseph Boehm, (1883) is in Tavistock, England in the parish of which he was born.

Edward Wright's World Chart of 1599

Sir Francis Drake circumnavigated the globe during the years 1577 to 1580. Traveling from Plymouth, England around Cape Horn to the west coast of North America and from there westward until he again arrived in England to acclaim and glory. During his famous voyage, in the summer of 1579, he landed somewhere along the North American west coast to repair his treasure-laden ship the *Golden Hinde*. Just where he landed has been discussed and debated among professional and amateur historians ever since his return to England. The reason for the uncertainty in locating the exact site is that all of Drake's logs and charts, which would have identified all of his anchorage sites, were given to Queen Elizabeth I. These documents have never re-surfaced and are presumed to have been destroyed during the monarch's Palace of Whitehall residence fires of 1697-1698, along with a large map of his voyage Drake had presented to the Queen.¹ Under considerable political pressure from Spain due to Drake's privateering activities against the Spanish during his voyage and wanting to keep secret from the Portuguese of the route by which Drake returned to England, the Queen decreed that no one connected with the voyage could release related information surrounding the voyage under pain of death.² This left a gap in the nautical record for historians to debate where Drake's anchorage sites. The voyage was one of, if not the greatest, sailing feats during the Age of Discovery. Drake had sailed more than 40,000 miles in a mostly unknown world, in an approximately 85-foot ship with 85 men and boys in a ship that could not fully tack into the wind. Though he was in command of the world's most complicated machine of the time, he had only a few primitive instruments; magnetic compass, cross-staff and hourglass to measure sun's elevation and the stars to guide him.

In April 1579, Francis Drake and a crew sailed the *Golden Hinde* north from the port of Guatulco, Nicaragua in search of new lands to discover and claim for England. Where he landed in June of 1579 for

37 days, on land that was to become the United States, has been described as the great-grandfather of all historical mysteries surrounding Drake's voyage of circumnavigation.

There are at least 17 theorized sites vying for Drake's North American landing, each having its own perfunctory talking points, with more than half of those theorized to be in present day California. This treatise presents 2 lines of significant evidence to identify Drake's west coast anchorage; to which no other site can lay claim. The Edward Wright navigation chart³ of 1599 provides the long-looked-for authoritative evidence by historians in identifying Drake's anchorage site that he called *Albion*.⁴ It was the most important world navigational chart of its time. Edward Wright's chart has previously been unknown, unrecognized, or ignored as to its intended purpose; the first chart drawn by an English man for Englishmen to navigate the whole world. Wright's chart coupled with easily gleaned essential facts from Phillip A. Costaggini's Oregon State University Civil Engineering Master's Thesis *Survey of Artifacts at Neahkahnie Mountain, Oregon* (1982) (See Fig. 2) collectively present a stellar case for Drake's anchorage site being in Oregon.

Who was Edward Wright (1561-1615)?

Wright was well known as a mathematician, a skilled designer of mathematical instruments and an accomplished cartographer. While teaching mathematics in 1589 at Caius College in Cambridge, Queen Elizabeth requested that he become the first Englishmen to develop navigational charts. He was sent on an expedition led by the George Clifford, Earl of Cumberland to the Azores, the prime meridian used for mapping at the time. Wright's chart of the Azores first appeared in his *Certaine Errors in Navigation* (1599); a book that set the seal on the supremacy of the English in the theory and practice of the art of navigation at the time. Wright's *Certaine Errors* was the first mathematical explanation published according to Flemish

cartographer Gerardus Mercator's projection; a method of representing the round earth on a flat plain with sailing courses or bearings as straight lines.⁵ Of the books of navigation that were most commonly used amongst English mariners, Wright states that it a mariner's course, kept by direction of the magnetic compass upon the chart, was impossible for accurate position-finding so long as the tables of declination of the sun and fixed stars were themselves incorrect. Wright said that a mariner might be in error 1, 2, or even 3 points of the compass off course and in calculating the distances between places the errors might be from 1/2 to 4 times as much. This, of course, was a censure by Wright of the uncorrected reprints of the great navigation books of the time by Cortes, Bourne and Medina.

Wright had his facts checked not only by himself but also by Tycho Brahe, the great Danish astronomer, and the English Sir Christopher Heydon, on large cross-staff and astrolabe instruments on which it was possible to read accurately to 30 seconds of latitude.⁶

The world chart of an unnamed cartographer (Edward Wright) was first published by Richard Hakluyt (1552-1616) in his two volumes: *The Principal Navigations, Voyages, and Discoveries of the English Nation* (1599). The similarity of Wright's other world charts printed in later editions of his *Certain Errors* (1610 and 1655) without doubt recognizes Wright as the author of the 1599 Hakluyt world chart.⁷

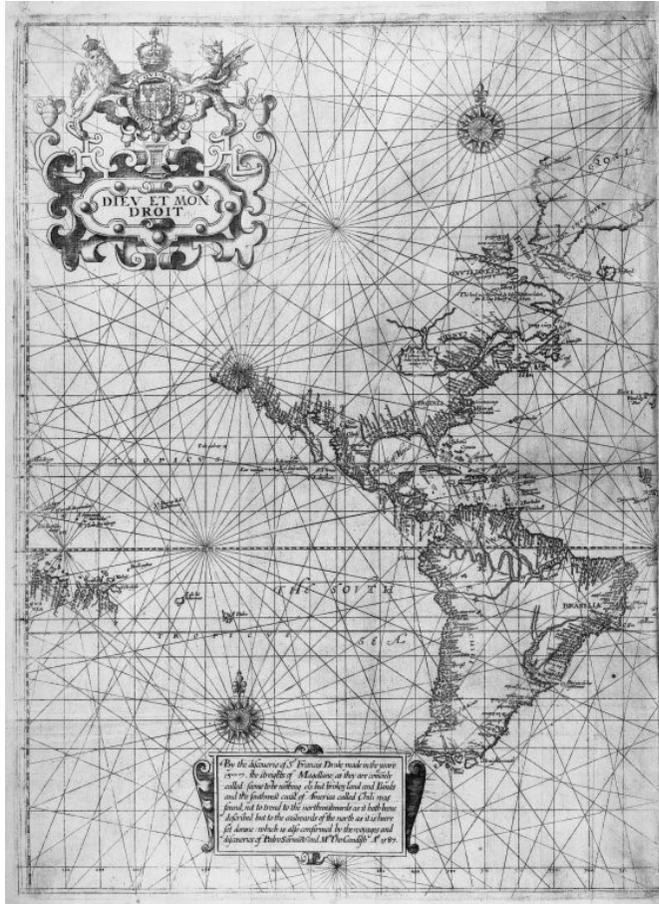


Fig 1. The Edward Wright Navigation Chart of (1599-1600). The cartouche reads:

By the discovery of Sir Francis Drake made in the year 1577 the straights of Magellan as they are commonly called seem to be nothing else but broken land and islands and the southwest coast of America called Chile was found not to trend to the northwestward as it has been described but to the eastwards of the north as it is here set down: which is also confirmed by voyages and discoveries of Pedro Sarmeieta and Mr. Thomas Cavendish in 1587.*

Courtesy of the John Carter Brown Library at Brown University

The map's cartouche at the bottom of South America was added in Hakluyt's 1600 edition (See Fig. 1) otherwise the same identical map.

Until Wright's world chart appeared, European mariners had been sketching coastlines and ports from detailed observation and although they contained references to the mariner's compass, they were virtually useless for long distance navigation. They contained no latitude and longitude, star-like grids (compass rose) of constant compass bearings, loxodromes or rhumb (directional) lines which cross meridians of longitude that were superimposed on a map for determining a heading in long distance navigation. At the time the Wright chart was produced, Francis Drake was the only reported Age of Discovery navigator to have explored the Pacific coast beyond the 43° north latitude which identifies *Nova Albion* up to the 48° north latitude.

Thomas Dekker's *The Guls Hornbook* (1609) compliments Wright for his exacting usefulness of extracting a 1592 round globe of Emery Molyneux into a flat projection by saying: "What an excellent workman therefore were he could cast the Globe into a new mold, and not make it look like Molyneux globe with his round face...but to have it in *Plano* [flat] with all the ancient circles, lines, parallels and figures."⁸

Helen Wallis was Keeper of the Maps at the British Museum and her contribution to the 1974 *Hakluyt Handbook* was "Edward Wright and the 1599 world map" in which she states: "Mainly in light of new evidence available over the last thirty years. That Wright was responsible for its construction admits of little doubt. The map by far is the most original of all Hakluyt's maps and one of the most authoritative of its day."⁹ Unlike many 16th century contemporary map makers who routinely inserted hypothetical seas, islands or continents to fill in the spaces, Wright does not show the Antarctica continent for it had not yet been discovered. Wallis points out that:

“The map is a demonstration of the *known* land and sea, as revealed by actual voyages of discovery. It contained no armchair flights of fancy or theoretical conjectures about the unknown.”¹⁰ The large cartouche centered below Africa (not shown here) reads: “*Thou hast here gentle reader a true hydrographical description of so much of the world as hath been hitherto discovered and is come to our knowledge which we have such performed. Yet all herein places set down have the positions and distances that they have in the globe, being there in placed in same longitudes and latitudes which they have in this chart...*”

When discussing *Hakluyt's Maps*,¹¹ Raleigh Ashlin Skelton, Ph.D., Deputy Keeper of the Department of Printed Books of the British Museum, Honorary Secretary of the Hakluyt Society (1946- 1966) and General Editor of *Imago Mundi*, the major journal in the field of the history of cartography (1957-1970) has said: “This distinguished map (Wright's World Navigational Chart 1599) with its careful discrimination between actual discovery and conjectural geography is a reliable epitome of geographical knowledge at a turning point in world history, and thus a worthy adjunct to Hakluyt's great compendium.” Before Wright's chart, the area above Alta California at 38° N. latitude was hypothesized as the Strait of Anian; later maps referenced it as the Northwest Passage. The exclusion of theorized lands and recording of only *known lands* accompanied by the Queen's private seal in the upper left hand corner of the chart gives indisputable credence in determining Drake's Nova Albion.¹²

The facts support Oregon as Drake's landing North American site when Wright places Nova Albion around 45° and then radiates from its very center a navigational direction marker known as rhumb lines or loxodromes, for the following reasons: 1. Wright, the no nonsense cartographer, gives credit to the discoveries of Francis Drake in the chart's cartouche. He did not specifically mention Nova Albion in the cartouche for the Queen's reasons for secrecy

previously stated above. 2. Wright was the Queen's designated nautical cartographer to the Azores and reasonably trusted to have continued in that capacity. 3. The Queen's motto is displayed on the map. 4. Leading 20th century English scholars, H. Wallis, R. Skelton and David Beers Quinn who were not specifically concerned with identifying Drake's North American location, have endorsed the accuracy of Wright's world chart of existing 1599 discovered lands.

Despite the fact that Richard Hakluyt's *Famous Voyage* contained in his *Principall Navigations* limited Drake to 42° north latitude in 1589 and then 43° in 1599-1600 which differs from the three first-hand accounts of 48° reached,¹⁴ it is apparent Hakluyt was undoubtedly aware of the importance Drake's voyage and was not totally in the dark about latitudes. Professor David Quinn sheds some light on Hakluyt's *Famous Voyage* discrepancy by stating: "Hakluyt did not object to tampering in detail with the texts they put before him. He suppressed from time to time material that might be impolitic to print."¹⁵ Professor Quinn suspects that Drake himself may have given Hakluyt the 6-page unnumbered 1589 first printing of the *Famous Voyage*. If that is the case, then it is not improbable that the true latitudes were not given to Hakluyt for Drake did not want to violate the Queen's decree.¹⁶ Professor Quinn's assumption that Drake provided the information has some validity based on Hakluyt's 1582 *Preface to Divers Voyages* which infers that Drake was willing to provide maps and illustrations if Hakluyt would bring him a cartographer; for which Drake offered an initial 20 £ payment and 20 £ each year after. Unfortunately, the unnamed cartographer Hakluyt recommended to Drake wanted 40 £ payment which Drake refused to pay. However, Drake promised to fulfill his promise if the agreed financial arrangements could be made.¹⁷ It cannot be ruled out that it was Edward Wright who eventually agreed to the 20 £ payment from Drake for illustrating

Drake's discoveries with approval from the Queen or privy council.

The question becomes; why would Hakluyt's *Principal Navigations* description be different from Wright's chart in the same publication? Hakluyt had a dual interest in exploration and religion which characterized his entire career as both geographer and cleric. Following his schooling at Westminster, Hakluyt was admitted to Christ Church College, Oxford University in 1580. Hakluyt was rewarded for his *Discourse of Western Planting* by Queen Elizabeth in 1585 in making him a prebendary, an honorary canon in a cathedral of the Anglican Church which entitled him to a portion of the revenue. In other words, he was being paid for his writings with the Queen's approval. There are other reasons to be considered for his apparent last-minute release of the 6-page *Famous Voyage* which stated Drake went to 42° N. latitude (later changed to 43° in 1599) and then landed at 38° which limited the Spanish from claiming anything further north of 38°. Drake knew from captured Spanish maps that the standard galleon return route from the Philippines was to sight the west coast near the white cliffs of Pt. Reyes between 37° and 39° north latitude and then sail south along the coast with a final destination of Acapulco.¹⁸ If Hakluyt had reported Drake landed at 45°, the Spanish would have been entitled to claim from 38° up to the 45° N. latitude. Based on other charters granted by the Queen, it is believed Drake set out to obtain land not already claimed by other Christian countries.¹⁹

Based on Wright's 1599 world chart or his later editions identifying Nova Albion's Pacific coast location between 40 and 48 degrees N latitude, Captain James Cook's secret orders for his 1778 expedition in search of the Northwest Passage were: "Proceed in as direct a course as you can to the coast of New Albion, endeavoring to fall in with it in the latitude of 45° 00' north; and taking care in your way thither not to lose any time in search of new lands, or to stop at any

you may fall in with unless you find it necessary to recruit your wood and water.”²⁰ In describing his arrival on March 7, 1778 at 44° 33’ N latitude he called it: “The long-looked for Coast of New Albion.”²¹ The Oregon lands proposed as Drake’s landing site are Nehalem Bay is at 45° 41’ N latitude, Neahkahnie Mountain’s cliffs and white banks which border the Nehalem Bay to the north at 45° 44’ and to a lesser extent, Whale Cove is at 44° 45’ and Cape Arago at 43° 20’ N latitude.²²

Survey’s First Discovery

Nehalem Bay was for the first time in 1971 theorized as the Drake landing site by amateur historians M. Wayne Jensen Jr., an anthropology student at Portland State University and Donald M. Viles, a former commercial fisherman. They spent 2 ½ years of field work plotting the incised markers, known as ‘Treasure Rocks’ since pioneer days of the late 19th century, on the neighboring Neahkahnie Mountain countryside of Nehalem Bay.

Although their quest began as a search for a theorized Spanish treasure, when they discovered a previously unknown rectangular fashioned rock marker sitting atop a large cairn with an incised groove along three sides measuring 36 inches, eventually Jensen and Viles theorized it was an English survey.²³ Their investigation into early explorers indicated it was Francis Drake in 1579.

In 1976 Wayne Jensen, now the Director of the Tillamook Pioneer Museum, contacted Professor Robert J. Schultz of Oregon State University and informed him that his investigations of the incised rocks at the foot of Neahkahnie Mountain had not yielded information about buried treasure, Indian artifacts or U.S. Public or private land surveys and that it might be the remains of an ancient survey. Schultz thought the idea a perfect project for a Master’s thesis. He consulted with Phillip A. Costaggini, a Master’s candidate in the Civil Engineering program, who accepted the task of conducting the research and ground survey to determine the

interrelations of the large rock mounds and carved stones along with any other artifacts found on the slopes of Neahkahnie Mountain.

Conducted over the course of 3 winters when the foliage was at its minimum. The survey was performed to 3rd Order Survey Specifications (horizontal) of N.O.A.A. and included a tie to 2nd Order N.G.S. monuments at the top of the mountain. Costaggini's 1982 thesis analysis states: "The horizontal distance from [South Cairn] 'E' to [North Cairn] 'A' is 4,835 ft."²⁴ This measurement corresponds to the chronologer of the voyage Reverend Francis Fletcher's statement about the natives: "the men commonly so strong of body, that, which 2 or 3 of our men could hardly bear, one of them would take upon his back, and without grudging carry it easily away, uphill and downhill an English mile"²⁵ is a definite reference to the monument markers and 10 ft round by 2 ft. high cairns²⁶ which the natives built along with Drake's crewmen in surveying Neahkahnie Mountain. Costaggini also determined that: "The line joining the South Cairn (E) with the North Cairn (A) lies at a bearing angle from Astronomic North of N 20° 32' 17" E, very close to the current magnetic declination of the area at 20° 30' East."²⁷ Additionally, "the long lines of sight necessary in the ancient survey could be achieved only in the presence of a minimal vegetation, a condition which actually occurred at least once in modern history,"²⁸ and the Azimuth projections tables [Lines of a round globe are assumed to rest on a flat surface onto which its features are projected] show: "The data in Tables 7 and 8 show good conformity of graphical to mathematical is supportive of the hypothesis of an ancient survey."²⁹

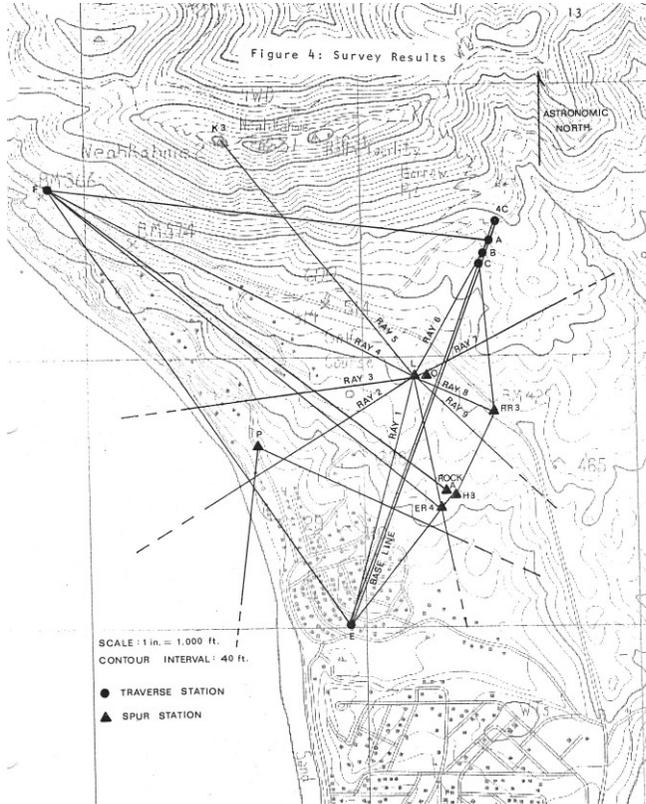


Fig. 2 Phillip Costaggini's Survey Results shown on page 13 of his Civil Engineering Master's Thesis titled: *Survey of Artifacts at Neahkahnie Mountain, Oregon* (1982). E is where the South Cairn was located and A is where the North Cairn was located. E to A measured 4,835 ft with a declination lying at a bearing angle from Astronomic North of $N 20^{\circ} 32' 17'' E$. L is the Rays Rock which contained an incised compass rose used for triangulating the survey.

Survey of Artifacts at Neahkahnie Mountain, Oregon (1982)

Costaggini's conclusions were: "that the artifacts are remains of ancient surveys, or are acts of possession (or both), performed most probably by early explorers, of whom the English and Francis Drake are leading candidates for responsibility. The usefulness of the conclusions is that the data explain the artifacts better than other, locally published theories, and shed some additional light on the controversy of the location of Drake's three month [Georgia calendar June 27 through August 2nd] landing. Additional survey work could be done north and west of the survey area."³⁰ Extensive research by this author of 16th, 17th and 18th century explorers and surveyors determined that Costaggini's E and A Cairns signified the recording of Francis Drake's northern latitude by using navigational symbols on the incised markers as his land claim.³¹

Much has been written about the theoretical Drake locations containing many facets of information and misinformation proposed by professional and amateur enthusiasts alike, beginning with the State Department librarian, Robert Greenhow's 1840 U.S State Department report *Memoir, Historical and Political, on the Northwest Coast of North America* whose instructions were to establish the U.S. title of ownership to the Oregon Territory. His report limited Drake having sailed no further north than Oregon's 42 1/2° southern border to justify the U.S. ownership over the Hudson Bay Company claim.³²

The *World Encompassed by Francis Drake*³³ written by Francis Fletcher, Reverend who accompanied Francis Drake on his circumnavigation, is considered by scholars to be the most complete description of the famous voyage. The opening paragraph of *The World Encompassed* speaks of a surveyor who surveys and measures the world under great hardships and danger, deserves his large just rewards for his study of surveying and his physical energies.³⁴

This is obviously referring to Drake being entitled to a percentage of ownership to the lands he discovered and surveyed under the license given by Queen Elizabeth I, as she had given to other English explorers.³⁵ Fletcher follows with: “Whose Land Survey you?”³⁶ in describing the actions Francis Drake took on Neahkahnie Mountain, Oregon (45° 44’ N latitude) in performing a land survey using rock cairns, 10 foot in circumference and stacked 2 foot high which atop he placed incised markers, leaving a permanent record of his latitude³⁷ as a symbolic sovereign act in claiming lands not previously claimed by other Christian countries; Spain and Portugal.

Ultimately it is up to the reader to make the connections between the legitimate first-hand evidence of the Wright



Monument Rock found a top the North Cairn. (See Fig. 2)



Fig. 3 Donald Viles (above) digs the Monument Rock from under a 100 year old spruce root in 1971. The top of the Monument Rock can be seen in the lower right photo above. It contains an incised line along 3 sides measuring 36 inches; an English unit of measurement.

Courtesy M. Wayne Jensen Collection © 1971

world chart and the Costaggini *Survey of Artifacts of Neahkahnie Mountain*, coupled with the ethnographic studies,³⁸ including the language,³⁹ and the 16th century cartographic record of the 1582 Nicholas van Sype Map and the 1589 Hondius Broadside;⁴⁰ determines that Nehalem Bay, Oregon is the Francis Drake west coast North American anchorage site. And where he claimed the lands that he called Nova Albion in the name of Queen Elizabeth I and England. This, sadly for those who have looked for so many years, eliminates of all previously theorized latitudes lying outside of the 40 to 48° N latitudes of which Drakes Bay, Drake's Cove, Drakes Estero (marsh) and San Francisco to name a few of the most popularly theorized, are now known to be fake.

“

Endnotes:

1. Helen Wallis, Keeper of the Maps, The British Library, *The Voyage of Sir Francis Drake Mapped in Silver and Gold*, (Berkeley: Friends of the Bancroft Library, MCMLXXIX), p. 7.

2. The fact that Drake had sailed round the world was not divulged. In a secret letter of 16 October 1580 from Spanish ambassador in London, Don Bernardino de Mendoza, to King Philip II of Spain, Mendoza wrote that the court members, “are very particular not to divulge the route by which Drake returned and although as I wrote your Majesty, [Christopher] Hatton’s trumpeter had said that the road home had been by the Portuguese Indies, Drake himself signifies to the contrary.” Mendoza also stated that Drake’s crew, “are not to disclose the route they took, on pain of death.” Helen Wallis, *The Voyage of Sir Francis Drake Mapped in Silver and Gold*, (Berkeley, MCMLXXIX), pp. 1-2.

3. David Beers Quinn, ed., *The Hakluyt Handbook*, vol. 1, (London: Hakluyt Society, 1974), pp. 62-3, addendum. The Wright chart in the addendum of Volume I is the only fold-out map in either volume. Of the 186 known copies, there are 6 from State 1 (first printing of 1599 without the Drake and Cavendish cartouche) and 13 maps from State 2 (second printing of 1599 containing the Drake and Cavendish cartouche) in the hands of institutional and private libraries. At the time, Wright was under royal privilege to develop navigational charts and at the time the map was sold separately with an unknown number of those surviving.

4. First used in the 12th century, *Albion* is Latin for England.

5. Although Mercator’s projections of parallel and meridian bearing lines were advantageous for nautical purposes, he did not explain the mathematical method of how he arrived at his projections.

6. David W. Waters, with a Forward by Admiral of the Fleet the Earl Mountbatten of Burma, *The Art of Navigation in England in Elizabethan and Early Stuart Times*, (New Haven: Yale University Press, 1958) pp. 219-230. “For practical navigators of the chart projection explained by Wright was that on it the spiral rhumb line became a straight line. True, the rhumb-line course was not the most direct. The shortest track lay on a great circle, and it was impossible to determine from a chart on Wright’s projection the

series of courses necessary for steering along a great circle track. But this was not going to worry the ordinary navigator. His preference was for simplicity in navigation, and nothing could be simpler than following a rhumb-line track.” Waters, *The Art of Navigation*, p. 223.

7. Helen Wallis, “Appendix Edward Wright and the 1599 world map”, *The Hakluyt Handbook*, (London, 1974), Chap. 7, pp. 70-71. Wright’s 2nd edition of *Certain Errors* (1610) was published and engraved by William Kip, and the 1655 third edition published by Joseph Moxon. The 1610 *Certain Errors* manuscript map is now preserved at the Bodleian Library, Oxford. Another manuscript map bearing a similarity to Hakluyt’s *Principal Navigations* is known as the Leconfield world map measuring 81.1 cm. x 40.4 cm. (31 ^{15/16}” x 15 ^{29/32}”) possessed by the Duke of Northumberland at Alnwick Castle. Although the Alnwick Castle map is not large enough to be used for navigation, it is important for its projection and known lands, as is Wright-Hakluyt world chart.

8. Wallis, *Hakluyt Handbook*, p. 73. The 1592 Molyneux globe diameter measures 62 centimeters, the largest made at the time. It was the first English terrestrial globe and the first to depict Drake’s voyage. The globe recorded Drake reaching 50° N latitude.

9. Wallis, *Hakluyt Handbook*, pp. 69-72. At the 400th Anniversary of “Sir Francis Drake & The Famous Voyage 1577 – 1580” International Conference (June 10 -17, 1979) honoring Drake’s sojourn in California, co-sponsored by the Sir Francis Drake Commission at the Center for Medieval and Renaissance Studies at UCLA, where Wallis held a Senior Research Fellowship (April-July 1979), she again mentioned the Wright map in an address titled *The Voyage of Sir Francis Drake Mapped in Silver and Gold* where she stated: “Edward Wright’s ‘true hydrographical description of so much of the world as has been hitherto discovered, and is come to our knowledge’. . . The map is drawn on Mercator’s projection which Wright adapted using a mathematical formula. Like the Molyneux globe, the map gained

Shakespeare's attention. He refers to it in *Twelfth Night* (III, ii), where Maria says of Malvolio: 'He does smile his face into more lines than are in the new map...' In this he records Drake's discovery that Tierra del Fuego was an archipelago and that the Coast of Chile trended not north-westward but east of north." Wallis again mentioned the Wright chart in a 1984 essay, "The Cartography of Drake's Voyage", Norman J.W. Thrower, ed., *Sir Francis Drake and the Famous voyage, 1577-1580 Essays commemorating the quadricentennial of Drake's circumnavigation of the Earth*, , (Berkeley/Los Angeles/London: University of California Press, 1984), p. 157.

10. Wallis, *Hakluyt Handbook*, p. 73.

11. Raleigh A. Skelton, "Hakluyt's Maps", *The Hakluyt Handbook*, (London: Hakluyt Society, 1974), Chap. 7, p. 67. Hakluyt had published a one volume *Principall Navigations, Voyages and Discoveries of the English Nation* in 1589 and during the next 10 years continued to expand his original work into a 2 volume *Principal Navigations, Voyages and Discoveries of the English Nation in 1599*.

12. Wallis, *Handbook*, 73. The first printing of the 1599 map did not contain the cartouche below South America identifying Drake's discovery that the Magellan Strait was an archipelago. It was not until the second printing of 1599-1600 that the cartouche was included. Henry R. Wagner's *Sir Francis Drake's Voyage around the World, Its aims and achievements* (1926) mistakenly attributed Wright's world chart to Molyneux (1600) and Wagner mistakenly says that it was engraved from the charts of John Blagrove's *Astrolabium Uranicum Generale* (1596). Blagrove's maps were reductions from the 1592 Molyneux globes. It appears Wagner was possibly not aware of Edward Wright's involvement with Molyneux in producing the terrestrial globe and the Latin translation for some of the legends, leading Wagner to believe it was the work of Blagrove. Blagrove's map 1596 *Nova Orbis Terrarum Descriptio* accompanied his book of general astrolabe instructions is a polar

map and nothing like Wright's world map using Mercator's projection.

13. Wallis, *Handbook*, 69-71. Neither the Joseph Moxon map which gives credit to Edward Wright as first setting the world on a plane card nor the Blagrave *Astrolabium Uranicum Generale* contain the Queen's privy seal.

14. The first-hand descriptions of Drake's voyage by Francis Fletcher and John Drake state the upper latitude reached was 48° N latitude. Could one of them have given Wright the nautical information to draw such a map? Very little is known of Reverend Francis Fletcher after the voyage. Fletcher's *The World Encompassed by Francis Drake, (1628)* is the most complete first hand surviving description surrounding the voyage but Fletcher dropped out of sight and there is no record found to date of him having any connection with the Queen's court. John Drake, cousin to Francis Drake, shortly after returning to England sailed as a member of the 1582 William Fenton's expedition and in command of the *Francis*. The 22-24 year old John Drake tried to repeat sailing up Brazil's Río de la Plata (River Plate) for supplies of food, wood and water, as his cousin Francis had done April 16 through the 20th of 1578 (Fletcher, 16-17). The river level being much lower at the time of John Drake's visit caused his ship to be wrecked, he was subsequently captured and was never again to see England. John Drake's two depositions (1584 & 1587) to the Spanish Inquisition were not published until 1911 in Lady Elizabeth Elliott-Drake's *The Family and Heirs of Sir Francis Drake*, Appendix I, and Appendix II. The depositions are printed in the original Spanish as well as English. The last of the 3 first hand reports was the *Anonymous Narrative* whose identity has not surfaced.

15. D. B. Quinn, "North America", *Hakluyt Handbook*, Chap 21, p. 252.

16. D. B Quinn, C. E. Armstrong and R. A. Skelton, "The primary Hakluyt bibliography," *The Hakluyt Handbook*, (London: Hakluyt Society, 1974), Chap. 27, pp. 474-78.

17. Richard Hakluyt, *The Original Writings & Correspondence of the Two Richard Hakluyts*, Introduction and Notes by E. G. R. Taylor, D.Sc., 2 vols. (London: Hakluyt Society, 1935), p. 180, n. 1.

18. In 1565 Esteban Rodriguez and navigator Fray Andres de Urdaneta aboard the *San Pablo* approached the North American coast near 37° and 39° latitude and then sailed southward, making landfall in Acapulco. "His rout was approximately that followed during the most of the history of the Manila-Acapulco line and this charts long remained the guide of the eastward-bound pilots of the galleons." William Lytle Schurz, "The Route" in *The Manila Galleon*, (New York, 1959), pp. 220-221. "The Rodriguez-Urdaneta route was, therefore, set as the standard for the return from Manila to Acapulco" W. Michael Mathes, "The Opening of Manila Trade and the Problems of Trans-Pacific Navigation" in *Vizcaino and Spanish Expansion in the Pacific Ocean 1580-1630* (San Francisco: California Historical Society, 1968), p. 9. Jose Gonzales Cabrera Bueno, "Derrota desde el Cabo de Mendocino, hasta el Puerto de Acapulco por la Costa" in *Navagacion Especulativa, y Practica, con la Explicacion de Algunos Instrumentos, que estan mas en uso en los Navegantes*, Manila: Convento de Nuestra Senora de los Angeles, Capit. IV., Derrorota desde el Cabo de Mendocino, hasta el Puerto de Acapulco por la Costa, (San Francisco, 1734), pp. 302-303. On his return from the Philippines in 1595 Sebastian Rodriguez Cermeno's orders were to find a port near the North American coastline where the galleons sighted land on their return trip. His ship *San Agustin* became shipwrecked in 1595 under Point Reyes, California at present day Drakes Bay (38° north latitude); where as a rule they sighted land before following the coast south to Acapulco.

19. Zelia Nuttall was a researcher of Mexican archaeology at the Mexican National Archives in 1908. Nuttall brought to light an almost unknown map engraved by Nicola van Sype circa 1581 which contained a medallion portrait of Drake under which contained the words: "'Map seen and corrected by the aforesaid Sir Drake.'" She

determined it was: “*obviously [to] indicate an intention to map out a ‘New England’ embracing the entire North American Continent north and west of the limits assigned to New Spain and New France*” from 38° N latitude to 48° N latitude. Zelia Nuttall, *New Light on Drake*, Hakluyt Society, (London,1914), pp. lv – lvi.

20. Norman J.W. Thrower, Ph.D., “The aftermath: A summary of British Discovery in the Pacific Between Drake and Cook”, *Sir Francis Drake and the Famous Voyage, 1577-1580*, Published under the auspices of the Center for Medieval and Renaissance Studies, University of California, (Los Angeles,1984), 164, n1. John C. Beaglehole, ed., *The Journals of Captain James Cook on His voyages of Discovery: The Voyage of the “Resolution” and “Discovery, 1776-1780*, Hakluyt Society, 2nd ser. (Cambridge, 1967), ccxxi.

21. Barry M. Gough, “The Northwest Coast in Late 18th Century British Expansion”, in Thomas Vaughan (ed.), *The Western Shore*, (Portland, 1975), p. 52, n11. Secret Instructions to Capt. James Cook, July 6, 1776, Admiralty Papers, Vincent Harlow and Frederick Madden, *British Colonial Developments, 1775-1834: Secret Documents* (Oxford, 1953), 1-4.

22. Although Whale Cove, Oregon is located at 44° latitude, it does not have any “islands not far” where Drake acquired enough seals and birds to sustain them after leaving their 5 week Oregon sojourn for their voyage to the Moluccas described in Fletcher’s *World Encompassed* (81-82). In 1904 Three Arch Rock, the islands laying 8 miles to the south of Nehalem Bay, was designated the nation’s first marine reserve where weekend visitors had previously shot birds and seals for sport. Cape Arago’s South Cove at 43° 20’ has been theorized by the Drake Navigators Guild as Drake’s Pacific coast upper limit cannot be correct. For more background on the Drake Navigators Guild theory of Cape Arago see Garry D. Gitzen, *The Drake Question, Oregon’s Stolen History*, TS, Wheeler, OR, 2013.

23. Donald M. Viles and M. Wayne Jensen, *Drake Cermeno Vizcaino* (1971); and Donald Viles, “Sir Francis Drake Colony Found Neah-Kah-Nie Mountain” (Paper presented at the meeting of the Neah-Kah-Nie Community Club, Manzanita, OR, Jan. 1971), Wayne Jensen

Collection of Manuscript; Garry David Gitzen, *The Treasure Rocks of Neah-Kah-nie Mountain*, (Wheeler, OR, 2012).

24. Phillip A. Costaggini and Robert J. Schultz, A.S.C.E., *Survey of Artifacts at Neahkahnie Mountain Oregon*, Oregon State University, (Corvallis, OR, no date, circa 1982), p. 19. The Costaggini thesis is reprinted in its entirety in Garry D. Gitzen, *Francis Drake in Nehalem Bay 1579, Setting the Historical Record Straight*, (Wheeler, Or, 2008, 2011), Appendix 1, pp. 163-195. Costaggini's work was subsequently verified by Peter Seaders and Beth Peutz's white paper "Discussions and Review of Phillip A. Costaggini's Project on Neahkahnie Mountain, Oregon", (Corvallis, OR, 2009), Oregon State University, Emeritus Professor R. J. Shultz.

25. *World Encompassed* p. 79. An English mile in 1579 measured 5,000 feet. It was changed to 5,280 feet in 1595 to conform to the rest of Europe.

26. Costaggini, p. 15. "In the Nineteenth century, while it is true that some surveyors buried burned wood beneath rock mounds, there are three facts discouraging the idea that this group was responsible. First, the cairns are not anywhere near any U.S. Public Land Survey corners, Donation Land Claim corners, or even property corners of record. Second, the cairns are of such size [10'x2'] as to make it unlikely that Nineteenth century surveyors would have left such large monuments. Third, no written records exist of these monuments as being survey markers or corners."

27. *ibid*, p. 16.

28. *ibid*, p. 24. Neahkahnie Mountain is known to have been burnt off by the Native Americans to facilitate better hunting and collection of clothing materials, making it possible for Drake to perform the line-of-sight survey.

29. *ibid*, pp. 23-24. Samuel Bawlf's *Sir Francis Drake's Secret Voyage to the Northwest Coast of America; AD 1579* highlighted Wayne Jensen's involvement with documenting Drake's survey which Bawlf called the "Point of Position" when he wrote: "Costaggini and Schultz, *Survey of Artifacts at Neahkahnie Mountain*. Local historian

Wayne Jensen of Tillamook County Pioneer Museum deserves to be congratulated for persevering in his investigation of the cairns and for bringing in the American Society of Civil Engineers. The survey may be the most important artifact of Elizabethan science yet found in North America.” (Salt Spring Island, B.C., 2001), p. 142 n 17.

30. Costaggini, Cover Page “Abstract”, no number. In casual conversations with Jensen by this author, he said there were additional rock cairns to the west and north of the survey area covered by the Costaggini thesis.

31. Tom Bensky, *Bensky Deciphering Treasure Rocks Calpoly and Bensky review*, MS Jensen Collection, August 4, 2012. Dr. Tom Bensky, Professor of Physics, California Polytechnic State University proofed this authors findings of latitude in the final 33 pages of *Treasure Rocks of Neah-kah-nie Mountain* based on the incised rocks and cairns.

32. Librarian to the U.S. State Department, Robert Greenhow determined: “It may be admitted that the English did, in 1579, see the part of that coast included between the 38th and the 43d parallels ; but it is equally certain, if not more so, that such part had been already discovered by the Spaniards, under Cabrillo and Ferrelo, in 1543.” Robert Greenhow, *Memoir, Historical and Political, on the Northwest Coast of North America*, Appendix A, pp. 201-204. Greenhow was not without critics at the time. Adam Thom, Esq., Recorder of Rupert’s Land, *Claims to the Oregon Territory Considered* (London, 1844) described Greenhow’s work as “rather elaborate work... Some of the most important statements in this [Greenhow’s] publication are erroneous; other admit dispute; ...from materials furnished by the Americans themselves, that the claim of Great Britain to Oregon territory is superior to theirs.” Thomas Falconer, Esq. said: “Drake discovered this coast to the forty-eighth degree—about two degrees above the mouth of the Columbia. Mr. Greenhow endeavors to discredit this fact; but his motive is too transparent, and his evasive treatment of the subject too obvious, to demand any exposure at our hands.” Falconer went on to say: “The British jurisdiction, already formally proclaimed in the Columbia and up the coast many years before. America has no title, in short, on the

ground of occupancy ; for she has never yet occupied a yard of the country—none on the ground of discovery ; for Drake, and Cooke, and Hezeta, were there before her—none on ', the ground of exploration ; for Broughton was up The Columbia first—and none on the ground of any declaration of annexation or any act of possession ; for up to this hour she has not taken one single legal step towards the assertion of a legal right of any nature whatsoever. ." (Second Postscript To A Pamphlet Entitled "The Oregon Question," By Thomas Falconer, Esq., In Reply To The "Rejoinder" Of Mr. Greenhow, And To Some Observations In The 'Edinburgh Review', May 1845, pp. 255-260) Yet every California theorists has continued to follow Greenhow's ill informed decision even after John Drake's depositions were uncovered in 1914 by Zelia Nuttall's *New Light on Drake* published by the Hakluyt Society where he said they came in at 44 degrees and went to 48 degrees. The latitude mystification ties in to the van Sype map "A map seen and corrected by the aforesaid Sir Drake" was meant to claim as much land as Drake was able to determine not owned by Spain. From captured charts belonging to Spanish Galleon pilots (WE, pp. 56-61) Drake was determined to claim down to 38°; as mentioned in Fletcher's journal. When *The World Encompassed* was published in 1628, it first mentions being at 38°. The next paragraph begins "In 38° 30 min. we found convenient and fit harbor" (WE, p. 64) suspiciously a mere one minute from the Spaniard Sebastian Vizcaino's exploration of the California coastline in 1602-1603's recorded 38° 31' northern latitude, popularly referenced as, looking for the 1595 Sebastian Rodriguez Cermeno shipwrecked *San Agustin* galleon at 38° N. latitude. It is suggested that Fletcher's account was changed to reset the land claim, from the boundary set by Drake at 38° to Sebastian Vizcaino's 30° 31 minute north latitude. Helen Wallis' *The Voyage of Sir Francis Drake* (p.6) determines *The World Encompassed* was written at different times; shortly after the voyage and sometime after 1605, suggests the 38° 30' mentioned in *The World Encompassed* was taken from Vizcaino's records.

33. Fletcher, Master Francis Preacher, *The World Encompassed By Sir Francis Drake*, Printed for Nicholas Bourne, (London, 1628).

Published in facsimile by Theatrum Orbis Terrarum Ltd., Amsterdam and Da (Capo Press, NY, 1969).

34. *ibid*, p. 1

35. Arthur S. Keller, Oliver J. Lisitzyn, and Frederick J. Mann, *Creation of Rights of Sovereignty through Symbolic Acts 1400 - 1800*, (New York, 1938), 61-67.

36. *World Encompassed*, p. 2.

37. Garry D. Gitzen, *Treasure Rocks of Neah-kah-nie Mountain*, (Wheeler, OR, 2012), 33-80.

38. Garry D. Gitzen, *Francis Drake in Nehalem Bay 1579, Setting the Historical Record Straight*, rev. ed. , (Wheeler, OR 2011), Chapter 4, 75-100.

39. California Archaeologist Dr. Robert F. Heizer and William Elmendorf's *Francis Drake's California Anchorage in the Light of the Indian Language Spoken There*, *Pacific Historical Review*, 1942, pp. 213-217 mistakenly states: "I have already pointed out, the vocabulary may be assigned conclusively to the Coast Miwok language." The Indian language Heizer used for the Indians Drake heard was from the 1582 diary of Richard Madox, edited by Elizabeth Story Donno, *An Elizabethan in 1582, The Diary of Richard Madox, Fellow of All Souls*, (London: Hakluyt Society, 1974), pp. 208-9. Heizer mistakenly concluded the language to be California Coast Miwok but in fact it was the Labrador Eskimo language garnered, not from William Hawkins, the Younger, as Heizer had surmised, but from Christopher Hall, chief pilot of the 1576, 1577 and 1778 Martin Frobisher expeditions to Labrador. Hall contributed an Appendix of Eskimo language to the 1576 Frobisher voyage. George Best's "A True Discourse" is the only first-hand contemporary account of all three Frobisher's voyages contained in Vilhjalmur Stefansson, Ph.D., LL.D., *The Three Voyages of Martin Frobisher: In Search of a Passage to Cathaia and India by the Northwest, A.D. 1576-1578*, 2 Volumes, (London, 1938). Garry Gitzen, *Richard Madox and the Language of Francis Drake's Indians*, unpublished paper, (Wheeler, OR, 2012).

40. The upper left-hand corner of Jodocus Hondius Broadside Map *Vera Totius Expeditionis Nauticae* (1589) depicts *Portus Novea Albionis* (Port of New England) as Drake's anchorage. Hondius is

known to have met Drake when he was in England. Whether Drake drew the map for Hondius or provided it, Nehalem Bay's shoreline compares with Portus Novea Albionis in the NS and EW orientation, topology, and documented archaeological sites (See Gitzen, *Francis Drake in Nehalem Bay 1579, Setting the Historical Record Straight*, pp. 57-68.

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Other books by Garry Gitzen

Francis Drake in Nehalem Bay 1579, Setting the Historical Record Straight (2008/2011) describes the Native American ethnography of Nehalem Bay with that of the Francis Drake journal of crewmember Rev. Francis Fletcher.

The Treasure Rocks of Neah-kah-nie Mountain (2012) is an autobiographical account of the Francis Drake survey markers, its initial discovery and involvement between the discoverers and ultimately, the understanding to its meaning.