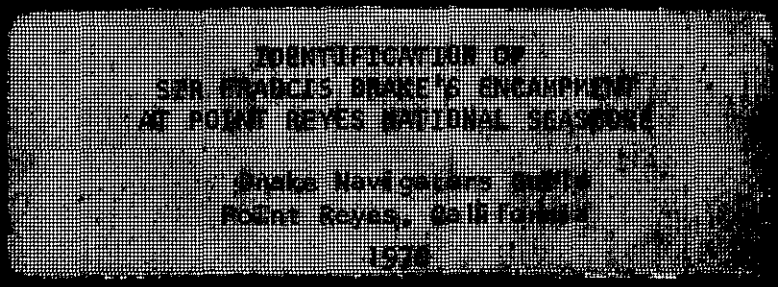

Robert W. Allen

DRAKES BAY

REPORT OF FINDINGS RELATING TO IDENTIFICATION OF SIR FRANCIS DRAKE'S ENCAMPMENT AT POINT REYES NATIONAL SEASHORE

A Research Report of the Drake Navigators Guild

by

Raymond Aker

Drake Navigators Guild
Point Reyes, California

1970

FOREWORD

For more than 100 years California historians, scholars and scientists have diligently searched for the site of Sir Francis Drake's harbor and encampment on the California Coast during the summer of 1579.

The fact that Drake built a fortified camp and repaired the Golden Hind somewhere on the Northwest Coast of North America is fully documented; there is no disagreement on this point, but there has been great controversy over just where on the coast he did this. His encampment has been located by various researchers almost anywhere from Vancouver Island to the Santa Barbara Channel.

The search was complicated by the apparent lack of specific information and by seemingly conflicting accounts. Some researchers drew analogies or based their conclusions on a few clues only, disregarding or dismissing others as cartographical embellishments, exaggerations, irrelevancies or a patchwork referring to several places and events.

To avoid being drawn into this controversy, too many historians, professional as well as amateur, have expressed the wishful opinion that someday "Drake's log will be found" and definitely solve all questions. It is unlikely that any more major sources of information will be found, though it is possible that bits of information will be, which by careful analysis and interpretation, will further confirm the conclusions of this study.

The information now available supplies sufficient clues necessary to make a positive identification. Much of this is contained in stated facts, which require careful analysis. Much is implied information, which becomes clear when approached from the standpoint of seamanship and navigation, the physical sciences, the ethnology and the flora and fauna of the area.

As early as 1949 some members of the Drake Navigators Guild were drawn together through mutual interest in this subject. The Guild was incorporated in California in 1954 as a non-profit organization to conduct historical research and disseminate information relating to Sir Francis Drake and other navigators along our shore. The Guild has reviewed, from the viewpoint of the seaman and navigator, all available documents bearing on Drake's visit and has conducted extensive on-site exploration.

By careful examination and analysis of information stated or implied in the voyage accounts, careful correlations have been made, and a web of evidence has been accumulated which supports the facts as given, resulting in a positive identification of the site of Portus Novae Albionis within the Point Reyes National Seashore.

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site of

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Directors, 1970

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ACKNOWLEDGEMENTS

This report is the result of a meeting held October 27, 1964, between members of the Drake Navigators Guild and Mr. Edward A. Hummel, then Regional Director, National Park Service, Western Region, and members of his staff, at the Yerba Buena Island quarters of Fleet Admiral Chester W. Nimitz, Honorary Chairman of the Guild, for the purpose of determining how the historical importance of the Point Reyes National Seashore could be established. In conclusion, it was agreed that the Guild would prepare at its own expense a comprehensive report of its findings on the visit of Francis Drake to California and present evidence identifying the site of his landing place and encampment within the boundaries of the Seashore.

The site of Drake's landing in California was discovered in November, 1952, by Guild Member, Matthew P. Dillingham, while studying photographs taken by him at the mouth of Drakes Estero. He noted a resemblance between the cove, which is identified in this report, and the Portus Novae Albionis inset on the Hondius Broadside Map. The first public announcement of this discovery was made by Admiral Nimitz on June 14, 1956, to the California Historical Society, at which time he presented to the Society a report by the Guild verifying the site. Although no new evidence in the way of source material has come to light since then, further research and study, as well as archaeological effort, has strengthened the original identification and considerably added to our knowledge of Drake's visit here.

The author is indebted to Guild Members Robert W. Allen, Matthew P. Dillingham, Daniel Dillon, and Robert W. Parkinson who served as an editorial board and who each contributed in the area of his particular skills, knowledge, and background, and to Guild Member Captain David S. Edwards, U.S.N., Ret., who made many invaluable suggestions. For archaeological studies of Drakes Bay Indian middens, he is indebted to Guild Member Edward P. Von der Porten and the students of his archaeology course at Santa Rosa Junior College, and to private property owners and Park Officials who gave their consent to archaeological exploration of their lands.

Special thanks are extended to members of the Guild, whose help, direct and indirect, have made this work possible, foremost of whom is Matthew P. Dillingham, Director and past President, who discovered the Drake landing site and prepared the Guild's preliminary identification

report in 1954 and much of the 1956 report; to past presidents Robert D. Marshall and Captain Adolph S. Oko whose leadership and stimulating interest in Drake furthered the Guild's research; to F. Richard Brace, whose study of the inset views on the Hondius Broadside Map pointed the way to identification and precise correlation of Drake's landing site; and to Benjamin P. Draper, who furthered the Guild's efforts by means of television documentaries and other publicity.

The author and the Guild particularly thank the following individuals for their special assistance: Alex A. Cumming, F. M. A., City Curator, City Museum & Art Gallery, Plymouth, Devon, and The Friends of Buckland Abbey; Mr. E. W. Petrejus, formerly Curator, Maritime Museum Prins Hendrik, Rotterdam, for invaluable suggestions pertaining to Drake's Portus Javae Majoris; Mr. B. van't Hoff and his assistants on the staff of the State Archives, The Hague, for help in locating early charts and maps of the Tjilatjap area in Java; Rear Admiral E. G. Irving, C.B., O.B.E., Royal Navy, Hydrographic Department, Admiralty, Whitehall, for his help in locating early charts by which Portus Javae Majoris came to be identified; Dr. Helen Wallis, Superintendent of the Map Room, British Museum, for her assistance with questions pertaining to the Molyneux Globes and the Silver Map of the World; Dr. Christina Roaf, Lecturer in Italian Language and Literature, Somerville College, Oxford, for translations of Robert Dudley's charts of the Northwest Coast of North America and passages from his Dell' Arcano del Mare; Drs. A.E. Gordon and W. H. Alexander, Department of Classical Languages, University of California, Berkeley, for their translations of source accounts from Latin to English; Drs. George Keith, Professor of French, and Gerald Herman, Assistant Professor of French, University of California, Davis, and Simone Richardson for translations of source accounts from French to English; John Dillon, of Dillon, Agnew and Marton, Amsterdam, for translations of source accounts from Dutch to English; Mr. John Thomas Howell, Curator of Botany, California Academy of Sciences, San Francisco, and Drs. George Ledyard Stebbins, Professor of Genetics and John Tucker, Professor of Botany, University of California, Davis, who gave invaluable assistance with the identification of botanical references in the source accounts; Dr. Robert T. Orr, Curator of Birds and Mammals, California Academy of Sciences, for valuable assistance on questions pertaining to zoology with special reference to the conie described in the accounts; Mr. A. J. Galloway, Research Associate, Department of Geology, California Academy of Sciences, for

assistance with regard to geological questions pertaining to Drakes Bay; Dr. Bernard Berenson, M.D., Portland, Oregon, for his encouragement to investigate the question of the highest latitude reached by Drake on the Northwest Coast of North America and for his review of manuscript chapters pertaining to Drake's navigation to this coast; Mr. David T. Dobbins, who made his motor ketch, Little Revenge, available for offshore study by the Guild of Drake's coastal navigation in the vicinity of his landing place; Malcolm R. Gilmour for technical assistance with illustrations; and Miss Anna L. Wilson who volunteered to type the manuscript.

The author is also indebted to the following museums, libraries, and government agencies for the assistance they have given and for permission to use photographs from their collections: the British Museum, London; the National Maritime Museum, Greenwich; Statens Sjohistoriska Museum, Stockholm; Maritime Museum Prins Hendrik, Rotterdam; the Imperial Museum, Munich; the Bibliotheque Nationale, Paris; the California Historical Society, San Francisco; The Bancroft Library, Berkeley; the Rare Books Department, University of California Library, Berkeley; The Honnold Library, Claremont, California; the Henry E. Huntington Library and Art Gallery, San Marino, California; The John Carter Brown Library, Brown University, Providence; the New York Public Library, New York; the U.S. Department of Agriculture, Forest Products Laboratory, Madison, Wisconsin; and the U.S. Coast and Geodetic Survey, Washington, D.C., for the preparation of Drakes Bay Tide Tables and phases of the moon for the summer of 1579.

The author and the Guild are indebted to many others who have given generously of their time and effort. Of greatest importance has been the friendly and generous cooperation of the late William T. Hall of the Hall Ranch, Mrs. Alice Hall, and Mr. and Mrs. Rudolph J. Horick, in allowing access to their ranch on which the Guild identified Portus Novae Albionis.

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CHAPTER I

INTRODUCTION

Before proceeding with investigation of Drake's landing site (Portus Novae Albionis) on the coast of California it is proper to give some of the background and circumstances connected with his voyage.

In the late spring of 1579, Francis Drake, destined to become one of England's most renowned seamen, pressed with all speed into the North Pacific with a shipload of gold and silver to find an undiscovered, short route home after a daring and fruitful raid on the Spanish treasure domain of Chile and Peru. Forced back because of unexpected adverse weather on the Oregon coast, he found instead a secure haven in California where he repaired his ship, the Golden Hind, and revictualed for his famous voyage of circumnavigation. Drake named this land Nova Albion and claimed it for Queen Elizabeth in its entirety, from the Pacific to the Atlantic Ocean.

To locate the long lost haven that inspired Drake to claim so vast an empire in North America long before the founding of English colonies on the Atlantic seaboard and to appreciate his mission here requires an understanding of the historical background and previous incidents of the voyage. Original documents that would at once identify the haven have never been found, and it is therefore necessary to put together a mosaic of fact derived from scattered fragments in contemporary printed sources and the maritime practices of the sixteenth century.

Drake's presence on the coast of California was entirely fortuitous, brought about by circumstances unforeseen and beyond his control. He was in the North Pacific for the purpose of finding an alternate way home by way of a passage across the top of the North American continent, the Strait of Anian or Northwest Passage. If he failed to find this passage, he would simply continue his circuit of this sea to the coast of China and go home by way of the Moluccas and the Cape of Good Hope.

Discovery of the Northwest Passage from the Pacific side was probably discussed with Drake at one time or another during the planning for the voyage, as it was then being actively sought above Labrador by Martin Frobisher, but there is no evidence that he was instructed specifically to search for the passage, though he may have been asked to do so if it appeared expedient.

In the decade following Drake's voyage, it was vital to English

interests that North America be in English possession, as it insured control of the passage. Possession of the western approaches was particularly important because the Spanish were understandably opposed after Drake's voyage to any such passage being found and could be counted on to contest any coasting or transiting of their domain. In the Spanish view, discovery and opening of a passage invited further plundering of their Pacific settlements. In another sense, Nova Albion became important when the English colonies were established on the east coast of North America in 1584, because the claim was the basis for continued westward expansion.

The eastern approaches to a Northwest Passage were reasonably assured by the early discoveries of the Cabots, and Martin Frobisher's inconclusive three voyages in search for the passage from 1576 to 1578. John Davis then took up the quest with three voyages from the Atlantic side in 1585-87 and an aborted attempt from the west side of North America in 1591, when he sailed on Thomas Cavendish's last voyage which was intended to repeat his circumnavigation of 1588. Davis' part in the voyage called for an independent exploration of the North Pacific after separating from Cavendish at Baja California, but the expedition ended in failure when the ships became separated at the Strait of Magellan. After fruitless attempts to find Cavendish, Davis and his crew returned home in 1593, more dead than alive. Only after this last effort in the sixteenth century does censorship of Drake's activities in the North Pacific appear to have been lifted. Unfortunately, Drake died before he could compile his own chronicle of his voyage.

Ironically, Drake's act of taking possession of the west coast of North America did not take place until after he had remained for many days at a haven far to the south of his landfall, and then he was evidently prompted more by the friendly reception of the Indians and their apparent giving him title to their land, than by any preconceived intention to take possession. It is entirely possible too that some mineral potential discovered in exploring the countryside further moved him to take this action.(1)

If Drake had instructions to take possession somewhere in this region, he would have lost no time to make a landing for that purpose, and would also have done so if he had thought that there might be some value in so doing with respect to possible future discovery of the North-

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1. See pp. 131, 166, infra.

west Passage. That a landing was not made at his first landfall, or anywhere on the coast, can first be attributed to a desire to press northward without delay, and then when the decision was finally made to turn back, all on board were too demoralized by the state of the weather and frustration of reaching a dead-end in an out-of-the way corner of the world. There could have been little more thought than to retrace the course and leave this coast as soon as possible.

The claim to the land and naming it Nova Albion was apparently justified by the passages that appear in the accounts to the effect that the Spaniards had not set foot in this part of the country, nor had dealt with the Indians, as the extent of their explorations had reached only to many degrees south of here. Because of these statements, it is obvious that Drake had learned something of Cabrillo's expedition to this coast from the Spanish pilots, and the fact that the Manila galleons avoided the coast. In addition, he would have found that their charts did not correspond with his own discoveries made by closely reconnoitering the coast, and particularly that the coast was not known to have any ports in the region where he had found one.

The motivations for Drake's voyage have always been obscure, though one of them has always been regarded as being the accomplished fact of plundering Spanish shipping and settlements on the west coast of South America, and that has often been assumed by modern writers to have been a personal plan of Drake's, for which he deviated from the ostensible objectives of the voyage, with or without Elizabeth's blessing. Henry R. Wagner, in Sir Francis Drake's Voyage Around the World, regarded the opening of trade in the Moluccas to be the primary objective of the sponsors of the voyage.(1) Later, a draft plan for the voyage was discovered by Professor E. G. R. Taylor in 1931, which shed the first positive evidence on the objectives, but it in no way authorizes Drake to plunder the Spaniards, nor shows that the Moluccas was an objective, or even that the voyage was to circumnavigate the world. There is no hint at all that Drake was to make an exploration for the Northwest Passage or take possession on the west coast of North America.

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1. See Henry R. Wagner, Sir Francis Drake's Voyage Around the World, pp. 21, 24-26.

INTRODUCTION

The objectives of the voyage, as set forth in the draft plan with passages reconstructed by Miss Taylor where they had been mutilated by fire, are as follows:

> . . . shall enter the Strait of Magellanas lying in 52 degrees of the pole, and having passed therefrom into the South Sea then he is to sail so far to the northwards as xxx degrees seeking along the said coast aforenamed like as of the other to find out places meet to have traffic for the venting of commodities of these her Majesty's realms. Whereas at present they are not the obedience of any christian prince, so is there great hope of gold, silver, spices, drugs, cochineal, and divers other special commodities, such as may enrich her Highness' dominions, and also put shipping a-work greatly. And having gotten up as afore said in the xxx degrees in the South Sea (if it shall be thought meet by the afore named Francis Drake to proceed so far), then he is to return by the same way homewards as he went out. Which voyaging by God's favour is to be performed in xiii months, all though he should spend v months in tarrying upon the coasts, to get knowledge of the princes and countries there. (1)

The draft plan led Miss Taylor to speculate far beyond its scope to the effect that the purpose of Drake's voyage was to pass through the Strait of Magellan and proceed west, or northwest, to discover and explore the mythical southern continent of Terra Australis until he reached the Moluccas, then attempt to return to England by the Northwest Passage, or in the event that was not feasible, return by way of the Cape of Good Hope.

This conclusion, however, has recently been shown to be untenable by Kenneth R. Andrews. (2) Mr. Andrews clearly demonstrates that the draft plan intended only a reconnaisance of the east coast of South America, passage through the Strait of Magellan, and reconnaisance of the

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1. See E. G. R. Taylor, "More Light on Drake: 1577-80," The Mariner's Mirror, Vol. XVI, April, 1930, pp. 134-151.
2. See. K. R. Andrews, "The Aims of Drake's Expedition of 1577-1580," American Historical Review, Vol. LXXIII, Feb. 1968, pp. 724-741.

west side of South America up to the latitude of 30° South. The instructions specify that places are to be sought out where English commodities might be exchanged for native goods, such as those enumerated. The right to conduct this trade in what might otherwise be considered as Spanish territory is implied by the statement that "at present they are not under the obedience of any christian prince." Finally, the instructions read that Drake was to return home by the same way he went out and that the voyage was to be performed in thirteen months, five of which were to be spent on the aforenamed coasts. Mr. Andrews points out that the draft plan makes no provision for going to the Moluccas or calls for an attempt to look for the Northwest Passage.

Re-examining the entire picture, it is clearly evident that Drake intended to go to Peru, and even beyond to raid Panama, despite the restrictions of the draft plan. There has been a tendency to deny that this feature of the voyage was the intention of Drake's sponsors, or was secretly arranged between him and Elizabeth as generally assumed, but it is inconceivable that he would have undertaken a raid on the coast of Peru with risk to his sponsors' investment, which included the Queen's, without complete assurance beforehand that he would be absolved from the consequences of his actions. The raid, as planned, would have been of far greater consequence and infinitely more productive if it had been carried out by the full fleet and forces that were under his command when he left Port St. Julian. Significantly, on his arrival at Plymouth, Drake took the precaution to assure himself that Elizabeth still reigned, and then he hastened to send her a note announcing his return. In due time he was bidden to appear at her court with the assurance that he had nothing to fear and to bring "some samples of his labours." (1) The culmination of his achievement was knighthood conferred the following year by Elizabeth on the deck of the Golden Hind.

Aside from the above, the composition of Drake's force is incompatible with the innocuous objectives of the draft plan. Drake's fleet of five ships was clearly outfitted to comprise a strong military force of 160 men, a large number of whom were soldiers, who by modern terms would probably be classified as marines. On board the ships were four

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1. See John Drake's second deposition, Zelia Nuttall, New Light on Drake, p. 55. See also Elizabeth's answer to the Spanish Ambassador in Camden, H. R. Wagner, Sir Francis Drake's Voyage, p. 323.

pinnaces, or large rowing and sailing boats of the type used by Drake on the Spanish Main in 1572-73 to conduct amphibious military operations. Prisoners on board the Golden Hind reported seeing large quantities of arms, munitions of all kinds, and implements suitable for constructing fortifications.

Drake did not tarry on that part of the coast of Chile "not under the obedience of any christian prince," nor does he seem to have made any particular exploration of that region, (1) but instead it is related in World Encompassed that a course was shaped along the coast for Peru, "both for that we might, with conuenient speed, fall with the height of 30 deg., being the place appointed for the rest of our fleete to reassemble; as also that no opportunity be lost in the meane time to finde them out, if it seemed good to God to direct them to vs." (2) Obviously, the operation outlined in the draft plan was unlikely to yield a profit, and thus we find Drake hastening to implement a different plan.

The draft plan records that the voyage was to be of thirteen months duration, but the Golden Hind was equipped to make a much longer voyage. She had two complete applications of sheathing to protect her hull underwater and a crew capable of careening her and making repairs at any time. One of Drake's prisoners, Nuño da Silva, revealed that Drake was to be back in his own country by August, 1579, thus nearly 21 months from the time of setting out from Plymouth, November 15, 1577. John Winter, captain of the Elizabeth, which became separated from the expedition and returned to England, stated in a deposition concerning Nuño da Silva's ship and cargo taken by Drake, that Drake was "bente uppon a long viadge of two years as he sayde, and as it was then supposed." (3)

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1. See Nuño da Silva's log-book, Z. Nuttall, New Light on Drake, pp. 285-288.
2. See N. M. Penzer, ed., The World Encompassed by Sir Francis Drake, p. 36.
3. See the declaration made by Capt. John Winters about Nuño da Silva's ship and her cargo, Z. Nuttall, New Light on Drake, p. 387. See also John Drake's first declaration, p. 24. In this, John Drake said that Drake's ship carried provisions for 18 or 20 months.

INTRODUCTION

As the objective of the voyage was not in truth that shown in the draft plan, we must conclude that aside from specifying the conduct of the expedition, the plan was in reality an instrument contrived to give legality to the presence of Drake in the Strait of Magellan and to a point beyond on the coast in the proximity of Peru with a fleet of ships. The objectives of the draft plan were reasonable even though they might have been objectionable to Spain. The Spanish Ambassador to Elizabeth's Court was certainly going to find out who the sponsors of the voyage were, and he would hold them accountable for the conduct of the voyage. However, for whatever Drake did beyond the terms of the draft plan, the sponsors could claim that they were not responsible. The Queen also was said to have invested a thousand crowns in the voyage, (1) and, she of all people, could not have afforded to be implicated as a result of Drake's actions.

The draft plan was secret, as such plans usually are, and even though outwardly reasonable, was bound to irritate Spain, or worse, cause Philip to assemble a force to intercept Drake. Even so, there were those in high positions in the government, such as Burghley, (2) who were entitled to know the objectives of the draft plan, but who might condemn the voyage if they knew the true intentions. These were manifestly not a sort to be put into writing, except perhaps in time of war, and therefore we will probably never find any first-hand reference to them.

William Camden, the leading historian of Elizabethan England, who was asked by Lord Burghley to write a history of the Queen's reign, gives us a clear picture of Drake's personal motives for entering the Pacific. He was in a good position to obtain his facts directly from Drake, and by an introductory statement concerning the background of Drake's voyage, he implies by the following wording in parenthesis that he had: "(that I may report no more than what I haue heard from him-selfe)." (3)

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1. See John Cooke's account, H. M. Penzer, ed., The World Encompassed, p. 158.
2. Baron William Cecil, Lord Treasurer.
3. See H. R. Wagner, Sir Francis Drake's Voyage, p. 317.

INTRODUCTION

Camden recounts Drake's early life and apprenticeship in a small bark under a pilot neighbor of the Drake family; his investment and participation in a voyage with John Hawkins and the subsequent loss of his investment through the destruction of Hawkins' fleet by a Spanish force at San Juan de Ulloa in the Gulf of Mexico; his organization of a small force in 1572 for a raid of reprisal against the Spanish on the Spanish Main to recover his loss, and probably that of Hawkins also, though Camden does not mention Hawkins' loss. In the course of relating Drake's expedition to the Main, Camden refers to an incident that is clearly intended to show the genesis of the voyage that elevated Drake to wealth and glory.

The following incident that took place on the Isthmus of Panama, often related in connection with Drake's career, is worth repeating, as the substance of it is essential to an understanding of what instigated the voyage of circumnavigation. Camden, who trimmed the incident of details, wrote as follows:

> And as he sometimes made excursions vpon the neighboring places, he discouered from the top of the mountaines, the South Sea; hereupon, he was so inflamed with a desire of glory and wealth, that hee burned with an earnest longing to sayle into those parts; and in the same place, falling vpon his knees, he heartily implored the Devine assistance to enable him, that he might one day arriue in those Seas, and discouer the secrets of them; and to this, he bound himselfe with a religious vow. From that time forward, was his minde night and day troubled, as it were excited and pricked forward with goads, to performe and acquit himselfe of this Vow. (1)

Sir Francis Drake Revived, an account of Drake's 1572 expedition which Drake was said to have reviewed and enlarged, gives more detail. The high mountains referred to by Camden are clarified as "(a very high Hill, lying East and West, like a ridge between the two Seas)." Cimaroon guides led Drake to a "goodly and great high Tree," in which they had constructed a lookout platform capable of seating 10 to 12 men, and from which the Atlantic and Pacific Oceans could be seen. The account relates Drake's reaction as follows:

> After our Captaine had ascended to this Bower with the

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1. See H. R. Wagner, Sir Francis Drake's Voyage, p. 318.

> chiefe Symeron and (having as it pleased God at this time, by reason of the brize, a very faire day) had seen that sea of which he had heard such golden reports, hee besought Almightie God of his goodnesse to give him life and leave to sayle once in an English Ship in that sea. And then, calling up all the rest of our men, acquainted John Oxnam especially with this his petition and purpose, if it would please God to grant him that happinesse; who, understanding it, presently protested that unless our Captaine did beate him from his company he would follow him by Gods grace. (1)

It is unlikely that at that moment Drake conceived anything beyond a very intense desire to sail into the Pacific in command of his own ship or a fleet; as this fabled South Sea lay before him, it is logical that this imaginative and extremely confident self-made man would be motivated to do so. As the matter turned over in his mind, however, it can be expected that he viewed his desire in the light of the business at hand. He was then engaged in the seizure of Spanish gold and silver, the taking of which he justified as reprisals for "having been grievously indamaged at Saint John de Ullua in the bay of Mexico, with Captaine John Hawkins, in the yeares 67. and 68. not onely in the losse of his goods of some value, but also of his kinsmen and & friends, and that by the falshood of Don Martin Henriquez, then the viceroy of Mexico, and finding that no recompence could bee recovered out of Spaine, by any of his owne meanes or by her Majesties letters, hee used such helpes as hee might by two severall voiages into the West Indies." (2)

Unquestionably, Drake had learned through his gathering of intelligence that the Spanish treasure ports and shipping on the Pacific coast were relatively undefended. Instead of attacking guarded treasure-houses and pack-trains as he was then doing on the Main, why not take this treasure by sea directly into his ships? This thought surely passed through his mind.

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1. See reprint in Irene A. Wright, ed., Documents Concerning English Voyages to the Spanish Main, 1569-1580, p. 300.
2. See "Sir Francis Drake Revived," I.A. Wright, ed., Documents Concerning English Voyages, p. 254.

INTRODUCTION

As the view of the South Sea inspired Drake to sail that sea, San Juan de Ulloa motivated his raid on the coast of Peru. As a youth he had learned his seamanship from the old pilot and shipmaster in peaceful trade. He worked diligently for him, and when the pilot died, he left his bark to young Drake. After selling the bark, Drake, then in his early twenties, invested his money with his distant relatives, the Hawkinses of Plymouth and took service with them. At San Juan de Ulloa he was in his second trading voyage to the Spanish Main in their employ under John Hawkins, in a fleet composed of Hawkins' ships and two of the Queen's ships carrying the royal standard.

This voyage, in English commodities and slaves from Africa, was for trade with the Spanish colonials, and though it was officially forbidden by Spain for the English, or anyone else, to trade with them, such voyages by the Hawkins family had been secretly approved by the governing bodies in the colonies up to this time. On the way home, Hawkins had taken refuge in San Juan de Ulloa to repair his largest ship, the Queen's Jesus of Lubeck, which had suffered from heavy weather and needed careening. Unfortunately, the annual Spanish plate fleet was due to arrive from Seville to collect the silver from Mexico, and in the fleet was Phillip's new Viceroy of Mexico, Don Martin Enriquez. Hawkins faced the difficult choice of keeping the fleet out of the harbor, as he was then in a good position to do, but thereby incur an act of war under Elizabeth's flag and thus invite his own ruin at home, or let the fleet in and risk destruction at the viceroy's hands. Further, if he kept the fleet out, it was exposed to almost certain loss in the chance of northerly gales, which are frequent at that time of year.

Hawkins elected to take the risk of an honorable course and let the fleet come into the harbor after making an agreement with the viceroy that both sides abstain from hostilities long enough for Hawkins to resolve his needs and leave; ten hostages were exchanged in pledge. Under cover of darkness, the viceroy, however, took on board soldiers from nearby Vera Cruz and attacked the English without warning as the ships lay side by side in the harbor, thus leading to the destruction of all of Hawkins' fleet except two ships in which he and Drake escaped with survivors of the expedition.

Don Martin reckoned with the wrong men and English national pride. J. A. Williamson, in Sir John Hawkins, points out that although other

incidents were occurring at home that tended to create a temporary rift between England and Spain,

> . . . The wounds of San Juan, on the contrary, were never healed. They rankled on, year upon year, begetting trickery, reprisals, and war unlimited. Cecil might strive to keep the peace, Elizabeth might hesitate, blowing now hot and now cold; but Don Martin Enriquez, with his sovereign's approbation, had done a mortal injury to the master spirits of the age, to Hawkins and Drake, to the London financiers, and to the rank and file of the Devon ports, who held life cheap but vengeance dear. Thenceforward, to the men who moved the springs of English action Spain was the enemy, . . ." (1)

Though Drake's acts of reprisal are unacceptable by modern standards, to term him a pirate lacks an understanding of the political, economic and religious backgrounds in Elizabethan England that nurtured his raids and culminated with undisguised warfare between England and Spain as early as 1585. Michael Lewis, in The Spanish Armada, (2) points out that the pirate was the enemy of his own kind and all humanity, whereas Drake confined his hostility to Spain, which throughout his whole career was to all intents, if not in fact, the enemy of England. In effect, Drake sailed as a privateer in the belief that while his action not only benefited himself and his sponsors, it was also a righteous act. It was well understood by the English and the Dutch that the treasures of the New World that reached Spain threatened dire consequences to themselves by providing for equipping of armies and warships to be used against them.

In somewhat the same vein, but with respect to the laity's passion for a new-found liberty from clerical domination under English Protestantism, J. A. Williamson wrote:

> To open new trades, plant colonies or capture treasure-

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1. See J. A. Williamson, Sir John Hawkins, the Time and the Man, p. 195.
2. See Michael Lewis, The Spanish Armada, p. 27.

> ships at the expense of Spain and Portugal meant not only increasing England's wealth but disabling those who would steal her liberty. And so the adventurers sailed happy in the belief that to enrich themselves was a righteous act. The Elizabethan captains were for the most part not pirates in contemporary eyes but respectable and representative Englishmen, respected even by their Spanish foes. Ethics are largely contemporary, and standards vary from age to age. Drake and his fellows did much that would be wrong now, but even his critics did not think it wrong then, although it might be inexpedient. (1)

Drake's privateering was not intended so much against the individual Spaniard, whom he often treated with a consideration and courtesy that was acknowledged by his adversaries, but against their king, Philip II; he was in effect, waging a private war with Philip. We can read this in Drake's dedication to Elizabeth of the account of his actions on the Spanish Main in 1572-53, Sir Francis Drake Revived, in which he said that it was as "being service done to your Majestie by your poore vassall against your great Enemie, at such times, in such places, and after such sort, as may seeme strange to those that are not acquainted with the whole carriage thereof, but will be a pleasing remembrance to your Highnesse."(2) On the opening page of the account, comparison is made between his adversary and himself as "in respect of the greatness of the person by whom the first injury was offered, or the meanesse of him who righteth himself, the one being (in his owne conceit) the mightiest Monarch of all the world, the other an English Captaine, a meane subject of her Majesties." (3)

In the 1572 raid, as also on the voyage of circumnavigation, Drake sailed under English colors, and on the latter voyage he said that he was under Elizabeth's orders. A measure of Drake's national pride is exhibited by his bold display of his colors near the time of his departure from the Spanish Main. The plate fleet was riding at the entrance to Cartegena, ready to sail for Nombre de Dios and Spain when Drake,

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1. See J. A. Williamson, The Age of Drake, pp. 9-10
2. See p. 43, infra.
3. See I. A. Wright, Documents Concerning English Voyages, p. 353.

knowing that the fleet was there, passed in a small coaster, a Spanish fregata, ". . . passing hard by Carthagena, in the sight of all the Fleete, with a Flag of Saint George in the maine top of our Fregat, with silke streamers and ancients downe to the water, sayling forward with a large wind." (1)

The voyage of circumnavigation was undoubtedly Drake's plan from the beginning and centered about a raid on the treasure houses of Panama, the principal commercial city for the entire Pacific coast of South and Central America. It was rich and well established, but more important, it was the collection point for all of the gold and silver and treasures of Peru and Chile where the riches were stored until the arrival of the plate fleets from Spain at the Atlantic port of Nombre de Dios when they were then transported across the Isthmus. (2) The city was without fortifications or defenses other than a small force of soldiers and the arms of the citizens, and attack from the sea was not anticipated by the Spaniards. Being built on the shore of the sea at the head of the Bay of Panama, the city stood at the mercy of the guns of any naval force that might threaten it and which could at the same time cover a landing into the very heart of the city from the beach at the end of its streets.

In 1572-73 Drake reconnoitered Panama and became well acquainted with the city's wealth and lack of defences. In short, Panama was an enticing prize. To further enrich the voyage there was a large and undefended trade by sea in the carriage of treasure from the mines of Chile and Peru, a fact that Drake was well aware of.

The most expedient way to reach the west coast of South America was through the Strait of Magellan, and after reaching Panama, the most practical escape route was to cross the Pacific instead of risking reprisal along an aroused coast and meet an armed force blocking

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1. See I. A. Wright, Documents Concerning English Voyages, p. 323. A "large" wind was one from aft, a fair wind.
2. Two fleets sailed semi-annually for the New World from Spain; one for Mexico and the other for the Spanish Main. The latter assembled at Cartegena to be in readiness when the silver from Peru was transported across the Isthmus to Nombre de Dios for shipment to Spain.

a return through the Strait. The Philippine trade from Mexico had been in operation long enough for Drake to have learned at least the general aspect of the navigation, and the Portuguese route from the Moluccas to the Cape of Good Hope and thence home was proven by long experience. This route far outweighed such dubious alternatives as the Northwest Passage or the Northeast Passage over the top of Asia and Norway, both of which were speculative and could be considered passable only in the middle of summer. For the Spanish to give chase across the Pacific would require weeks to provision, arm and man ships suitable for the purpose, another fact well understood by Drake. The precedent for the voyage had been set by Magellan, and it was thus probably a deliberate part of Drake's planning to have a large and expensive chart of Magellan's voyage made in Lisbon to take with him before he sailed from England. (1) There is evidence also from a Spanish report that Drake spent several days in Lisbon to learn the Portuguese navigation route from the East Indies. (2)

The above is unquestionably the pattern of the project that Drake brought to his sponsors and eventually revealed to Elizabeth, without whose approval the raid could not have been brought to pass without serious consequences to himself and his sponsors. The circumstances surrounding the planning of the voyage are clouded and can only be inferred from statements that were made by Drake and others during the voyage instead of from official records or first-hand documentary evidence.

Briefly, following the 1572-73 raid on the Spanish Main, Drake was obliged to disappear and take voluntary service in Ireland under the Earl of Essex with three "friggots", supplied and furnished at his own expense. There he formed a friendship with one of Essex's military officers named Thomas Doughty and confided to him his plan. The two apparently entered into an informal partnership to undertake the voyage at some future opportunity. After the death of Essex in 1575, Doughty

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1. See Z. Nuttall, New Light on Drake, pp. 162, 303. See Also H. R. Wagner, Sir Francis Drake's Voyage, p. 365.
2. See letter from Don Antonio de Padilla to Phillip II, August 31, 1579, Z. Nuttall, New Light on Drake, p. 405. Drake's chart is also mentioned in this letter.

took employment as private secretary to Sir Christopher Hatton, who was then a favorite of the Queen, vice-chamberlain of her household and privy councilor. When Drake subsequently came to London and met with Doughty, the latter then considered that the plan was more suitable for a prince than a subject, and probably with Drake's concurrence, he broached it to Hatton and Francis Walsingham, Secretary to Elizabeth, and they took it to her. Liking it, she sent for Drake.

The above is basically Doughty's version of what took place. (1) Doughty tended to play down Drake's role in order to emphasize his own importance to the expedition, but the essentials were probably true. Hatton's part is further indicated in an account of the voyage by John Stow, who related that when Drake returned to England from Ireland, he was "entertained" by Hatton, "by whose meanes hee became well knowne vnto her Maiestie." (2)

At Port St. Julian, Drake's version of what took place, given to clarify who it was that set the voyage in motion, differs mainly in the fact that he omitted the preliminaries and picked up the sequence of events from the point where Walsingham came to see him on behalf of the Queen. Drake said that Essex recommended him by letter to Walsingham for further service against Spain and that Walsingham came to confer with him, saying that the Queen had received diverse injuries from the King of Spain and desired some revenge. Drake refused Walsingham's request that he indicate in his own writing in a "plott" where the king might be most annoyed, and Walsingham then arranged for him to speak to the Queen in person. Drake was able to convince her that the only practical area in which to do that was the Spanish West Indies and not Spain. His plan appealed to her and she commanded the voyage to go forward. (3)

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1. See Documents relating to Mr. Thomas Doughty, W. S. W. Vaux, ed., The World Encompassed by Sir Francis Drake, pp. 165-174. These appear to be proceedings against Doughty drawn up at his trial at Port St. Julian. See also J. Corbett's reference to them in Drake and the Tudor Navy, Vol. 1, p. 426.
2. See John Stow's account, H. R. Wagner, Sir Francis Drake's Voyage, p. 305.
3. See. John Cooke's account, N. M. Penzer, ed., The World Encompassed, p. 166.

The interview was concluded by the admonition that ". . . hir Maiestie dyd swere by hir crowne that yf any with in her realme dyd gyve the Kynge of Spayne hereof to vndarstond (as she suspected but too) they shuld lose theyr heads thereof." The two whom she suspected were probably Drake and Doughty. Elizabeth had good reason for not wanting word of Drake's plan and her part in it to leak out, as aside from the questionable nature of it, she would thereby lose any diplomatic leverage that its successful outcome would provide to gain concessions from Philip with respect to his attempts to undermine her rule and injure her subjects. One grievance she had against Spain was the practice of the Inquisition to board English ships in Spanish ports, confiscate their owners' property on charges of heresy, and imprison or torture the officers and crew for their religious beliefs. Furthermore, unless Philip granted concessions, she could conveniently say that she could not guarantee that there would not be more of the same actions by her subjects.

A further admonition given to Drake was that "hir Maiestie gave me speciall cōmaundement that of all men my lord Tresorar shuld not knowe it." (1) That refered to Burghley, who at the time was opposed to any action that might give rise to open warfare between England and Spain. During the voyage, when Doughty was tried at Port St. Julian for sedition he rashly disclosed that he had given Burghley a "plott of the voyadge" and that was presumably the draft plan which was in itself a subterfuge Because of that, Doughty may have assumed that no great harm had been done, though he may have revealed more to Burghley, Drake knew that Burghley had sent for Doughty two or three times, wanting him to become his secretary. (2)

The draft plan, which was probably drawn up after Elizabeth allowed Drake to proceed, lists the following persons as sponsors, or subscribers, to the voyage: the Earl of Lincoln the Lord High Admiral, Sir William Winter, George Winter, John Hawkins, Francis Walsingham, the Earl of Leicester, and Christopher Hatton. Drake is listed last with

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1. See John Cooke's account, N. M. Penzer, ed., The World Encompassed, p. 165.
2. See Documents relating to Mr. Thomas Doughty, W.S.W. Vaux, ed., The World Encompassed, p. 168.

an investment by him of £1000. [1] The last three named, aside from Drake, were from the inner circle of Elizabeth's court and on very close terms with each other. Drake had worked under Hawkins and the Winters in the past, and as they were on the Navy Board, they were probably instrumental in equipping his fleet. Inasmuch as all were so closely connected, there can be little doubt that they were in Drake's confidence regarding his plan.

To further disguise the purpose of the voyage, it was let out to the public that it was a trading voyage to the Levant and Alexandria; [2] preparations were made to that effect and the crews were hired for that intention. The draft plan confirms that intent with a memorandum following the list of sponsors showing that a license had been obtained for that purpose from the "Grand Turk". [3]

With the above pretension, it was recommended in the draft plan that the Queen be invited to participate in the venture and be told the truth, which in the context of the plan was with respect to a trading venture to lands in South America not under Spanish domination. She was thus cleared in writing from implication with the real plan agreed upon secretly with Drake and Walsingham.

Elizabeth invested 1000 crowns in the voyage and gave a bill for her share of the venture, a copy of which Drake had on the voyage. [4] As far as Drake was concerned he sailed under her orders and commission. Acting in direct service of the Queen was probably the last thing he expected when he formulated the plan for his raid, though he probably knew that he would need her sanction. He was apparently acutely aware

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1. See. E.G.R. Taylor, "More Light on Drake," M.M., Vol.XVI, p. 134.
2. Ships sailing to the Mediterranean at this time had to be well armed, a fact that served to cover the heavy armament of Drake's fleet. Apparently as a further ruse, Drake gave "securities" to Elizabeth that he would not seize or rob Spanish subjects or others with whom she was at peace. See Padilla letter to Philip II, Z. Nuttall, New Light on Drake, p. 404.
3. Sultan Murad III of Turkey.
4. See John Cooke's account, N.M. Penzer, ed., The World Encompassed, p. 166.

of his new responsibility; at Port St. Julian he told his crew that "I have taken in hand that I knowe not in the worlde how to goo thrwghe with all, it passethe my capacitie, it hathe even bereaved me of my wytts to thinke on it." (1)

The voyage was delayed by a bad start November 15, 1577, when the Pelican (later renamed Golden Hind) and Marygold were driven ashore outside of Plymouth by bad weather. Of the second start after repairs were made, Camden wrote: "Drake, not knowing what was become of Oxenham, that he might get into the South Sea, which hee still meditated vpon, and try his fortune there, departs from Plimouth the thirteenth of December 1577. with five ships and one hundred sixtie men, of which number there were scarce two who knew his designe, or whither they were bound." (2)

Camden's statement contains two points of interest. The first is that Drake's friend, John Oxenham, sailed off on his own to the Spanish Main April 9, 1576, (3) with one ship and 57 men, his design being to conceal the ship, cross the Isthmus of Panama, construct pinnaces on the Pacific side, and waylay the treasure ships. The plan succeeded until his men balked at packing the treasure to the Atlantic side, and because of the ensuing loss of time they were captured and executed by the Spaniards. Oxenham's scheme was probably not a part of Drake's planning, as it tended to alarm the Spaniards on the Pacific side, but Drake may have anticipated the possibility of joining forces with him there. The second point is that the two men who knew Drake's design were undoubtedly Drake's second in command, John Winter, captain of the Elizabeth, 80 tons, who was the son of George Winter, one of the sponsors, and Thomas Doughty, who was in command of the soldiers and ranked with John Winter. The crews were signed on for Alexandria, as mentioned, but some probably suspected other intentions, particularly those who had been with Drake before on the Spanish Main.

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1. See John Cooke's account, N. M. Penzer, ed., The World Encompassed, p. 164.
2. See Wm. Camden's account, H.R. Wagner, Sir Francis Drake's Voyage, p. 319.
3. See Oxenham's pledge to accompany Drake, p. 9, supra.

INTRODUCTION

From Plymouth the fleet proceeded in good order down the Atlantic to the Barbary Coast of West Africa, thence to the Cape Verde Islands, where a Portuguese ship was taken and both it and its master, Nuño da Silva, an old pilot acquainted with the Brazil coast and apparently also the west coast of South America and New Spain, were taken along. The fleet then crossed the Atlantic to a point about 400 miles north of Montevideo and proceeded into the Rio de la Plata and then down the coast. To reduce the problem of keeping the fleet together, two small supply ships were disposed of before reaching the mouth of the Strait of Magellan.

On reaching a point near the mouth of the Strait, Drake turned back to look for the Portuguese prize which had disappeared astern, and after finding her, he put into Port St. Julian to winter before passing through the Strait. Here, Doughty was executed by beheading June 2, 1578, after being found guilty of attempting to overthrow Drake's command and disrupt the voyage; coincidentaly, it was here also that Magellan wintered and put down a mutiny that nearly overthrew his voyage.

Doughty's motives may never be known; it has been conjectured that Burghley put him up to it, but there is no evidence that he did. Jealously may have been one. Doughty was a man of considerably higher lineage than Drake, well educated and well connected with influential people. He was a military man, and by the custom of the time, the military were traditionally placed in command of seaborne expeditions. As he and Drake had apparently entered into plans for the voyage originally on a partnership basis, during the voyage Doughty evidently assumed that his position was at least equal to Drake's. There is some evidence also that he attempted to divert the voyage from entering the Pacific and confine it to an operation in the Atlantic. (1)

A significant turning point in the voyage occurred at Port St. Julian when on August 11 Drake called all of the company ashore to inform them of a matter of importance. After some speech calling upon all to work together, he ascertained whether or not all were willing of their

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1. See letter by Francisco de Zarate, Z. Nuttall, New Light on Drake, p. 208, and H.R. Wagner, Sir Francis Drake's Voyage, p. 376.

own free will to go on with him. On the affirmative, he then removed from office all of his officers, after which he related to the entire company that he had been sent for by the Queen and that it was she who ordered the voyage. Ceremoniously, each man was then reinstated to his former office with the understanding that henceforth it was not Drake whom they served, "for to saye yow come to serve me I will not gyve yow thanks, for it is onely hir Maiestie that you serve and this voyadge is onely her setting forthe." (1) So saying, he then sent them about their business, and August 17 departed Port Saint Julian with three ships only; the Pelican, Elizabeth, and Marigold.

At Cape Virgenes off the mouth of the Strait of Magellan, Drake caused the fleet to strike their topsails in homage to Elizabeth and as a token of obedience and her right to new discoveries. At this time too he changed the name of his flagship from the humble, workaday Pelican to the Golden Hind, (2) a change perhaps inspired with a view as to what lay ahead and possibly too with respect to courting further favor on the return with Hatton, whose crest was a hind passant or.

The second day after passage through the Strait, the fleet was beset by very heavy weather from the northwest. Because of the false impression given by Drake's charts, which followed the erroneous Mercator-Ortelius practice of showing a great westerly spread to the southern part of South America, he hove-to on a west-southwest heading to avoid a supposed lee shore instead of working northward. This fateful choice drove the ships eventually down to 57° latitude with 52 days of constant fearsome gales and mountainous seas and near destruction on the shores of Tierra Del Fuego. The Marigold was overwhelmed and lost and the Elizabeth became separated near the mouth of the strait and returned to England. The only consolation for Drake was that he had discovered an open

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1. See John Cooke's account, N. M. Penzer, ed., The World Encompassed, pp. 163-167.
2. World Encompassed, Francis Fletcher and John Stow spell the name Golden Hinde, which is probably the correct, original spelling. Most modern writers, however, use Golden Hind, which is used here throughout. See N. M. Penzer, ed., The World Encompassed, pp. 27, 134, 181, and H. R. Wagner, Sir Francis Drake's Voyage, pp. 304, 305.

sea below South America that presumably joined the Atlantic and Pacific Oceans.

Prior to separation of the ships, rendezvous points were established at the mouth of the strait, at 30° South in Peru (1) and at 2-1/2° North at Cape San Francisco a few degrees south of Panama; (2) a final meeting place in the Moluccas was designated. (3) Finding no one at the straits, Drake continued alone, stopping long enough to assemble one of the pinnaces brought from England in the hold of the Golden Hind, and met with considerable success in seizing shipments of gold and silver from ships and coastal towns. At Lima, the capital of Peru, he found only empty ships anchored in the roadstead of Callao, but just before reaching here he learned from the crew of a captured ship that a ship with a cargo of silver had departed that port for Panama two weeks before with the intention of lading from ports along the way.

This ship, the Nuestra Señora da la Conception, commonly referred to as Cacafuego, was overtaken and captured in about 1° north of the equator on March 1. When taken, her master, San Juan de Anton, was found alone on the deck and only ten or eleven persons were on board, of which five were sailors and the rest passengers.(4) This incredibly small crew was typical for the many ships encountered on the South American coast, and regardless of the wealth carried in them, all were unarmed. About 26 tons of silver, 80 pounds of gold and 13 chests of silver coin were taken on board the Golden Hind from the Cacafuego. (5) With this lading completed on March 7, the Golden Hind was loaded to capacity. Drake considered his mission accomplished for all practical purposes and now contemplated his means of returning to England.

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1. See N. M. Penzer, The World Encompassed, p. 31. See also Edward Cliffe's account, p. 198, op. cit.
2. See Z. Nuttall, New Light on Drake, p. 94.
3. See John Winter's report, E. G. R. Taylor, "More Light on Drake," M. M., Vol. XVI, p. 150, pars. 28, 30, 32. In this, Winter also confirms the intention of going to Peru.
4. See Z. Nuttall, New Light on Drake, p. 159.
5. See "Anonymous Narrative," H. R. Wagner, Sir Francis Drake's Voyage, p. 270.

INTRODUCTION

In response to a question by San Juan de Anton as to how Drake considered returning, Drake said that he had four possible routes and pointed to three on a chart of the world; by the Cape of Good Hope; by the Strait of Magellan; by Norway (presumably the Northeast Passage over the top of Asia). (1) He did not identify the fourth, but his added comment that he expected very shortly, in less than six months, to be back in England gives a clear suggestion that he now considered abandoning a voyage around the world by way of the Moluccas and that he had given up hope of finding the missing ships, as nothing had been heard of them while coming north.

World Encompassed mentions a decision made at this point probably taken from the minutes of a council meeting recorded by the ship's chaplain, Francis Fletcher. (2) The account states:

> . . . that the time of the yeare now drew on wherein we must attempt, or of necessitie wholly giue ouer that action, which chiefly our Generall had determined, namely, the discouery of what passage there was to be found about the Northerne parts of America, from the South Sea, into our owne Ocean (which being once discouered and made knowne to be nauigable, we should not onely do our countrie a good and notable seruice, but we also ourselues should haue a nearer cut and passage home; where otherwise, we were to make a very long and tedious uoyage of it, which would hardly agree to our good liking, we hauing been so long from home already, and so much of our strength separated from vs), which could not at

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1. See deposition of San Juan de Anton, H. R. Wagner, Sir Francis Drake's Voyage, p. 365.
2. On voyages of this type it was customary for the commander of the expedition to hold council meetings for all matters of general importance. Francisco de Zárate described Drake's manner of holding council meetings with his officers and some of the gentlemen: ". . . he calls them together for any matter, no matter how simple it may be, although he takes orders from no one but takes pleasure in hearing them, and having done so gives his orders." See H. R. Wagner, Sir Francis Drake's Voyage, p. 376.

all be done if the opportunity of time were now neglected. (1)

Because the Moluccas were clearly the destination after leaving the Central American coast, the decision to seek the Northwest Passage becomes necessarily one of expedience. The sources indicate that Drake was expected home at the end of the summer of 1579, so the attempt to seek the passage at this time was undertaken perhaps as much to appease the crew as in hope that the feat could be accomplished. Many months had been lost through unforeseen circumstances; one lost at the start; the passage down the Atlantic was unexpectedly long because of frequent calms; nearly two months lost at Port Saint Julian; nearly two weathering gales below the Strait of Magellan. Taking all into account, the lost time would nearly have allowed the return date to be met. At Cape San Francisco in early March, there was a fairly good chance that Drake could reach the Arctic regions of the passage in midsummer and with the help of Atlantic westerlies be home by the end of summer. As his subsequent navigation proved, he would have come close to making his prediction come true if he had found a clear passage.

In any case, Drake had no choice but to go on to the north, as the next order of business required that a place be found to obtain fresh water and to careen the Golden Hind because her bottom was foul. (2) To accomplish this he ran for the coast of "Nicaragua" (Costa Rica), which he reached March 16 at about 8° 40' North and came to anchor in a bay about a mile offshore between the Island of Caño and the mainland. There being no suitable beach or inlet, he was compelled to careen in the open roadstead.

At the Island of Caño, Drake had the supreme good fortune to capture a small bark, or fregata, bound for Panama with passengers, among whom were two expert pilots for the route to the Philippines, Alonso Colchero and Martin de Aguire, who were to take a new governor, Gonzalo Ronquillo, to the islands. Included in their papers were navigation charts and sailing directions, and from these Drake probably obtained for the first time an up-to-date impression of the North Pacific

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1. See N. M. Penzer, ed., The World Encompassed, p. 47.
2. Ibid., and the deposition of San Juan de Anton, H. R. Wagner, Sir Francis Drake's Voyage, p. 367.

and the actual route of the Manila galleons. (1)

Acquisition of the charts and a pilot experienced in the actual navigation across the Pacific apparently brought about a change in Drake's plans, causing him to again consider the Moluccas and the Cape of Good Hope route. Although he may have been acting a ruse to deceive pursuers by changing his mind, on the whole it is unlikely; he was giving up an uncertain navigation for one that was proved, as he now had charts and a pilot to guide him. In Famous Voyage we find a decision on the matter probably extracted again from the notes of a council meeting, this time held at the Island of Caño following the capture of the bark. Of interest in this passage, aside from the navigational aspect, is the reference to the motives behind the recent raid and the implications of Elizabeth's stake in the results attained.

> . . . Our Generall at this place, and time, thinking himselfe both in respect of his priuate iniuries receiued from the Spaniards, as also of their contempts and indignities offered to our countrey and Prince in generall, sufficiently satisfied, and reuenged: and supposing that her Maiestie at his returne would rest contented with this seruice, purposed to continue no longer vpon the Spanish coasts, but began to consider and to consult of the best way for his Countrey.
>
> He thought it not good to returne by the Streights,for two speciall causes: the one, least the Spaniards should there waite, and attend for him in great number and strength, whose hands he being left but one shippe, could not possibly escape. The other cause was the dangerous situation of the mouth of the Streights in the south side, where continuall stormes raining and blustering, as he found by experience, besides the shoales, and sands vpon the coast, he thought it not a good course to aduenture that way: he resolued therefore to auoid these hazards, to goe forward to the Islands of the MOLUC-

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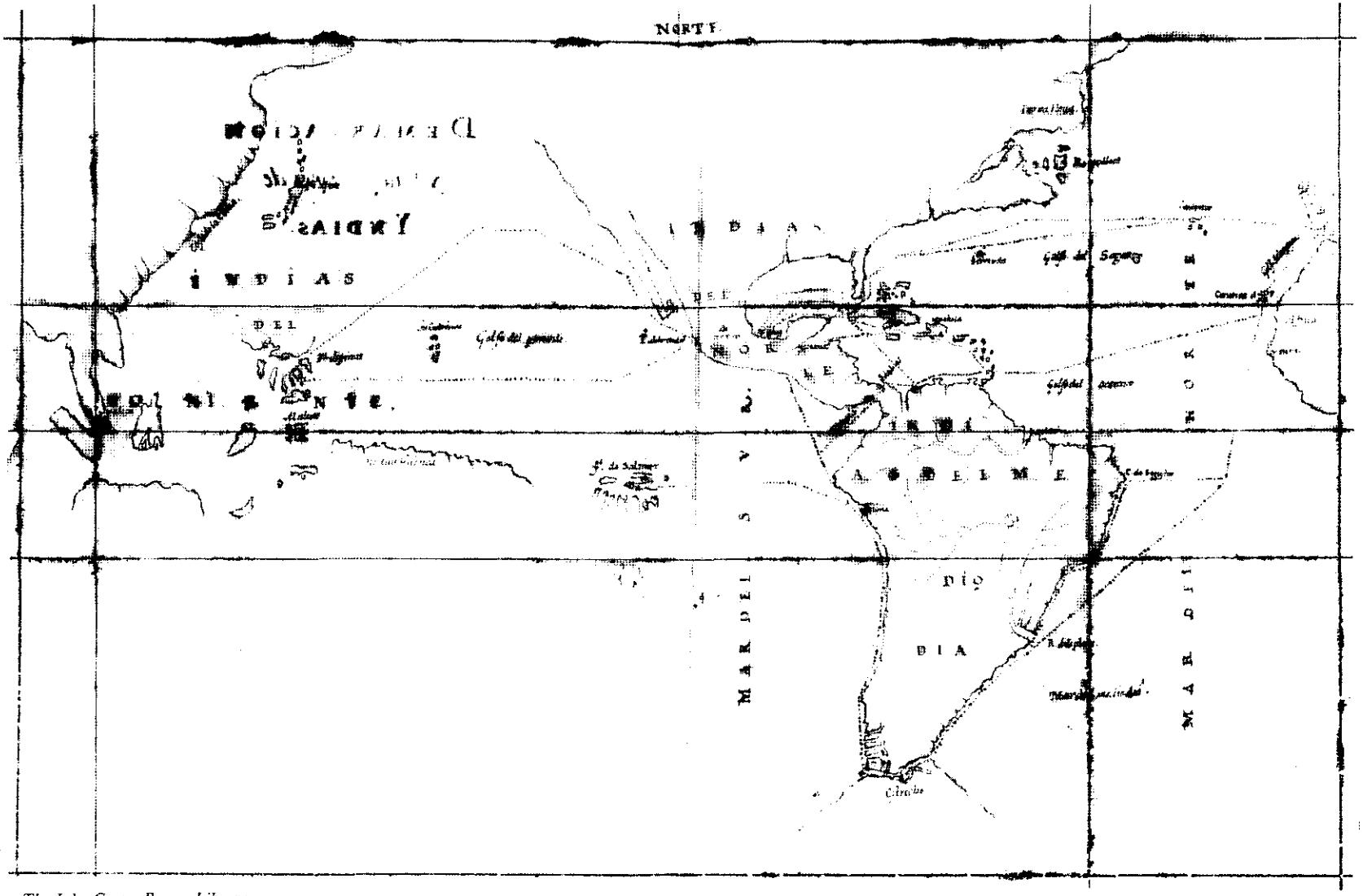
1. See depositions of the passengers and crew of the bark in H. R. Wagner, Sir Francis Drake's Voyage, p. 372; and Z. Nuttall, New Light on Drake, pp. 184, 186, 197. See also remarks by Pedro Sarmiento, Nuttall, p. 81.



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SPANISH MAP ON PLANE CHART PROJECTION BY LOPEZ DE VELASCO, ABOUT 1580, SHOWING THE SPANISH SAILING ROUTES. THE OUTBOUND MANILA GALLEON ROUTE IS SHOWN CROSSING WESTWARD IN ABOUT 12° LATITUDE AND THE RETURN REACHING TO 42° LATITUDE.

> CAES, and therehence to saile the course of the Portingals by the Cape of BONA SPERANZA.
>
> Upon this resolution, he began to thinke of his best way to the MOLUCCAES, and finding himselfe where he nowe was becalmed, he sawe, that of necessitie he must be forced to take a Spanish course, namely to saile somewhat Northerly to get a winde... (1)

The west-bound crossing for ships going to the Philippines was made almost entirely on or near the latitude of 12° North, where they took full advantage of the Northeast Trade winds and yet were well enough north to avoid the equatorial countercurrent setting east. The situation of the Golden Hind was then considerably south and a great distance east of Acapulco, the customary starting point for the westward crossing, and the statement above reflects Drake's knowledge of the route.

Leaving the Island of Cãno, Drake took the elderly senior pilot, Colchero, with him on the Golden Hind and exchanged his pinnace for the bark, giving the passengers and crew of the bark enough provisions to reach port. One of the passengers later related that "They [the English] were going to strengthen the bark with a solid wale so as to enable her to carry more sail and be fit for the long voyage she would have to make in order to reach the Moluccas, for the launch could not make the crossing." (2) However, as the Golden Hind continued along the coast, Colchero steadfastly refused to accompany Drake on the Pacific crossing, despite all manner of inducements or threats.

Something clearly disturbed Colchero far more than the inconvenience of sailing with Drake, and as it turned out, something obviously

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1. See "Famous Voyage" in H. R. Wagner, Sir Francis Drake's Voyage, pp. 273-274. Though relating to the Island of Caño, Hakluyt has this passage out of place in the sequence of events, thus indicating that he had copied it from his source without understanding its relevance or intent.
2. See deposition of Cornieles Lambert, Z. Nuttall, New Light on Drake, p. 184.

caused Drake to change his mind, for he could have taken the pilot whether he liked it or not. What must have been a new and disturbing element in his new plan probably came to light in the course of Colchero's refusal to accompany him, specifically, that the instructions governing the Manila Trade called for the galleons to depart from Acapulco no later than the end of March, the latest date that they could sail to avoid the dreaded typhoon season in the Philippines. (1) It was not until March 25 that Drake left the island of Caño and he was then 810 nautical miles east of Acapulco in a region of calms -- clearly too late for him to attempt crossing the Pacific, and he still had to complete watering before leaving the coast.

On April 4, a small coaster carrying passengers and cargo from Acapulco was detained and rifled on the coast of El Salvador, and Colchero was placed on board. Colchero still believed that Drake was going to make the Pacific crossing, as a deposition that he later gave stated that Drake was going to return by the Moluccas route, (2) but the owner of the ship, Don Francisco de Zárate, with whom Drake conversed at great length, merely said that Drake was going straight to his country and that he had an intense desire to return. (3) The statement gives just a bare hint that the Northwest Passage was again in Drake's mind, but there can be no doubt that it was.

On April 13 the Golden Hind reached the small port of Guatulco and entered. As there were only seventeen Spaniards in the whole town, it was easily taken, and Drake had a free hand in completing his watering, getting in firewood, and providing himself with whatever provisions were at hand. From a ship in the port he seized a cargo of native wearing apparel, part of which included the Indian women's colorful cotton petticoats called huipiles. Zelia Nuttall, in New Light on Drake, suggests that part of this cargo must have included native blankets, or zarapes. (4) These would have been useful for bedding and making clothing for the

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1. See William Lytle Schurz, The Manila Galleon, pp. 279-280.
2. See deposition of Alonso Sanchez Colchero, Z. Nuttall, New Light on Drake, p. 197.
3. See Francisco de Zárate's letter, Z. Nuttall, New Light on Drake, p. 206.
4. See Z. Nuttall, New Light on Drake, p. 242.

cold weather expected in the north. Another suggestion of some interest is given by one of the Spanish officials at Guatamala that the clothing was taken to be used in barter for food with the Indians of California, where it was assumed that Drake would go to lay over before returning by the way he came. (1)

Nuño da Silva, the Portuguese pilot who accompanied Drake from the Cape Verde Islands, gave the last word on Drake's intended route. He was left at Guatulco for reasons that are nowhere stated, though reasonably this was done by mutual agreement between himself and Drake, who apparently held him in good esteem. In the event that a passage was not found, the voyage promised to be very long and involving a considerably element of risk and hardship. Under the circumstances, da Silva may have concluded that he had a fairly good chance of making his way home by way of Mexico City and the regular plate fleet from Vera Cruz to Spain. (2) From Drake's point of view, da Silva provided a means of getting word to England of his intentions for the return voyage, particularly in view of the possibility that if he did not find a passage he would have to take the long way home via the Cape of Good Hope and would be at least a year overdue. Unforeseen was the fact that the Spaniards in Mexico took a dim view of da Silva, and it was not until 1582 that he returned home.

In the sworn deposition made by da Silva before the Tribunal of the Inquisition at Mexico City, May 23, 1579, he stated the following:

> He often told this deponent and some Spaniards he had taken prisoners, that he was bound to return by the Strait "de Bacallaos" [i.e. of Stockfish], which he had come to discover and that, failing to find an exit through the said strait, he was bound to return by China. This deponent

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1. See Z. Nuttall, New Light on Drake, p. 105.
2. Some evidence that da Silva was contemplating this is afforded by one of Drake's prisoners at the Island of Caño who "had heard one of the Englishmen ask the Portuguese pilot if in eight or nine months he would be in his own country, to which he responded that inside of four months he would be there." Da Silva's optimism is clearly not with reference to Drake's return to England but with the prospect that he could catch the summer sailing of the plate fleet for Spain. See Landberg deposition, H.R. Wagner, Sir Francis Drake's Voyage, p. 371.

> believes the above statment to be true, because if he had had the intention of returning through the Strait of Magellan, by which he came, there would have been no necessity for him to have come to the coast of New Spain. Moreover, when half way through the Strait, he cut down, and had carried to his ship, the trunk of a tree which was 15 or 20 handbreadths wide and so thick that it took two men, less one cubit, to engird it. He ordered this trunk to be stored in the hold as ballast, saying that he was going to take it to the Queen of England as a sign that he had passed the Strait -- which he would have no need to do until his return voyage if he had contemplated returning that way. He also said that he was obliged to be back in his country by August, 1579. He told all the prisoners he made in the South Sea after seizing the "Nao Rica," that he came in the service of the Queen, his Sovereign Lady, whose orders he carried and obeyed, and that he had come for a greater purpose than that of seizing vessels. In Guatulco he took out a map and showed that he was bound to return by a strait that was situated in 66 degs. and that if he did not find it, he was to return by China. On the bronze cannon he carried in the pinnace, there was sculptured the globe of the world with a north star on it, passing over. He said that these were his arms and that the Queen had conferred them upon him, sending him to encompass the world. (1)

A point brought out by da Silva is often overlooked by modern historians, namely, that if Drake failed to find a passage across North America, he would return to England by way of China. He had nothing to lose by doing this; the time of year was not right to take the Philippine route, and if he did not find the passage, he would at least contribute to the improbability of its existence. In that event, he would merely continue on his voyage by a circuit of the North Pacific and down to China, where trade opportunities might be found, and thereby circumvent the typhoon season in the Philippines. Inasmuch as a circuit of the North Pacific lies very nearly along a great circle track from Guatulco

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1. See da Silva's deposition, Z. Nuttall, New Light on Drake, p. 317-318.

to China, as traced on a globe, it could easily have been assumed that this navigation would not have taken a great deal more time than the equatorial route of the Philippine ships. It is entirely possible, too, that this route was planned in England as an escape course from Panama, as the Northwest Passage and trade with the Orient was the topic of the hour when Drake left England; it may well pertain to the "greater purpose than that of seizing vessels" referred to by da Silva. (1)

The navigation charts of Colchero probably gave Drake an encouraging concept of the northwest coast of North America different from that shown by the Mercator and Ortelius maps, for example, which projected the continent excessively far to the west. As can be seen in Chapter IV, examination of the navigation to this coast discloses that the Spanish impression of the general trend of the continent did not differ greatly from its true configuration as it is known today. The extent of their discoveries on the coast at this time, however, reached only to 42° or 43° latitude at a cape named Mendocino, and their charts either terminated here or continued for a few leagues in a northeasterly direction, as shown on some maps of the period. This circumstance probably encouraged Drake to expect a shorter route home, as it fitted with some of the more optimistic concepts of the passage current at the time. (2)

Pedro Sarmiento de Gamboa, a veteran pilot of the South Sea, who gave chase to Drake from Peru to Panama, aptly sums up the thinking that would surely have passed through Drake's mind on the subject of escape across the top of North America.

> It is known that this thief knows that there is no other means of escape except by the coast of Nicaragua, New Spain, and that he talked about it, all of which the Portuguese

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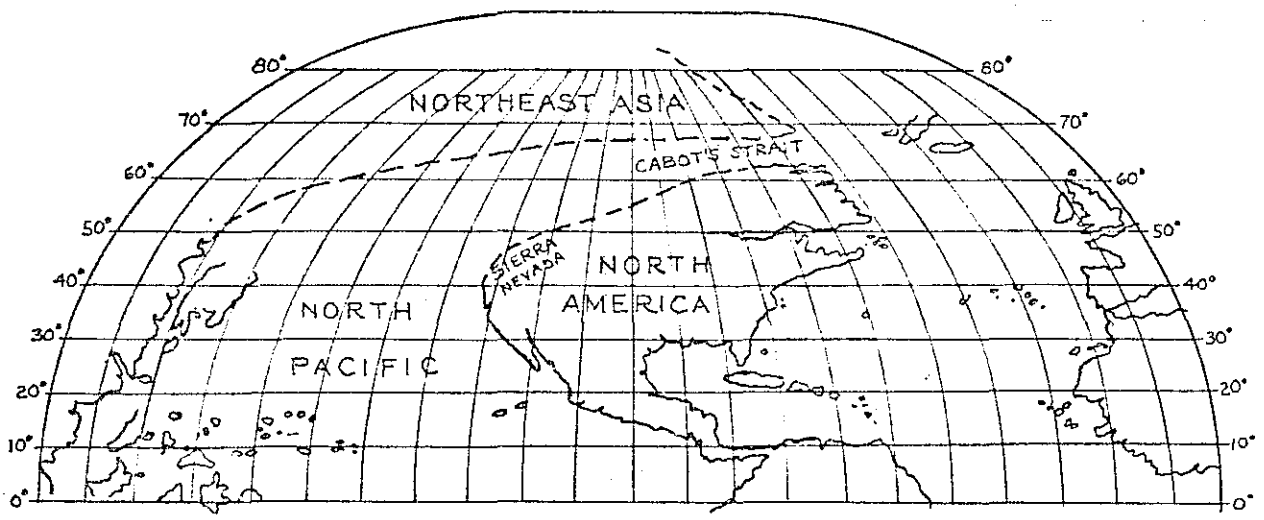
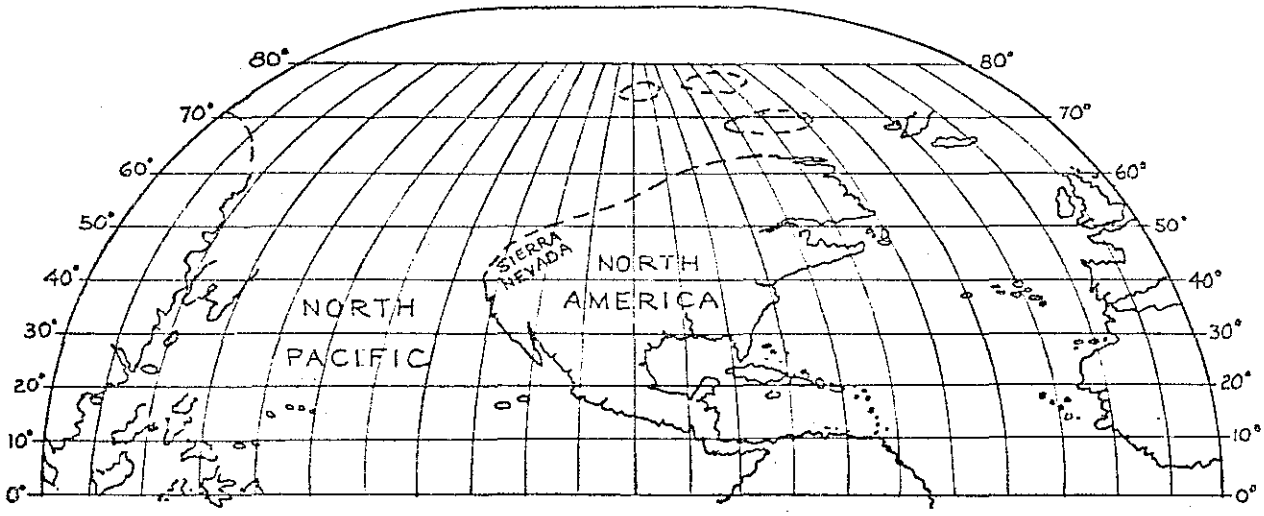
1. Drake's sponsors, Hatton, Walsingham and Leicester, were all closely acquainted with John Dee, one of England's foremost geographers and proponents of the Northeast and Northwest Passages, and it is probable that he encouraged an effort to look for them on this voyage. Dee was well known at court and influential also with the Queen.
2. See illustrations of Sebastian Cabot's and John Dee's concept of the Northeast and Northwest Passages.

pilot, who is with him, would tell him as he is well acquainted with that coast, having sailed a long time along it, being a Portuguese who some twenty-one years ago ran off with 30,000 pesos of gold which was delivered to him in Guayaquil to take to Panama. He fled with this money and nothing more has ever been known of him until now when he was recognized by the pilots whom the Englishmen had captured. From this pilot he would have information that along that coast there was no Spanish town nor Indians who could resist him nor do any harm to him, nor ships which could follow him, but he could go ashore wherever he wished. He also would know that on that coast there could be no news of his coming, and so he could rob certain ships which carried on the cacao trade and were accustomed to carry some money to Zonsonate, as well as some of the ships which are accustomed to come from the Philippines, with gold and objects of great value, things much coveted by a thief. To this I added, what is more for the safety of the navigation, that from the month of March, in which we now are, to September, it is summer and the hot season, up to Cape Mendocino in 43° by which he has a short and easy route to return to his country from this sea. This route, although it is not known by the pilots around here because they do not sail ordinarily in that region, is known to the cosmographers, especially to the English who sail to Iceland, the Bacallaos, Labrador, Totilan, and Norway. To these it is well known and the high latitude does not freighten them. As this Corsair is a navigator of the countries above referred to and well versed in all navigations, it may be suspected and believed that he knows it, and one who has the spirit which he has shown will not shrink from undertaking this route, especially as the summer season of the Arctic pole and gain from what he may steal are in prospect.

. . . The winter on that coast is from September to March and the spring and summer is from March to September so that during that period there is no necessity to winter and still less in places inhabited by Christians up to Culiacan in 24°. To winter would be besides a loss of time in his journey to England where he is going, because



SEBASTIAN CABOT'S THEORY



JOHN DEE'S THEORY

The diagrams above illustrate two theories relating to the Northwest Passage that were current in the mid-sixteenth century. Both were important in the plans of an English joint-stock company organized in 1552-53 under the governorship of Sebastian Cabot, who claimed to have discovered the eastern entrance to the Passage, and both would have been familiar to Drake and his peers. The diagrams combine the theories with the later knowledge of the North Pacific shown on Hakluyt's "Peter Martyr" Map of 1587, a conception of the Pacific that was probably known to Drake through Spanish charts.

> having arrived at 43°, that is, Cape Mendocino, these winds cease and the west winds blow, with which he would continue sailing with the wind astern towards the east to the land of Labrador which is in the neighborhood of England. (1) A man like Francis who understood this would not wish to lose his time nor risk his life in robbery, and therefore I have always publicly said that by the route above Florida, which is the one referred to, the Corsair would go to England during the months of August and September of '79. (2)

Before pursuing Drake into the North Pacific, we will deviate briefly to examine the Golden Hind and her small consort, the problem of graving and repairing the ship, and the procurement of fresh water and fuel for cooking, as these factors have a bearing on his activities on the California coast. In addition, it is of some interest to assess the number of people who were in the ships when they came to California.

Dimensions for the Golden Hind have never come to light beyond several varying figures for tonnage, dimensions for a proposed dock in which to house the ship as a memorial and a statement given in the accounts that she required thirteen feet of water to float. By reconstructing the ship on the basis of all of the facts available, it can be ascertained that the Golden Hind was about 78 feet between stem and sternpost, 22 feet in breadth and had a loaded draft of 13 feet. The best portrait of the ship is the view of her aground shown in an inset view on the Hondius Broadside Map, which shows a ship with a lower gun deck, open waist, forecastle, half deck and poop cabin. In proportion, she had a short, deep hull, relatively narrow for her depth.

From a description of the Golden Hind given by the Portuguese pilot, Nuño da Silva, we know that she was French built and not new. (3) The characteristics of the Golden Hind are that of a private warship, though at this period the merchantman and warship often doubled in both

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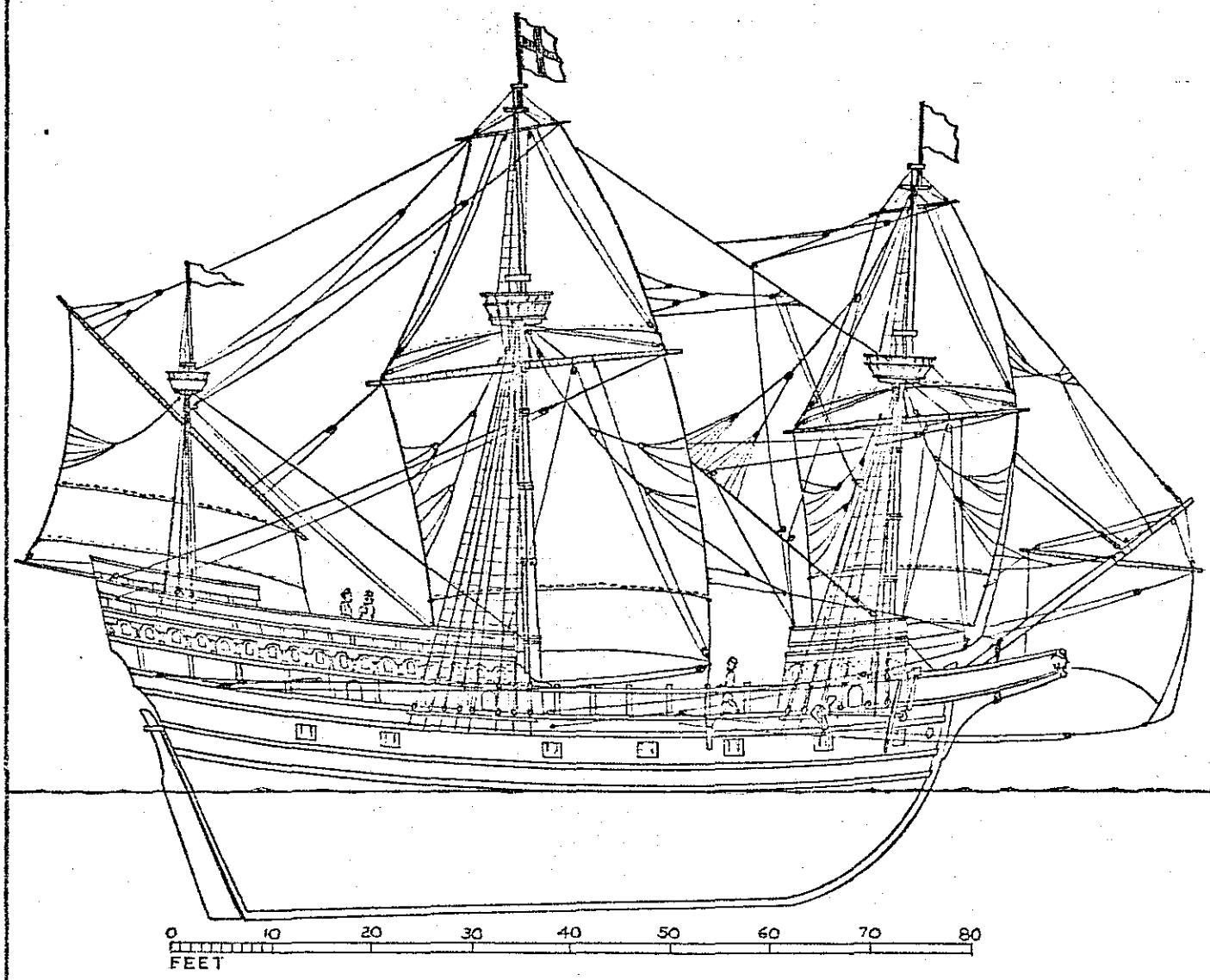
1. The meaning here is that they line in the same latitudes.
2. See the account of Pedro Sarmiento, H. R. Wagner, Sir Francis Drake's Voyage, pp. 393, 395.
3. See Z. Nuttall, New Light on Drake, pp. 302-303, and H. R. Wagner, Sir Francis Drake's Voyage, p. 348.

roles. The warship was of heavier construction than the ship built purely for trade, and she was designed to accommodate armament with emphasis on offense.

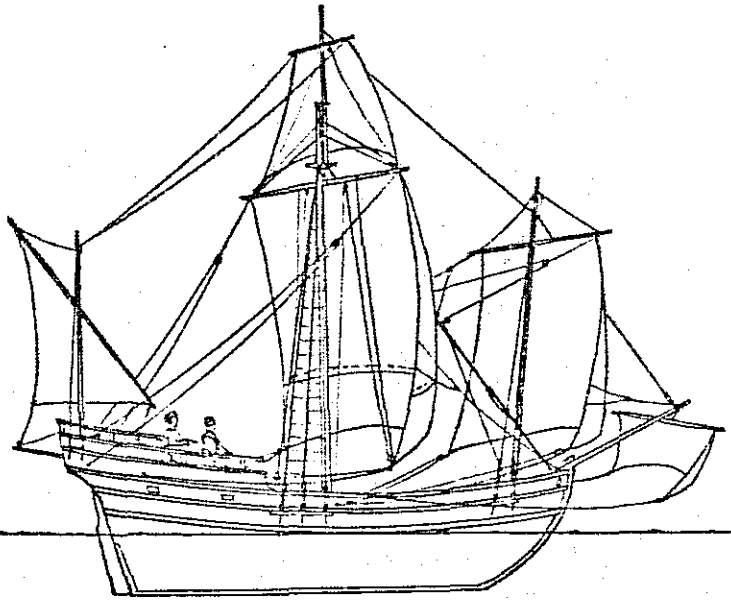
The Golden Hind carried 18 guns, at least twelve of which would have been of the class known as a saker, between 1600 and 2000 pounds in weight and about 8-1/2 to 9 feet total length, firing a shot of about 5-1/2 pounds. The remaining guns, four of which were of brass and especially cast for Drake with his arms on them, were probably minions of about 1000 pounds, or less, and intended to arm the half deck and forecastle. There were seven gunports on each side on the lower deck and two in the stern; the half deck had two ports on each side and the forecastle one on each side. From Spanish sources it is known that when the ship sailed into the North Pacific from Guatulco, her lower deck ports were closed and caulked and the guns stowed in the ballast. Reconstruction of the Golden Hind shows that when these guns were drawn inboard and stowed for sea, they took up a great amount of space and made it extremely difficult to get about below decks.

From da Silva, we learn that the ship was very stout and strong, well fitted with good masts, tackle and sails, and was a good sailer, answering her helm well. She was staunch when sailing with the wind astern if it was not very strong, but in a sea that made her labor, that is, to roll heavily, she leaked considerably. She was double sheathed, each sheathing being equally well applied and finished.

Most of the hold would have been filled with stores, fresh water and ballast, which in this instance would have been bars of silver and chests of coin. The surgeon, steward, boatswain, carpenter and sailmaker, with their mates, probably had accommodations in the hold also, each in his assigned stores or work space. Most of the crew and soldiers lived on the gun deck, where they kept their personal seachests, ate and spread their bedding on the deck to sleep at night. A few of the more senior men probably lived under the forecastle. The officers and gentlemen volunteers would have had, or shared, small sleeping cabins measuring about 4 feet by 6 feet, constructed by the ship's carpenter as required under the half deck and between the guns, and they had the privilege of dining in the great cabin at the stern. Drake had the cabin in the poop to himself.



GOLDEN HIND
120 TUNS
(RECONSTRUCTION)



BARK SEIZED BY DRAKE
OFF THE ISLE OF CAÑO
AND TAKEN TO CALIFORNIA
15 TUNS
(RECONSTRUCTION)

R. Aker 1970

Drake Navigators Guild

The small ship that accompanied the Golden Hind into the North Pacific was of only 15 tons. She is usually described as a bark, the principal characteristic of which would be a ship without a projecting beak head. The rig could vary, but she was probably square rigged with two masts and a small mizzen, as one of Drake's prisoners said that he was going to add a main topsail.

This bark, which belonged to a man named Rodrigo Tello, particularly caught Drake's attention. He told one of her passengers that he could not return it because he did not know what need he might have for her at sea, as his own ship was leaking, and "that even if she belonged to his own father, he was not able to refrain from taking her." He added that he was going to provide a solid wale to make her more suitable for sailing in the open sea and that more oars or sweeps would be added.(1)

The chief reason for taking the bark was that she was more suitable for ocean sailing than the launch. She was decked and had accommodations for passengers as well as her crew, and she was probably of a good build and an excellent sailing boat. She was undoubtedly the fast, handy type called a fregata, which Drake developed a fondness for on the Spanish Main.(2) Transferring the launch's crew to the bark made it unnecessary to find accommodation for them on the Golden Hind, or carry on board the additional weight of food and water for them. When captured, the bark had fourteen persons on board, six of whom were passengers, and probably at least that number of Drake's men were embarked in her.

A further use for the bark was that she provided a means of exploring waterways and harbors without risking the Golden Hind in unknown waters. For careening the Golden Hind, she provided a convenient floating anchor point by which to heave down the ship, a function she served at the Island of Caño.

Translating 15 tons into dimensions, Tello's bark would have been

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1. See Z. Nuttall, New Light on Drake, pp. 184, 187-188.
2. Da Silva called it a frigate (fregata). See Z. Nuttall, New Light on Drake, pp. 251, 268, and H. R. Wagner, Sir Francis Drake's Voyage, p. 346.

about 38 feet between stem and stern post, approximately 10 feet in breadth with a deep draft of about 5 feet. When taken, she probably had an open rail, or perhaps a very low rail which Drake apparently intended to close in so that she would not be so prone to ship seas across her decks when under a press of sail.

One of the reasons for the success of Drake's voyage was his complete independence of the need for shipyard services. He carried carpenters, caulkers, coopers and even a forge and blacksmiths for making nails and other ironwork. Throughout the raid on the South American coast he augmented his stores with lumber, nails, cordage and canvas from Spanish ships.

Possibly one of the most important features of the Golden Hind was the ingenious underwater sheathing designed to protect the hull from the ravages of the marine borer. This sheathing, said to have been invented by John Hawkins, consisted of thin fir or pine boards nailed over a layer of heavily tarred animal hair. The boards were then coated with a composition consisting of tallow and sulphur, the function of which was to discourage marine growth and resist the attack of borers. In the event that borers penetrated the sheathing, it was assumed that because it was thin, they would find little to sustain themselves before they were stopped by the tar and hair.

Regardless of the primitive antifouling, marine growths quickly attached themselves and cleaning and tallowing was necessary every few months. During the voyage around the world, the Golden Hind was cleaned and graved at least six times at intervals ranging from two to five months.

Although the ship had been careened at the Island of Caño in March, a leak that apparently could not be corrected there because of the exposed anchorage made it imperative to either ground or careen her again on the California coast so that an effective repair could be made. The account known as the Anonymous Narrative states that Drake "grounded his ship to trim her," which is to say that he caused her to come aground at high tide at some selected place in his port so that as the tide receded the marine growth below the waterline of the ship could be scraped off. Grounding required a firm sand or gravel bottom free from rocks that might puncture the hull. Shores were required to prevent the hull from

falling over as the water left her dry. Although a small list might be tolerated, the ship could not be laid over on its bilge or side. Because of the ease and convenience of drydocking a ship in this way, grounding was widely used wherever the range of tide permitted, particularly in Northern Europe. On the California coast the range of tide is only between four to six feet, and therefore would not have been sufficient to completely grave the Golden Hind or permit repairs to her leak, but it was probably resorted to as much as the tidal range allowed.

To reach the keel and garboard strakes, it would have been necessary to careen the Golden Hind. This was a hazardous operation that required an experienced crew, and it is interesting that one of the Spanish prisoners related that Drake had such people with him. For careening, it was necessary to lighten the ship as much as possible. Then while she was afloat, she was layed over on her side by a combined shifting of weights in the hold and heaving her down by means of a tackle fixed to the mast and rigged to an anchor point on a beach or a hulk lying alongside. Because it is stated in World Encompassed that the Golden Hind was brought to anchor nearer to the shore so that her goods could be landed and the leak repaired, it is probable that careening was resorted to in California.(1)

Careening could be done in deep water any distance from shore by heaving down to a small ship lying alongside, as was done at the Island of Cano, but it was safer to heave down to, or near, a beach in relatively shallow water, as there was less chance of losing the ship by accidental loss of stability. An advantage of careening was that the keel could be brought entirely out of the water, and there was no dependency on the tides. Repairs to the underwater hull could be left open as long as necessary to complete the work.

The requirement for safe harborage for either careening and gounding is an important factor for locating the site of Drake's haven in California. Both operations placed the ship in a hazardous situation that could result in capsizing or serious damage to the ship's structure. There was an element of danger by flooding and sinking if it became necessary to remove bottom planking to make repairs, and for this

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1. See. p. 158, infra.

reason in particular, it was essential that grounding or careening be done in a completely protected harbor, out of strong currents and free from the surge of sea or swell.

An open anchorage was used for careening on two occasions prior to reaching California, but neither was completely satisfactory. From the account of Pedro Sarmiento de Gamboa, the careening at Salada Bay in Chile almost ended in disaster, as the ship started to capsize but was saved by the use of a shore (candaleta, or stanchion). (1) At the Island of Caño, Drake wanted to find a suitable beach where he could careen or ground his ship, as she was then leaking. The critical nature of his need is given by the master of the Cacafuego, San Juan de Anton, who said that Drake's ship ". . . is full of barnacles and in great need of being put on land and repaired. The Captain asked me if in the island of Lobos, which is beyond Paita towards Lima, there was a good port to put his vessel on shore." (2) The careening at the Island of Caño served for cleaning the bottom but apparently was of no help to correct the leak, and therefore we can expect that at California Drake sought a more suitable careenage.

Most of the ports of Drake's day were located near the mouths of rivers; some lay behind protecting barrier spits. They were generally small and relatively shallow, and many offered an inner port where ships could safely lade their goods or make repairs. Some of the ports were minute by modern standards, especially those used for careening. At Plymouth, where Drake assembled his ships, the principal harbor was the Cattewater; it included the small inner port called Sutton Pool, where ships could be careened and shipbuilding done.

Besides the need of periodic graving, the replenishment of fresh water and firewood was required at intervals of three to four months. Fresh food and meat was taken wherever the opportunity afforded, but watering was a major operation that demanded regular attention, and a surprisingly large quantity was required, even though its use was limited to drinking and cooking. From a statement by da Silva we can gain a good estimate of the quantity of fresh water that Drake took with him from Guatulco, and as much as it may seem, da Silva apparently did not

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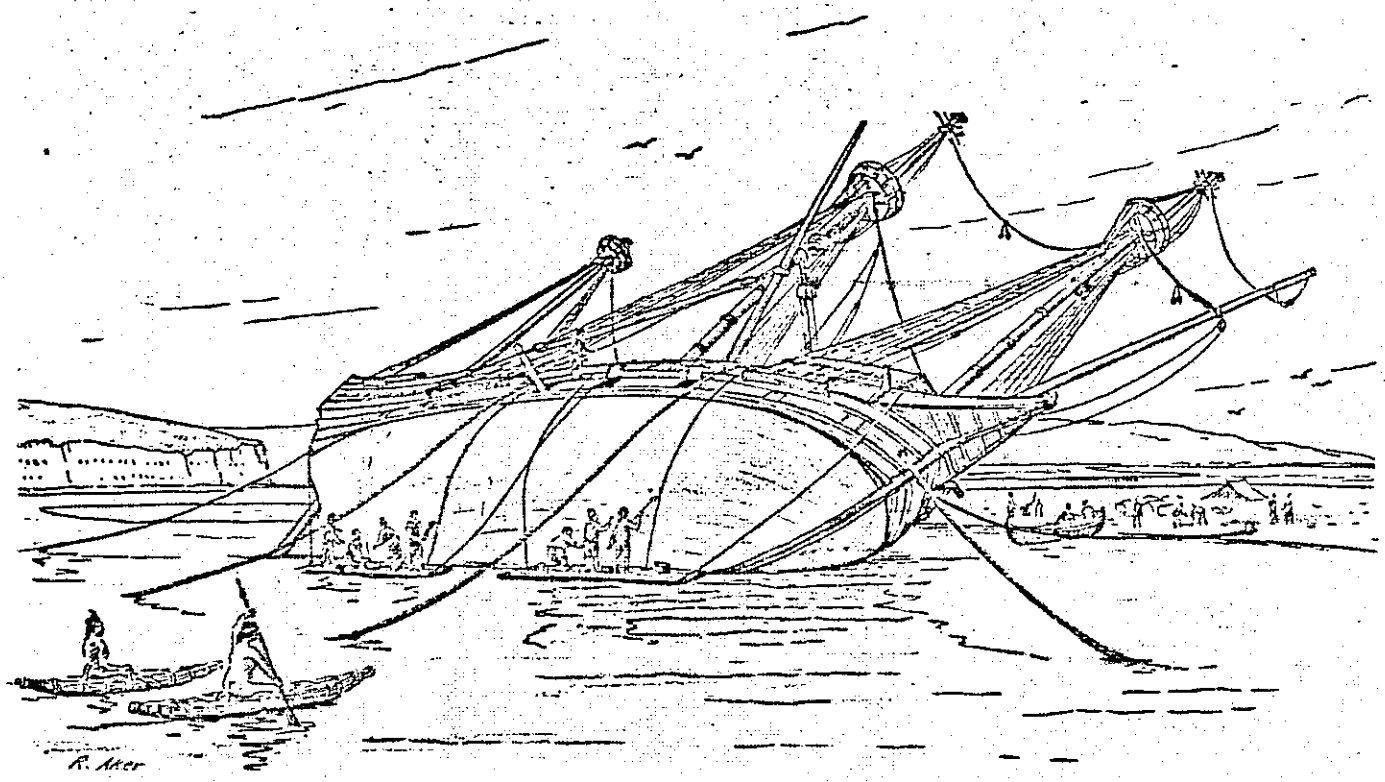
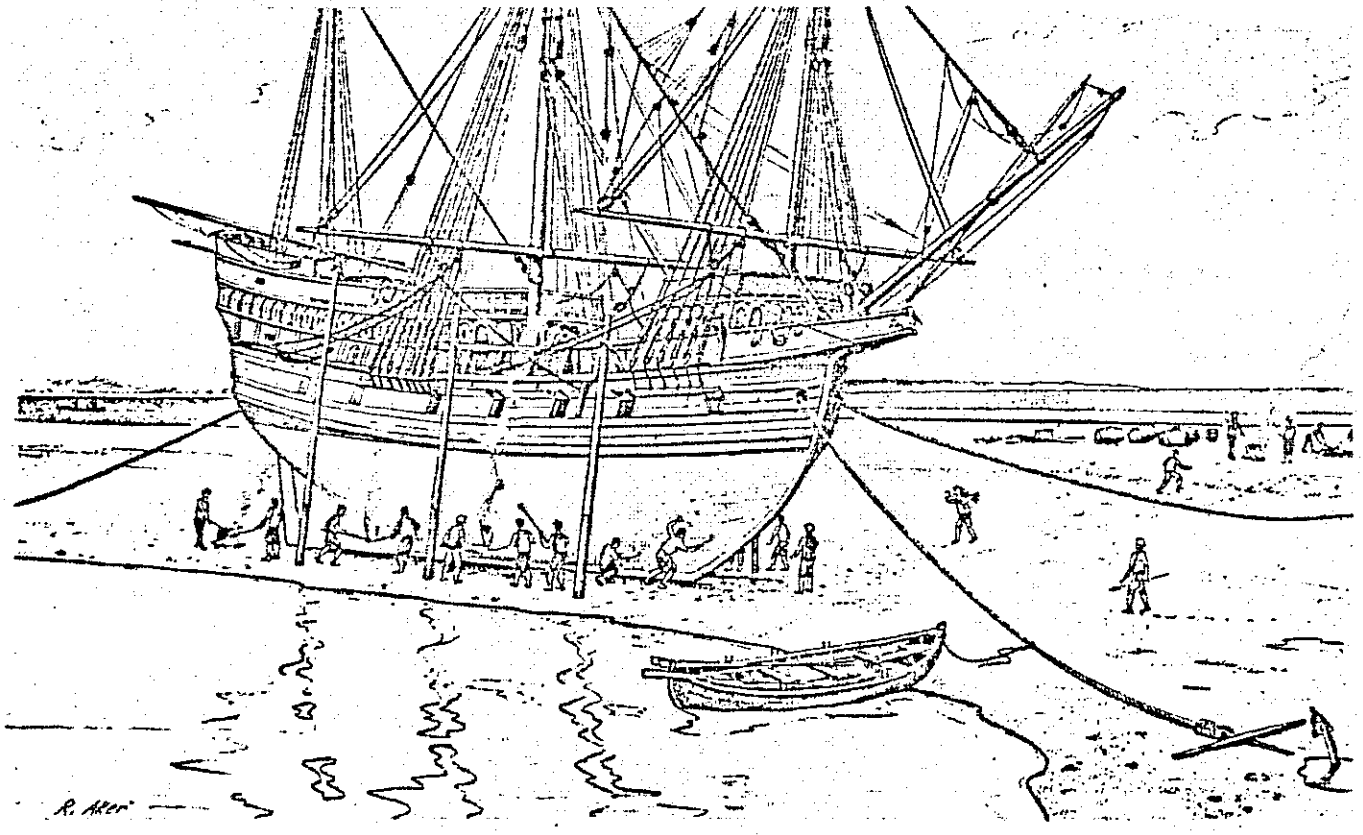
1. See H. R. Wagner, Sir Francis Drake's Voyage, p. 390.
2. Ibid., p. 367.



THE "GOLDEN HIND" CAREENED FOR REPAIR AND CLEANING



THE "GOLDEN HIND" GROUNDED AT LOW TIDE
FOR REPAIR AND CLEANING

regard it as adequate. He said that "After fifty days he will be forced to get a fresh supply of water, for he did not take more than 25 kegs of the same from Guatulco." (1)

The translation of da Silva's "keg" leaves some question as to the size of the unit referred to, but from a statement of John Drake in which he said that at the Cape of Good Hope they were reduced to three pipes of water, (2) the "kegs" were probably pipes, a barrel size containing 126 U.S. gallons and weighing approximately one half of a long ton when filled with water. The quantity of water taken from Guatulco would therefore have been about 3,150 U.S. gallons or 2,625 Imperial gallons, totalling about 12-1/2 long tons. In addition, he had some filled earthenware water jars that the Spanish often used in the Pacific for carrying water in their ships.

Verification for the above quantity of water is afforded by comparing the quantity that da Silva considered adequate for fifty days with the allowance stipulated in the latter part of the nineteenth century by the General Ship Owners Society of London for English merchant ships. This was three quarts of water per man per day. By the above estimate of water on board and da Silva's statement, the allowance per man for each day was about 2.5 quarts.

Surprisingly, exactly fifty days elapsed from the departure of Guatulco to landfall on the Oregon coast. No landing was made until a port was found in California, however, so it is improbable that the water supply was so reduced that any risk could be justified to take it on board, although one source tells us that Drake was looking for water. Careful rationing was undoubtedly enforced, as a study of the water consumption for the balance of the voyage indicates that considerably less than two quarts per man per day was consumed.

Getting fresh water out to a ship in the quantity required was not a simple task. All of the 12-1/2 tons or so had to be ferried from shore

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1. See deposition of Nuno da Silva, Z. Nuttall, New Light on Drake, p. 303, and H. R. Wagner, Sir Francis Drake's Voyage, p. 347.
2. See first declaration of John Drake, Z. Nuttall, New Light on Drake, p. 33.

to ship in the ship's boat, a craft 18 to 20 feet in length capable of carrying no more than two casks, or three at the most. Ferrying of any kind required a protected landing and also a reasonably sheltered anchorage for the ship, as otherwise there would be great risk of damaging the boat either on the beach or alongside the ship as it rose and fell in the swell. Further, the stowage of these heavy casks in the hold could be hazardous if there was any excessive rolling or pitching while riding at anchor.

Firewood for the galley was apparently acquired only in sufficient quantity to last as long as the water, as both could usually be obtained at the same time. It was an important item, though used only for cooking, and should be considered as part of the watering problem. Firewood had the additional function of bedding and wedging the casks in the hold.

The number of people on board the two ships sailing north from Guatulco is given most reliably from the testimony of Drake's prisoners taken at the Island of Caño, who agreed that the number was 86. (1) Of this number, three were boys. Two were negroes, one of whom Drake brought from England and had been with him on the Spanish Main, and the other a former Cimarron, was taken from a Spanish ship on the South American coast. (2) Before the Golden Hind reached Guatulco a young negro woman was taken along from Zárate's ship. (3) At Guatulco, a negro man was taken and Nuno da Silva was left behind, thus making the

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1. See Z. Nuttall, New Light on Drake, pp. 113, 181, 186.
2. The negro from England was said to have been with Drake for six years, the other was taken from the bark of Gonzalo Alverez near Paita. See Z. Nuttall, New Light on Drake, pp. 138, 171.
3. Anonymous Narrative describes the woman as "a proper negro wench called Maria, which was afterward gotten with child between the captaine and his men pirates, & sett on a small Iland to take her adventure..." She was left with the two negro men taken at Piata and Guatulco at a small island in the Celebes where the Golden Hind had remained a month for overhaul. Though her being left there may seem heartless, as a matter of practical consideration, her chances of survival from childbirth were more certain ashore than with the harsh life at sea on a crowded ship. See John Drake's declarations, Z. Nuttall, New Light on Drake, pp. 32, 53.

count eighty-seven. (1) Though da Silva's own statement said that Drake "took less than eighty-eight men", he adds the interesting information that "among the men were Frenchmen, Scotchmen, Biscayans and Flemings." (2)

The number of persons who manned Drake's launch was given by one witness as sixteen. This may be about the number of men regularly assigned to it, and because the number of persons on Tello's bark was 14, the crew probably transferred to her. The number of persons on board the Golden Hind would thereby be kept about the same as on her cruise along the coast from Chile; 71 or 72 persons as given by another witness. (3) An assessment of the number of people assigned to each ship on leaving Plymouth indicates that she then carried about sixty.

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1. See John Drake's first declaration, Z. Nuttall, New Light on Drake, p. 31.
2. See Nuño da Silva's deposition, H. R. Wagner, Sir Francis Drake's Voyage, p. 348. Da Silva mentions eight boys, which appears to be an error, as no other witness mentions that many.
3. See deposition of Nicolas Jorje, Z. Nuttall, New Light on Drake, p. 137.

CHAPTER II

THE CONTEMPORARY SOURCES

The accounts and maps discussed in this chapter comprise to all practical purposes the entire body of historical evidence now available for locating the site of Drake's landing place and encampment on the coast of California. It is anticipated that some fortuitous discovery will bring to light new evidence, but it is possible that these may remain the only sources. The documents leave much unsaid, perhaps intentionally in some cases, but collectively they provide a sufficient body of evidence to identify Drake's landing place.

THE ACCOUNTS

The one document that could at once have cleared away any uncertainty as to the landing place, Drake's illustrated log (journal), has apparently never again come to light since he presented it to Elizabeth at the conclusion of the voyage. The Spanish Ambassador, Bernardino de Mendoza, mentioned it in a letter to Philip, October 16, 1580: "Drake has given the Queen a diary of everything that happened to him during the three years he was away." (1) This was undoubtedly the book which Nuño da Silva, prisoner of Drake's, said: "Francis Drake kept a book in which he entered his navigation and in which he delineated birds, trees and sea-lions." (2) It was not unusual for such documents to be classified as secret, but in this case, despite the renown of the circumnavigation of the world for the second time in history, depredations had been committed against the King of Spain and his subjects with suspected connivance of the Queen, and there was obviously more than just hydrographic intelligence to be concealed. Further, there was need to protect Drake's tenuous claim to land in Elizabeth's name north of New Spain on the west coast of North America, a region vital to English interests if the Northwest Passage was found.

Ironically, the plaque which Drake posted to take possession of Nova Albion, a "plate of brasse," exists today as one of California's most treasured historical relics, but because it was not found in situ it must

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1. See Zelia Nuttall, New Light on Drake, note 1, p. 303.
2. Ibid. p. 303.

be counted among the least useful sources for locating his landing place. The plate was found in 1933 on the surface of the ground one and one half mile inland from Drakes Bay, retained by the finder for a few days and discarded at Greenbrae, California, where it was found again in 1936. Today, the plate is on permanent display at the Bancroft Library, University of California, Berkeley.

If we assume that the journal was kept secret, or even destroyed, it is unfortunate that other original accounts describing Nova Albion have not come to light. It can be taken as a certainty that Francis Fletcher, Drake's chaplain, kept notes on the voyage similar to the official and private diaries of Richard Madox, who was Chaplain on Edward Fenton's voyage. (1) It is probable also that some of the gentlemen adventurers accompanying Drake made notes of their observations, and that such notes, or diaries, were in fact kept is strongly implied by the title page of World Encompassed. If Drake had instructions similar to those governing Fenton's voyage, they would have required that all diaries and notes be turned over to the sponsors of the voyage, and these would probably have been given to the principals, for example, Hatton or Walsingham.

It can be readily surmised that the Queen banned publication of any detailed account of the voyage for a number of years afterward, as permission to publish a full account does not appear to have been granted until after the defeat of the Spanish Armada in 1588. England and Spain were then in a state of open warfare, and fear that publication of Drake's actions in the Pacific would jeopardize relations between the two countries would no longer be valid. Among the first to apparently take advantage of the relaxed censorship was Richard Hakluyt, who stated in the preface of the 1589 edition of his collection of voyage accounts, The Principall Navigations, Voiages and Discoveries of the English Nation, that he had intended to include an account of Drake's circumnavigation but had been persuaded by his friends not to anticipate "another man's paines and charge in drawing all the services of that Worthie Knight into one volume."

The man referred to by Hakluyt was apparently Philip Nichols,

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1. See E. G. R. Taylor, The Troublesome Voyage of Captain Edward Fenton, 1582-83.

editor of Sir Francis Drake Revived, an account of Drake's raid on the silver train from Panama in 1572-3. (1) Although the account was published for the first time in 1626 by Drake's nephew, we can see from an accompanying "Dedicatorie Epistle" to Elizabeth written by Drake January 1, 1592 (1593), that at the time Hakluyt wrote, Drake was contemplating having accounts of his entire service to that time compiled and published. Nichols was charged with the task of compiling the first account, and in the title page it is stated that the account, taken from reports of others who were with Drake, was much enlarged and the author much helped, by notes inserted in Drake's own hand.

After the defeat of the Armada, Drake, at the crest of his glory, engaged in plans for reprisals, new naval construction and other matters, which culminated in an expedition in 1589 to destroy the surviving ships of the Spanish Navy in their home ports and capture Lisbon for the purpose of restoring the Portuguese monarchy. Unfortunately, Drake failed to accomplish certain objectives set forth by the Queen, and thereby incurred her disfavor.

He returned to Plymouth at the end of June of that year, practically in retirement from naval service, and was forced to see others conducting campaigns in which he undoubtedly felt he should have had a hand. (2) In his enforced idleness, he probably soon determined to set about the task of vindicating himself as a military commander by having the accounts of his previous services compiled and published. (3) In view of his vanity and professional pride this is to be expected, and it is evident that up till this time, little regarding his accomplishments had been published, despite his fame and past successes, and as recently as 1588, even his voyage around the world was eclipsed by a second successful English circum-

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1. See Irene A. Wright, Documents Concerning English Voyages to the Spanish Main, 1569-1580, pp. 245-326.
2. During this time he actively furthered the various expeditions that sailed against Spain, he engaged in superintending the fortification of Plymouth and Scilly, and he completed his water-works for providing Plymouth with a dependable supply of fresh water.
3. By 1592, Drake's principal sponsors for his voyage of circumnavigation and his staunchest friends at Court were dead; Leicester in 1588; Walsingham in 1590; Hatton in 1591.

navigation made by a younger man, Thomas Cavendish. Drake's letter below, clearly expressed his feelings and reveals some evidence of the censure that resulted from his actions.

> Madam, seeing divers have diversly reported and written of these Voyages and Actions which I have attempted & made, everie one endeavoring to bring to light whatsoever inklings or conjectures they have had; whereby many untruths have beene published, and the certain truth concealed, as I have thought it necessarie my selfe, as in a Card to pricke the principall points of the Counsailes taken, attempts made, and successe had, during the whole course of my employment in these services against the Spaniards, not as setting Sayle, for maintaining my reputation in men's judgement, but only as sitting at Helme if occasion shall be, for conducting the like Actions hereafter, So I have accounted it my duetie to present this Discourse to your Majestie as of right, either for it selfe, being the first fruites of your servants Pen, or for the matter, being service done to your Majestie by your poore vassall against your great Enemie, at such times, in such places, and after such sort, as may seeme strange to those that are not acquainted with the whole carriage thereof, but will be a pleasing remembrance to your Highnesse, who take the apparent height of the Almighties favour towards you, by these events, as truest instruments, humbly submitting my selfe to your Gracious censure, both in writing and presenting, that posteritie be not deprived of such helpe as may happily be gained hereby, and our present Age (at least) may be satisfied in the rightfulnesse of these Actions, which hitherto have been silenced, and your Servants labour not seeme altogether lost, not onely in Travell by Sea and Land, but also in writing the Report thereof, a worke to him no lesse troublesome, yet made pleasant and sweete, in that it hath beene, is and shall bee, for your Majesties content; to whom I have devoted my selfe, live or die.[1]
>
> Francis Drake
>
> Jan. 1. 1592

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1. See Irene A. Wright, Documents Concerning English Voyages, pp. 249-250.

In November of 1592 Drake was summoned to Elizabeth's Court to discuss a new campaign against Spain, and the above letter was probably prepared in anticipation of regaining the Queen's good graces with an account of his 1572-3 voyage, the"first fruites" of his pen. His days thereafter were busy with war plans, and he probably found little time to devote to writing accounts of past actions, a task which he describes as "troublesome." August 28, 1595, he sailed from Plymouth with a fleet to raid the West Indies and the Spanish Main and died at sea of a tropical fever January 27, 1596, as his fleet lay off Porto Bello on the Main.

Sometime also after 1588, Francis Fletcher was at work on a detailed account of the circumnavigation, but only the first part, which takes the voyage to the Islands of Mocha, survives in a manuscript copy made in 1677 by John Conyers, a pharmacist and citizen of London.(1) The second part of the account which would have contained descriptions of Nova Albion is missing; it may never have been written. In concluding the first half of his account, Fletcher wrote that the reader would ". . . heare more in the second part of this nauigation about the world w^{ch} I will attempt to finish w^{th} all convenient speed I may & thus I end this first part of this travaile w^{th} description or mapp of the Iland of Mucho & the forme & the monuments w^{ch} I made to haue ben sett vp vppon the Southermost Cape of America att the entering into the Sowth Sea but could not as hath been said." (2)

The rambling text of Fletcher's account and the scarcity of dates strongly suggests that he wrote largely from memory without reference to his voyage journal. Because of his animosity towards Drake, it is unlikely that he was the one who was charged with drawing all of Drake's services into one volume, nor, probably, would Drake have wanted him to. Other than a reference to Cavendish's voyage of circumnavigation, there is no indication as to when the account was written, but in view of the hostile tone taken towards Drake, it may not have been written until after his death.

Long before printed accounts of Drake's voyage came out in England with a description of Nova Albion, the Spanish had an account of

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1. See N. M. Penzer, ed., The World Encompassed, pp. 87-142.
2. Ibid. p. 141.

their own through the depositions of John Drake, Drake's young cousin and one of the boys embarked on the voyage. John Drake later had the misfortune to fall into the hands of the Spanish after separating from the expedition of Edward Fenton in 1582. His depositions were used for an account of Drake's voyage by the Spanish historian, Antonio de Herrera, in his Historia General del Mundo published in 1606. (1) Though John Drake's description of Nova Albion is brief, it provides an interesting comparison with accounts published in England.

An early, unpublished English account giving a brief description of Nova Albion is simply known as the Anonymous Narrative; (2) it is undated and the author is unknown. The manuscript is narrated in the third person, and was obviously written after the return to England, but it has the ring of being intimately familiar with the events described. The account covers only the second part of the voyage, beginning after passage through the Straits of Magellan.

The first dated published account was by John Stow, a citizen of London and a tailor by trade, who occupied himself chiefly with historical research. He included a brief description of Drake's voyage in his 1592 reprint of the Chronicles of England. (3) This was followed in 1594 by another brief description by Thomas Blundeville who included an account in his M. Blundevile His Exercises, containing sixe Treatises, ..., which were studies for young gentlemen on cosmography, astronomy, geography, and navigation. Blundeville had a keen interest in these subjects and was well acquainted with the scientific community in England. For his account of Drake's voyage he apparently used the track laid down on a globe made by Emery Molyneux and completed late in 1592, though for the Nova Albion portion he had other information not reflected on the globe which he possibly got from Drake or somebody else familiar with the voyage. (4)

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1. For translation, see H.R. Wagner, Sir Francis Drake's Voyage, pp. 330-334 and p. 94, infra.
2. Harleian MS, 280, Folio 23, British Museum. See also H.R. Wagner, Sir Francis Drake's Voyage, pp. 243, 264-285.
3. See H. R. Wagner, Sir Francis Drake's Voyage, pp. 303-307.
4. Ibid., pp. 310-313.

That no complete account by then had appeared is suggested in Blundeville's Exercises, in which he comments:

> But if it might please Sir Frances to write a perfect Diarie of his whole voyage, shewing howe much he sayled in a day, and what watring places he found, and where hee touched, and how long he rested in any place, and what good Ports and Hauens he found, and what anchorage good or badde, and what maner of people, what trade of liuing, and what kinde of building and gouernement they vsed, ... of all which things, I doubt not but that he hath alreadie written, and will publish the same when he shall thinke most méete. (1)

Hakluyt eventually published a fairly detailed account of Drake's voyage on six unnumbered folio leaves, referred to hereinafter as Famous Voyage, inserted in the 1589 edition of his Principall Navigations, Voiages and Discoveries of the English Nation.(2) When the leaves were printed can only be conjectured, but it is evident that they were not issued with the book. Wagner pointed out that before 1596 several works appeared containing some notice of the voyage, but with no indication that the writers had seen Famous Voyage. Nor did any of the authors cited here, or John Davis, who published a very short description in 1595, (3) appear to have made use of this account. Wagner felt that because there were some passages not especially complimentary to Drake, the leaves were not published until after Drake died in 1596. To this it can be added that there are some errors and omissions that could not have met with Drake's approval had he been alive, and if not corrected in the first edition, they probably would have been in the second, but were not.

In Europe, Theodore de Bry included Drake's voyage with some description of Nova Albion in his Americae, achter Theil, published in Germany in 1599. His account is based largely on Hakluyt's Famous

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1. See H. R. Wagner, Sir Francis Drake's Voyage, p. 313.
2. Issued at end of 1589, or January 1590. Richard Hakluyt, The Principall Navigations, Voiages and Discoveries of the English Nation. . ., London, 1589. See also facsimile reprint of this edition, Hakluyt Society Extra Series No. XXXIX, Cambridge, 1965.
3. See H. R. Wagner, Sir Francis Drake's Voyage, pp. 314-315.

Voyage. A very similar account in Dutch, taken from de Bry or written by him, was appended to some editions of the broadside map of the world made by Jodicus Hondius which shows the tracks of both the Drake and Cavendish expeditions.

Between 1596 and 1600, the renowned English historian, William Camden, compiled a brief account of the voyage which was published in his history of the reign of Elizabeth, Annales Rervm Anglicarvm, et Hibernicarvm, regnante Elizabetha, ad Annvm Salvtis M.D. LXXXIX, London, 1615. The text of this edition was printed in Latin, but an English edition followed in 1625. (1) In general, Camden's account follows Hakluyt's Famous Voyage, but there are differences which indicate that he had other references at his disposal.

After Camden, there was apparently no new light on Drake's voyage, particularly with reference to Nova Albion, until Drake's nephew, Sir Francis Drake, published in 1628 the very lengthy account often referred to as the "authorized" version, The World Encompassed by Sir Francis Drake. (2) This Francis Drake was the son of Thomas Drake, a seaman on the voyage of circumnavigation, and youngest and sole surviving brother. The title page states that the account was compiled from the notes of Francis Fletcher and others who were on the voyage, and of particular importance is the probability that Fletcher's notes were from the official journal which he was required to keep. These were apparently used as liberally as possible, whereas Hakluyt, who also appears to have had access to the same notes, was compelled to edit them drastically for brevity.

With the exception of some descriptions of Nova Albion published by Robert Dudley, 1630-47, in his atlas of the world, Dell'Arcano del Mare, and a few lines by Sir William Monson written about 1640 in his observations on the naval history of his time, (3) the above comprises

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1. For reprint of this account see H.R. Wagner, Sir Francis Drake's Voyage, pp. 316-323.
2. For reprint of this account see N.M. Penzer, ed., The World Encompassed, pp. 1-84.
3. See Wm. Monson's "Sir Francis Drake's Voyage round the World," M. Oppenheim, ed., The Naval Tracts of Sir William Monson,

the extent of the useful written references to Nova Albion.

THE MAPS

As with Drake's journal, the charts and views which he made on the voyage appear to be lost, and these too would provide incontestable proof of his landing place. Significant are the words of Don Francisco de Zárate, a prisoner of Drake's taken off the coast of Central America, who wrote that Drake "carries painters who paint for him pictures of the coast in its exact colours. This was most grieved to see, for each thing is so naturally depicted that no one who guides himself according to these paintings can possibly go astray." (1) Nuño da Silva, another of Drake's prisoners who was in a position to become well acquainted with him, added: "He is an adept in painting and has with him a boy, a relative of his, who is a great painter. When they both shut themselves up in his cabin they were always painting." (2)

After his return to England, Drake had at least one map of the voyage made, as he is known to have given one to his friend, the Archbishop of Canterbury, "richly decorated with coloured and gilden designs." (3) Possibly either he or his sponsors also gave Elizabeth the one which Samuel Purchas describes in His Pilgrimes. Writing in defense of Drake's alleged discovery of an open passage below South America he said that a map of Drake's voyage presented to the Queen was still hanging in his time in King James' gallery at Whitehall near the "Privie Chamber." His description of the map states that it bore Elizabeth's portrait and that her name was affixed to the southermost island below South America in golden letters with a golden crown, garter, and her arms. (4) Both maps were probably hand drawn and illuminated; neither of them has been found.

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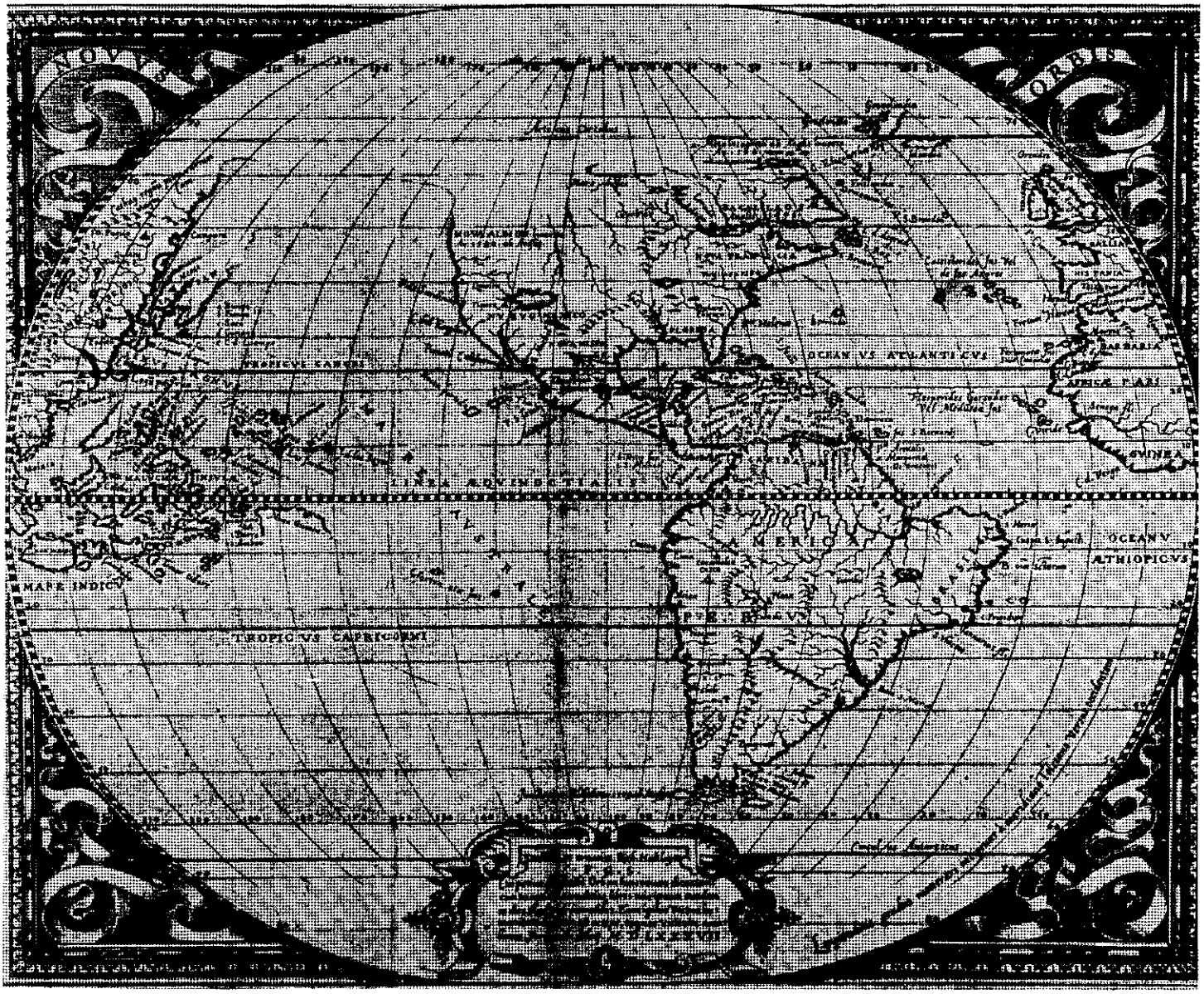
3. (cont'd. from p. 47) Vol. IV, pp. 276-278. See also H. R. Wagner, Sir Francis Drake's Voyage, pp. 324-326.
1. See Zelia Nuttall, New Light on Drake, pp. 207-208.
2. Ibid., p. 303.
3. Ibid., p. xxvii.
4. Samuel Purchas, His Pilgrimes, XIII, 3. See H. R. Wagner, Sir Francis Drake's Voyage, pp. 97-98.



The Henry E. Huntington Library

HAKLUYT'S "PETER MARTYR" MAP OF 1587.

On the continent, possibly as early as 1581, two very similar maps showing Drake's voyage were printed, one in French and the other in Dutch. Both are crudely done and appear as if they were engraved from a sketch with little or no refinement by the engraver. Both show the same general track of the voyage, but on the French map the Queen's arms are shown at the tip of South America enclosed by a crown and garter, similar to the description given by Purchas; a similar device is shown at Nova Albion. There is a distinct possibility that the original model for these maps was either the Queen's own map at Whitehall or another, such as the one given to the Archbishop of Canterbury.

In England, early maps showing Drake's voyage have either not survived, or publication was suppressed by the same censorship that seems to have restricted publication of accounts of the voyage. The first printed map of interest to this study that might be considered English is one published in 1587 in Paris by Hakluyt in an edition of Peter Martyr's Decades and referred to by Wagner as the "Peter Martyr" map. Wagner points out that a Spanish source is indicated because of the fact that the prime meridian passes through Toledo in Spain, as none of the Italian, Dutch or Flemish cartographers used this meridian at that period, a source that may have been made available to him in Paris during his residence there between 1582 and 1588.(1)

This map is particularly interesting, for it shows us what was probably the Spanish impression of the west coast of North America as they understood it in the late sixteenth century and as Drake may have found it on the charts taken from the Spanish pilot, Colchero, at the Island of Caño. What is especially noticeable, however, is the paucity of information relating to Drake's voyage. Nova Albion is shown at 48° North latitude with the incorrect date of 1580, and Drake's broken islands are shown at the tip of South America in an extremely haphazard manner and with the incorrect date of their discovery, 1579.

From the fact that the tip of South America does not show the northeast trend which Drake claimed to have found on the west side (shown on the French and Dutch Drake Maps) and that the islands are only a generalization, we can conclude that at this date Hakluyt had only a meagre

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1. See H. R. Wagner, Sir Francis Drake's Voyage, pp. 407-408.

knowledge of the voyage, which is remarkable considering his standing as a geographer, his acquaintance with knowledgeable people of the day, and his friendship with Walsingham. Although the coast of Nova Albion accords fairly accurately with what we know today and agrees with the statement in World Encompassed that nowhere was an easterly trend found, there is no reason to believe that it shows Drake's discoveries beyond a general interpretation of them, particularly as Hakluyt depicted them above the Spanish delineation of the coast up to Cape Mendocino.

The paucity of information in England relative to the voyage is further illustrated by a small heart-shaped map published by Jodicus Hondius in 1589 at London, several years before he published a world map showing both Drake's and Cavendish's voyage. In the 1589 map he shows Drake's islands below South America in the same haphazard fashion as the "Peter Martyr" map, but does not show Nova Albion or anything that could be attributed to Drake in that area.

Also in 1589, Michael Mercator, nephew of Gerardus Mercator, produced a small medallion in London showing Drake's track around the world. (1) This medallion, 70 millimeters in diameter, depicts the track on a world map in two hemispheres, one on each side with the prime meridian located at one edge. The American continents have a resemblance to Hakluyt's "Peter Martyr" map of 1587 and include the same legends and erroneous dates relating to Drake's discoveries. In addition, the islands claimed to have been discovered by Drake below South America are shown in the same haphazard manner. However, a notable exception to Hakluyt's map is that the longitude of the west coast of North America is moved westward by nearly 35° and that a fair sized island bearing the name Cazones is located not far off the coast in about 36° North Latitude.

Because of geographical errors in certain areas discovered by

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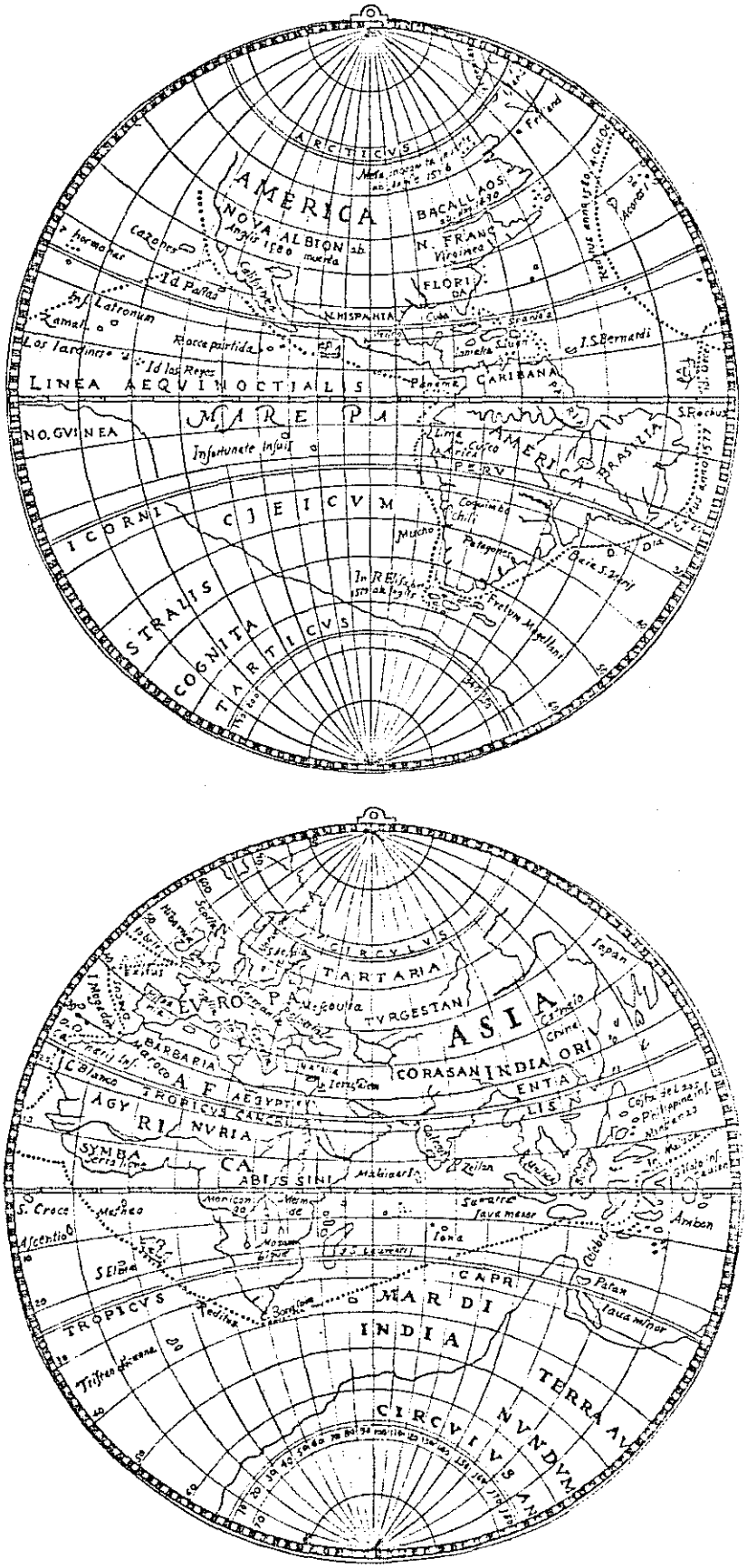
1. A medallion came to light in 1967 bearing a cartouche with Michael Mercator's name, the date 1589 and indication that it was made in London. Records confirm that he was in London at that time. The medallion is presently in the possession of H. P. Kraus in New York. Personal correspondence with Dr. Helen M. Wallis, Superintendent, Map Room, British Museum.

National Maritime Museum

MAP OF THE WORLD BY JODICUS HONDIUS, 1589.



SILVER MEDALLION SHOWING DRAKE'S TRACK AROUND THE WORLD
MADE BY MICHAEL MERCATOR, 1589

Drake and errors in the dates of his discoveries, it is improbable that Drake was instrumental in the production of the medallion. Examples are the haphazard handling of the islands mentioned above, the lack of the northeast trend of the coast on the west side of the tip of South America reported by Drake, the excessive westward extension of the west coast of North America, which is incompatible with what he actually found, 1579 instead of 1578 is given as the date for the discovery of the above mentioned islands, and 1580 instead of 1579 for his naming of Nova Albion.

The production of the medallion occurred at an unfortunate time for finding a sale to Drake or his admirers. Cavendish had completed a similar voyage of circumnavigation only the year before, and by the middle of 1589 Drake was in disfavor because of his unsuccessful expedition to restore the monarchy of Portugal and had retired to Plymouth. Michael Mercator evidently sold his dies and thereby relinquished his right to perpetuate his name on the medallion, as only one of several in existance bears his name.

Beyond providing a comparison with other maps showing the voyage track, the medallion affords little help in locating Drake's haven in California. Nova Albion is placed at about 48°, as on Hakluyt's map, and his northward course is projected to the same parallel. The track of the entire voyage is similar to that shown on the French and Dutch maps, differing only in minor respects. The departure course from Nova Albion leaves the coast at about 35° North latitude and the port from which departure was made is not indicated.

With the 1589 edition of Principall Navigations, Hakluyt gave advance notice in his preface of the production of a pair of globes, a celestial and a terrestrial, by Emery Molyneux, an English mathematician and instrument maker. They were particularly noteworthy as being the first English Globes and the largest made up to that time, having a diameter of 25 inches. Production was sponsored and financed by William Sanderson, a wealthy merchant of London, who was a principal backer of John Davis's voyages for discovery of the Northwest Passage. Jodicus Hondius engraved the gores for the globes, [1] which were to be

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1. His name is given as the engraver in the authorship of the Petworth

produced for sale in quantity, not only in the 25 inch size, but also in a smaller, inexpensive edition for students. The globes were not completed until the end of 1592. Only two surviving examples are known today; a first edition located at Petworth House, the Sussex seat of Lord Leconfield, and an edition of 1603 belonging to the Middle Temple of London.(1)

Molyneux's terrestrial globe is of special interest as an illustration of the confusion and ignorance concerning Drake's voyage that continued to prevail at this late date, despite the fact that Molyneux was associated with people who would seemingly have had knowledge of the voyage. The globe shows the tracks of both Drake and Cavendish; that of Cavendish is plotted in a manner that suggests an intimate knowledge of that voyage; whereas Drake's track is no better than the one shown on the French or Dutch Drake maps, or Michael Mercator's silver medallion, and carries some errors not found on these. Molyneux does not show Drake's islands and open sea below South America, but joins the south side of the Strait of Magellan with the hypothetical continent of Terra Australis, probably because of Cavendish's doubts of the existence of the islands. (2) This undoubtedly annoyed Drake, for even though he may well have been prepared to concede that he could have been mistaken in assuming that the south side of the strait was nothing more than islands, what he had seen by his own experience was that the Pacific and Atlantic Oceans were joined as one sea south of them.

On the west coast of North America, Nova Albion is still placed in a high latitude; the label "Nova Albion" straddles the fiftieth parallel

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1. (cont'd. from previous page) globe: ANNO DOMINI/ 1592 / Emerius Mulleneux Angl.' / Lambithieusis Author. / Iodocus Hondius Flan. / Coelator. On the globe belonging to the Middle Temple, the only other known surviving globe, only the names of Sanderson and Monyneux are shown.
1. For a complete history and description of the globes see H. M. Wallis, "The First English Globe," Geog. Jour., Vol. 117 and H. M. Wallis, "Further Light on the Molyneux Globes," Geog. Jour., Vol. 121.
2. Molyneux drew the outline of Terra Australis with a dotted line to indicate that it was unproved or speculative.

PORTION OF MOLYNEUX'S GLOBE SHOWING DRAKE'S TRACK TO NOVA ALBION, c. 1592

with "F. Dracus" appearing immediately below it. Here, Drake's track differs from that shown on the other maps; the northbound track from Mexico turns into the coast at about 42-1/2° at a place marked "C. Mendocino" without indication of landing, then continues to a large bay at 48° thence back to a landing at 42-1/2° and from there departure is made from the coast. As shown in the next chapter, the latitudes are false. It is hard to believe that Sanderson, who with support from Walsingham, financed Davis's voyages for the Northwest Passage, did not have a reasonably accurate knowledge of the extent of Drake's discoveries in the North Pacific. Walsingham, up to the time that he died in 1590, must surely have taken some interest in the production of the globes, and would certainly have known the truth. Some evidence that the pretension of higher latitudes was beginning to wear thin at this time is afforded by the account of John Stow, published the same year the globes were completed, in which he gives Drake's highest latitude as 47° and his haven as 38°.

Despite differing opinions of various writers regarding the latitudes of Drake's discoveries on the west coast of North America, that area of the globe was not revised to reflect them although changes were made elsewhere to bring the globe up to date. Molyneux emigrated to Holland in 1596 or 1597, and it may be possible that up until that time not enough information was available to contradict what the globe showed to warrant making a change in the plates. From research on the globe by Dr. Helen Wallis, Monyneux took the plates to Holland with him and sold them to Hondius sometime before April 1, 1597. Hondius revised the plates to that date and later made the globe belonging to the Middle Temple without further revision beyond changing the date of issue to 1603. Dr. Wallis states that he apparently made no revisions to the west coast of North America with respect to Drake's discoveries. (1)

Molyneux's coast of North America to Cape Mendocino appears to be based on a Spanish source and could be derived from charts taken from Spanish pilots by Drake or Cavendish; many of the place names are from Cabrillo's expedition and correspond to his latitudes for them, generally about 1-1/2° to 2° too high. It may be doubted that Molyneux had any knowledge of Drake's discoveries above Cape Mendocino, but it is a

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1. Personal correspondence with Dr. Wallis.

curious circumstance that there is a vague suggestion of the coastline as he would have found it between the latitudes of 44° and 38°. Nothing can be more certain, however, than that Drake did not make the courses shown here, nor is there any indication in the accounts that he saw a river of the magnitude shown immediately below the point at which his course returns and leaves the coast. Some reason for associating him with this feature could conceivably have come about for reasons given in the conclusion of this paper if we assume that some of his men were left at Nova Albion. In passing, it is worth noting that below Cape Mendocino the coastline is meticulously delineated; whereas it is limited to simple outlines above it.

The most important map for the study of Drake's landing place in California is the Broadside Map of the world by Hondius. This map was apparently produced in Amsterdam about 1595 when he returned to the Low Countries from residence in London from 1584 to 1593, and shows the tracks of both the Drake and Cavendish voyages. In general, the geographical features and Drake's voyage track resemble those shown on the silver medallion, but Hondius' South American continent differs widely, particularly at the southern end where he shows the northeast trend on the west coast that was reported by Drake's expedition, and in this respect and in regard to Drake's islands he appears to have had better information to that available to other cartographers, or even to himself in 1589.

Hondius' west coast of North America bears a close resemblance to that shown on the medallion and appears to be copied from it or the same source with the exception that he filled in the northern regions with conjectural geographical features. Nevertheless, there are subtle differences between his map and the medallion; Drake's track only extends to a star engraved at about 43°, although it appears to have originally been engraved at 48° or 50°; "Nova Albion" straddles the fortieth parallel instead of the fiftieth; a haven from which the departure track leaves the coast stands at about 38-1/2°; whereas the medallion shows one at 36-1/2°.

The most significant feature of Hondius' map is the inclusion of an inset view of Drake's port at Nova Albion, one of four inset views on the borders of the map depicting incidents and places visited on the voyage. The two insets at the bottom show the same incidents and occupy the same

positions as those on the French and Dutch maps but are far superior in execution and detail.

A reduced copy of Hondius's map was published by de Bry in 1599 without the inset views. This copy adds nothing of interest to Nova Albion beyond extending the name "California" into Hondius' "Nova Albion."

Curiously, all the maps up to this time that show Drake's track around the world show only a general route with the same basic pattern, and each shows substantially the same errors and omissions. A statement by Purchas regarding the similarity of Michael Mercator's "plot of Drakes Voyage cut in Silver" to the Queen's map at Whitehall (1) seems to point to her map, or a similar one, as a common source, and the track was probably never intended to do more than illustrate approximately the accomplishments of the voyage instead of representing an accurate plot. It is possible that no more than this was ever made, and the original general route therefore served as the model for all subsequent maps with each individual cartographer adding variations according to his interpretation of the voyage, and each applying the route to what he considered to be the best cartographical knowledge of the world available to him.

The French map probably follows the source map more closely than does the silver medallion, Molyneux's globe or Hondius' Broadside Map. Michael Mercator could have taken his track from the French or Dutch maps, but probably regarded the geography as obsolete. The division of the hemispheres on the medallions is almost identical to the presentation shown on those maps. With the exceptions previously noted, Hondius' map is nearly identical to the medallion in respect to both geography and track, and thus he may have used Mercator's drawings and sources; for his concept of the Arctic regions he follows the concept of Gerardus Mercator. Hondius also used the same map projection for his hemispheres as that used in the medallions, which is basically the Mercator projection. Molyneux more likely used an English source for his Drake

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1. Describing the Queen's map, Purchas wrote: ". . . my learned friend Master Brigges told me, that he hath seene this plot of Drakes Voyage cut in Silver by a Dutchman (Michael Mercator, Nephew to Gerardus). . ." Purchas, His Pilgrimes, XIII, 3.

track, and reasonably this could have been obtained through Walsingham. Again, like Michael Mercator and Hondius, Molyneux would have been influenced more by the latest geographic knowledge available to him instead of the basic source map.

The major discrepancies between what is known from the accounts of Drake's voyage and what is common to all of his tracks shown on the maps are as follows:

a. Each map shows nearly the same track along the west side of the Americas with Drake putting in at only two places before reaching Nova Albion, the Island of Mocha and Lima.

b. No indication is given of the overhaul and careening at Salado Bay in Chile, the careening near the Island of Caño, or the departure from Guatulco, Mexico.

c. The course swings far offshore from the coast on the South and Central American coasts, when it is known that it followed the coast closely with numerous stops, and it closely follows the coast of North America where Drake was far offshore.

d. Each map fails to show that Drake stopped at the Island of Mindanao in the Philippines.

e. In the Indian Ocean, none show that Drake in fact coasted the East African coast from about latitude 31° 30' before rounding the Cape of Good Hope.

On seventeenth century English and Dutch maps, Drake's port came to be associated with the bay inside of Point Reyes. One of the earliest examples of this is the map by Henry Briggs, reproduced in 1625 by Purchas in His Pilgrimes. On this, California is shown as an island extending from about the latitude of 22° at Lower California to 42°, a circumstance which Briggs credits to a Spanish chart taken by the Dutch. The place names on the outer coast are from the voyage of Sebastian Vizcaino, and the Spanish chart referred to probably originated with his chaplain, Father de la Ascension, who later propounded a theory that California was an island. It is most unlikely that Drake's name appeared on this

Courtesy of The Honnold Library

PORTION OF A MAP BY HENRY BRIGGS
SHOWING CALIFORNIA AS AN ISLAND

map however, as Vizcaino named the bay under Point Reyes Baia don Gaspar, though it was more commonly known by the name given it by Sebastian Cermeño in 1595, Baya de San Francisco. (1) The Briggs map gives neither Spanish name, but, instead, shows "P^{o} S^{r} Francisco Draco" at the northernmost part of the bay. The bay stands in 38^{o} latitude instead of the latitude of 38^{o} 40' recorded by Cermeño and 38-1/2^{o} by Vizcaino. Briggs' authority for making this change is unknown, but he was a contemporary of Drake, born in 1561, and as a prominent English mathematician with a professorship in London and an interest in the problems of navigation, he was in a position to learn details of Drake's voyage, though the change may be only based on a knowledge of the latitude and an assumption that the Spanish map concealed the name of Drake's port by the substitution of San Francisco.

Robert Dudley's maps, one a manuscript map made sometime in the seventeenth century and now in Munich, and those in his Dell' Arcano del Mare, finally provide us with fragments of the type of information that we would hope to find in Drake's journal or on his charts. Dudley's information is undoubtedly drawn from hearsay or from memory of something seen, but his descriptions of such matters are such as would particularly be noted by seamen. Through his great interest in cartography he had learned of Vizcaino's discoveries at Nova Albion, but he clearly distinguishes between these and Drake's. Dudley was only a boy of six when Drake completed his voyage, but his father, the Earl of Leicester, was one of the sponsors of the voyage and was one of Drake's most powerful friends. (1)

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1. Declaration of Sebastian Rodrigues Cermeño. See. H. R. Wagner, Spanish Voyages to the Northwest Coast of America in the Sixteenth Century, p. 153.

THE PLATE OF BRASS

A brass plate bearing an inscription describing Drake's claim to Nova Albion must be considered source material of first quality to be ranked with the Hondius Portus Novae Albionis inset, the original sketch for which was probably done at the site of Drake's landing.

Following the authentication of the brass plate at the Electrochemical Laboratories of Columbia University in 1938,[1] there has been no valid reason to question the verity of either the plate or the message which it bears, although a few detractors have appeared from time to time to contest the plate's validity. Of these, the principal claimant has argued that spelling on the plate does not agree with usage current in England during the Elizabethan period, singling out the word, "Herr" (Her) for scrutiny. Considering the fact that there was as yet no standdardized spelling in England, this criticism stands on shaky ground. Weighing this further against the considerable body of evidence for authenticity reduces the claim to point of dismissal, and not much has been heard from this particular detractor -- or any other detractor for some years.

The story of the Plate of Brass is probably best told by Allen L. Chickering, a prominent San Francisco attorney, who was at that time President of the California Historical Society, and who had much to do with the establishment of this plate as "California's greatest historical treasure," as it has been so often described.[2]

"In June, 1579, Francis Drake landed in California to recondition his vessel, the Golden Hinde. He remained for about six weeks. When he left he set up a post on which was nailed a plate bearing an inscription. According to The World Encompassed by Sir Francis Drake, published in 1628, this Plate was of brass and was accompanied by a sixpence of current English money bearing the picture of Queen Elizabeth, showing itself 'through a hole made of purpose' through the Plate.

"On a day in the latter part of June or the early part of July, 1936, a young Oaklander, named Beryle W. Shinn, while picnicking, picked up a piece of metal on a ridge at the head of San Quentin Bay, an arm

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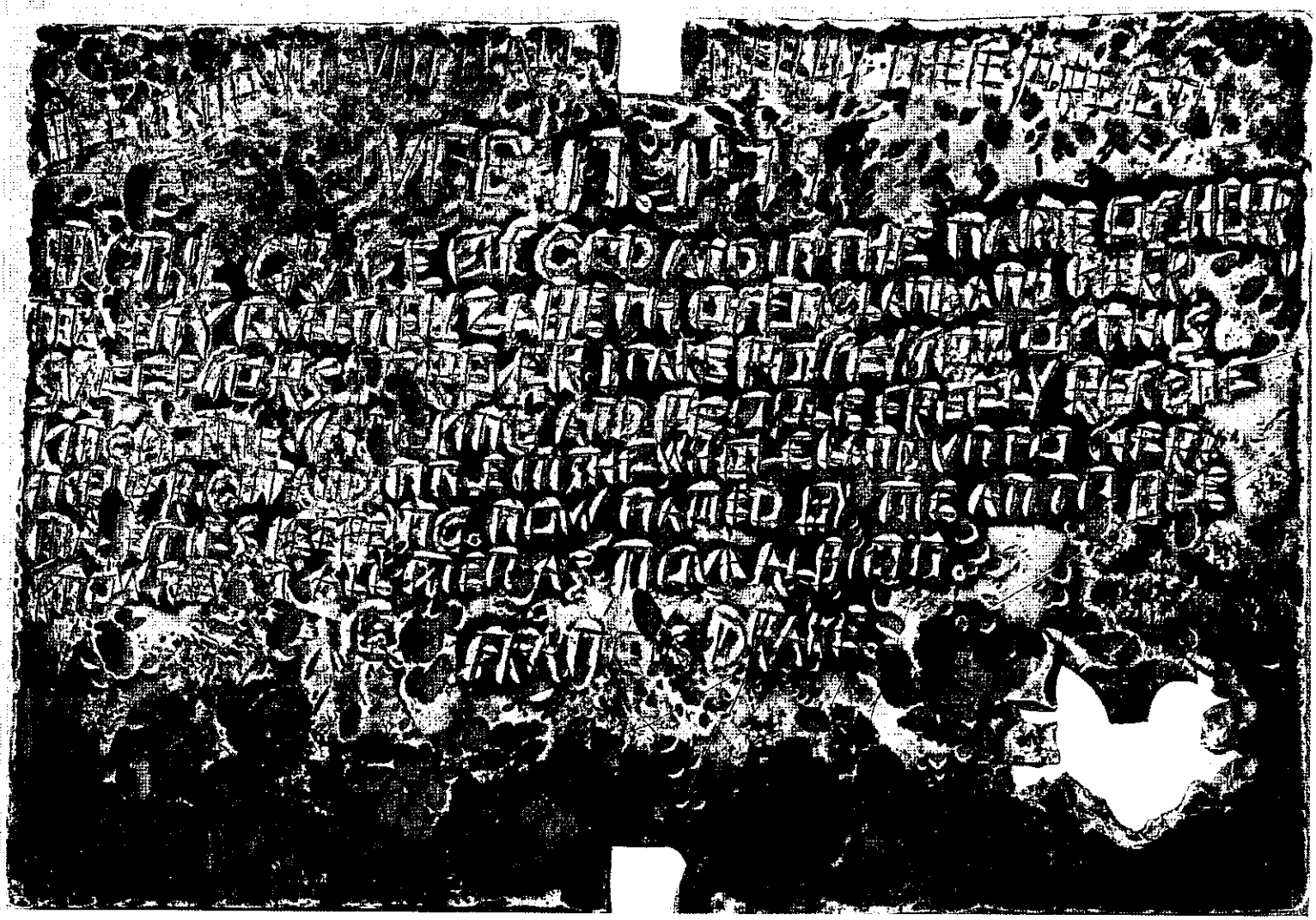
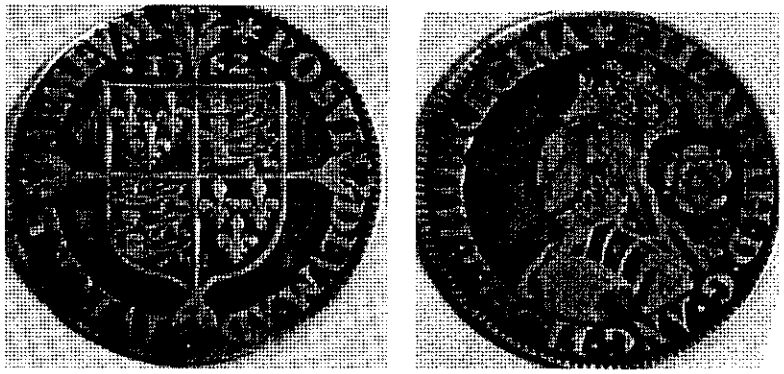
1. See Colin G. Fink and E. P. Polushkin, Drake's Plate of Brass Authenticated.
2. Ibid., foreword by Allen L. Chickering.



California Historical Society

THE PLATE OF BRASS
(Actual size)



(Twice actual size)

ENGLISH SIXPENCE OF THE PERIOD THAT THE *WORLD ENCOMPASSED* DESCRIBES AS SHOWING IN THE LOWER LEFT CORNER OF THE PLATE. THE COIN DESCRIBED HAS NOT BEEN FOUND

of San Francisco Bay, and carried it home, believing that it was a piece of iron and might serve to cover a hole on the inside of his automobile. Some months later, when he started to make use of it for that purpose, he discovered that it seemed to bear some inscription, so he took it into the house and scrubbed it but was able to make nothing of the inscription. Being curious, he showed it to some friends, among them a former pupil of Dr. Herbert E. Bolton of the University of California, who advised that Mr. Shinn show it to Dr. Bolton. Dr. Bolton at once recognized it and believed it to be the Plate set up by Francis Drake in 1579. He consulted with Mr. Allen L. Chickering, President of the California Historical Society, who organized a group of members of that Society to acquire the Plate from the finder and present it to the University of California.

"Announcement of the finding of the Plate was made at a meeting of the California Historical Society held April 6, 1937, at the Sir Francis Drake Hotel in San Francisco, and an account of the Plate, its discovery, the speech of Dr. Bolton announcing its discovery, and the historical accounts relative to setting it up, were published by the California Historical Society under the title of 'Drake's Plate of Brass' in 1937.

"Upon the announcement of its discovery, Mr. William Caldeira, a chauffeur employed by Mr. J. B. Metcalf, in Piedmont, came forward and announced that he had more than three years theretofore found the same Plate on the Laguna Ranch owned by Mr. Leland S. Murphy.[1] This ranch is in Marin County and borders on Drake's Bay. At the time he found it, he had driven his then employer, Mr. Leon Bocqueraz, Vice-Chairman of the Bank of America National Trust & Savings Association, to the Laguna Ranch to hunt. While Mr. Bocqueraz was engaged in hunting, Mr. Caldeira passed the time in walking around. While doing so, he saw and picked up a plate in the Y between two intersecting roads near the Laguna Ranch house at a point about one and a half miles interior from Drake's Bay. He states that he washed the plate in a creek and that he was able to make out the letters, 'Drake' in the signature at the foot of the plate, but could not make out any other words. He thought

1. About 1942 the Laguna Ranch was acquired by the late Robert D. Marshall, a President Emeritus of Drake Navigators Guild. The ranch remains the property of Mr. Marshall's family but falls within the eventual limits of the Point Reyes National Seashore. Ed.

that the printing was foreign writing of some kind. He showed it to Mr. Bocqueraz when he returned from hunting, which Mr. Bocqueraz remembers. However, Mr. Bocqueraz was very tired and remarked that it was probably something off a ship and that he did not care to look at it. Mr. Bocqueraz stated later that he had intended to ask Caldeira to show him the plate when he got back to the Club at which he was staying, but that the matter slipped his mind. Caldeira kept it for several weeks and then, according to his story, threw it out of his automobile on the right hand side of the road from San Quentin to Kentfield in the first meadow after one leaves the intersection of the San Francisco-San Rafael road and the San Quentin-Kentfield road. (1) It should be noted that Caldeira could not have thrown it far enough so that it could have fallen at the place where Shinn found it. Accordingly, some other agency than Caldeira must have intervened between the time he threw it away and the time that Shinn picked it up. On being shown the plate, Caldeira stated that he was sure that it was the same plate as the one he had picked up because he remembered the hole in it and because of the name 'Drake' on it. He did not remember the notches at the top and bottom of the plate. He stated that at the time he found it, it was very dirty and not nearly as clear as when it was shown to him for identification.

"Following the announcement of its discovery, the Plate on or about April 12, 1937, was physically delivered to the University of California, together with a sum of money for the purpose, among others, of being used for such test or tests as to the genuineness of the Plate as might seem desirable.

"As was to be expected, the announcement of the discovery of the Plate was attended with great interest and some expressions of doubt as to its authenticity.

"Dr. Robert G. Sproul, President of the University of California, accordingly appointed a committee, consisting of Professors Herbert E. Bolton, J. M. Cline and Joel H. Hildebrand and Mr. Allen L. Chickering, to determine upon and have made such tests as to the authenticity of the Plate as in its judgment seemed proper. At its first meeting the Committee decided unanimously that any tests of the Plate itself should

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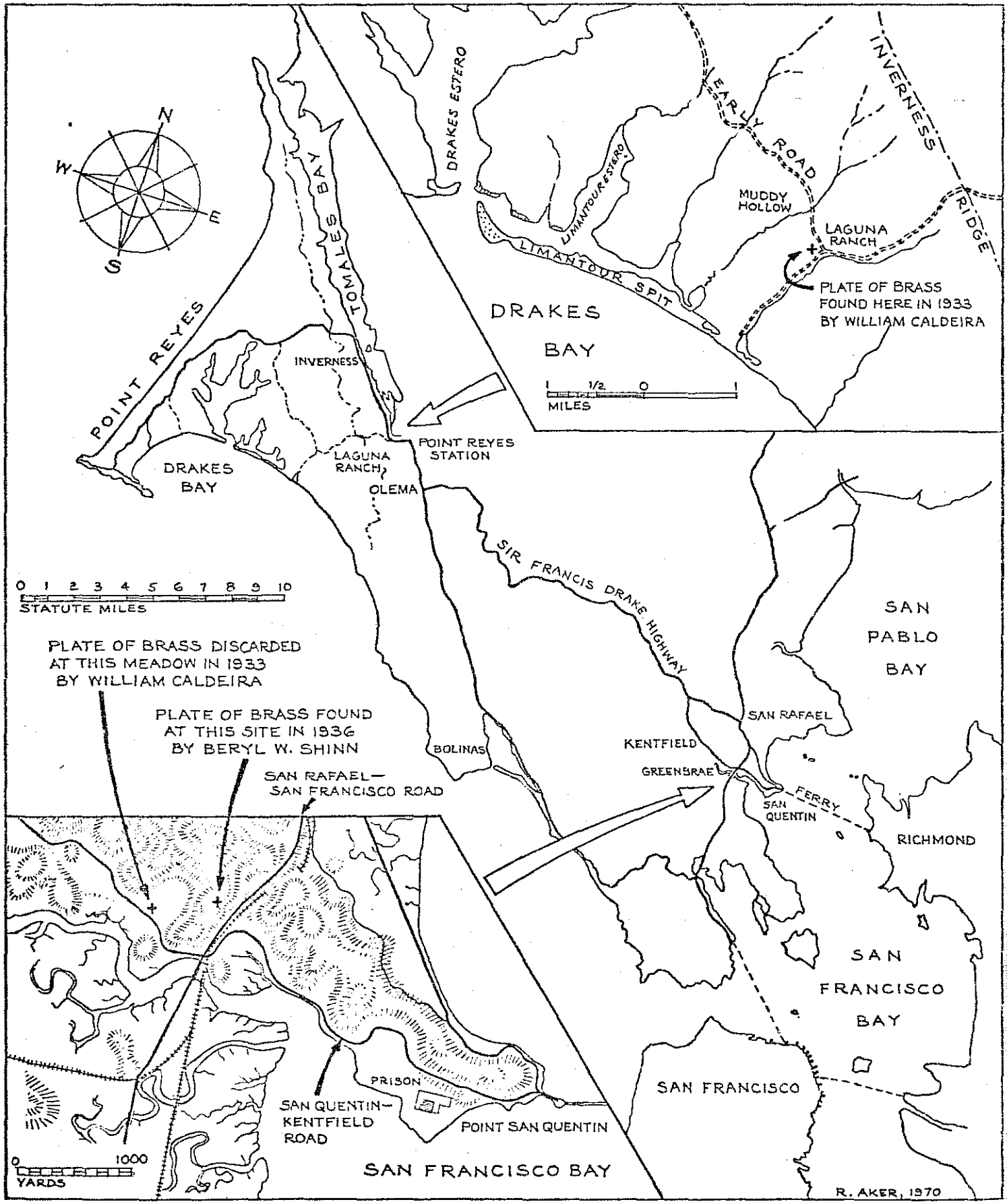
1. The meadow is no longer there. This is at Greenbrae, and a housing development now stands in the meadow. Ed.



THE PLATE OF BRASS FIND SITES

not be made by anyone connected with the University of California on account of the interest of the University in the Plate. It was the Committee's belief that the matter should be submitted only to an expert of the highest quality not connected with the University of California and entirely impartial. The selection of such an individual was a matter of great difficulty and required much correspondence, study and thought.

"The public generally, especially those who were but little informed, believed that if this or that chemist or metallurgist could have a small piece of the metal of the Plate, he would be able to determine in a few minutes whether it was ancient brass or not. This view was not shared by the best informed gentlemen who were consulted, all of whom believed that it was a question to be submitted only to an expert of the highest standing. In spite of constant pressure and suggestions, however, the Committee decided not to be hurried but first to make sure that it was right and then proceed. Finally it was decided to refer the matter to Dr. Colin C. Fink of Columbia University, New York, he being in the opinion of the Committee the best qualified man in the United States to make the investigation. Dr. Fink was indeed fortunate to be able to enlist the services of George R. Harrison of Massachusetts Institute of Technology, a recognized expert in spectroscopy. He also had the assistance and collaboration of other eminent scientists, who are mentioned in his report which is printed herewith. The Plate itself was in the hands of Dr. Fink and his associate, Dr. Polushkin, for more than seven months. Information submitted to them at their request included a report on the climate and temperatures of the region in which the Plate was found, or in which it might have been set up, by Prof. John Leighly of the University of California; a report on the geology of these regions by Dr. O. P. Jenkins, Chief Geologist of the California State Mining Bureau, and samples of soil from the place where Shinn found the Plate, the place where Caldeira found it, and from the site of the Francis Drake Monument at Point Reyes. No one taking the trouble to read Dr. Fink's report can doubt the care, thought and industry of which it is the result. Also it will be apparent to anyone reading his report that the determination of the factors surrounding the authenticity of the Plate was by no means the easy matter which so many people in good faith believed.

"It is submitted that the time taken in selecting the proper expert to make the investigation, and the time consumed in making the investi-

gation, have been fully justified. The results of Dr. Fink's investigation speak for themselves."

The specific details of the authentication of the Plate are available in Fink and Polushkin's report and are not given in this paper since they are not germane to the immediate discussion.

Since it is clear that the Plate must have been erected in the vicinity of Drake's encampment, it is important, granting the Plate's authenticity, to determine as nearly as possible the original resting site of the Plate. But since it is most unlikely that the Plate was found in situ by either Caldeira or Shinn, the importance of where it was originally found, whether at Drakes Bay or at Greenbrae, is diminished -- although still of general interest -- and still of some value when considered as part of the general body of evidence. The mute evidence carried by the Plate also remains more important than the message inscribed on the Plate, which gives time but simply describes the place as "Nova Albion".

In recent years there has been some tendency among a very few authorities to question the original find of the Plate at the Laguna Ranch on Drakes Bay by William Caldeira. Largely, those who disclaim this discovery are proponents of Drake's landing in San Francisco Bay, and it is their opinion that the Plate was found in situ in 1936 by Shinn close by the site of its posting by Drake at Greenbrae. Walter A. Starr, who wrote on this subject in the California Historical Society Quarterly in 1956, believed that the "great and firme post" described in The World Encompassed by Sir Francis Drake was erected in a small outcrop of stone, below the face of which Shinn found the Plate. It was Mr. Starr's opinion that loose rocks were piled about the base of the post to support it against the face of the outcrop instead of being planted in a hole specially dug for the purpose. In support of his theory, he pointed out the presence of loose rock on the outcrop and on the hill below where Shinn said that he had been rolling stones for amusement when he found the Plate. (1)

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1. See Francis P. Farquhar and Walter A. Starr, "Drake in California: A Review of the Evidence and the Testimony of the Plate of Brass," California Historical Society Quarterly, XXVI (March, 1957).

Mr. Chickering, who wrote an introduction to Mr. Starr's and Mr. Farquhar's article, and who was certainly as well qualified as Mr. Starr to testify to the circumstances attending discovery of the Plate at Greenbrae, expressed to members of the Drake Navigators Guild on several occasions his views regarding Caldeira's original discovery. He believed Caldeira's veracity and noted that he had cross-examined him at some length shortly after Caldeira stepped forward to claim original discovery of the Plate at Drakes Bay. It was Mr. Chickering's belief that the Plate had been found there originally, and that the Plate discovered by Shinn was the same Plate that had been discarded earlier at Greenbrae by Caldeira. Mr. Chickering has since passed away, but his reactions should not be lost to the record because of the important part which he played in publicizing and authenticating both discoveries. Caldeira, also, is no longer living, but his personal deposition is available. (1)

It is to be acknowledged that the place at which Caldeira discarded the Plate was, at best, some distance from the site of Shinn's later discovery. Mr. Chickering told members of the Guild, however, that it appeared that some agency had moved the Plate up the hill in the time which intervened between Caldeira's discard and Shinn's discovery (two or three years). He stated that this was generally credited to some Boy Scouts who were known to have occupied the area during the interim period, and he did not consider this improbable.

Contrary to the feelings of those who assume that the Plate was found where it had fallen since disintegration of the post erected in 1579 on a rock cairn, or monument, nearby, Shinn's testimony clearly does not support their argument. When asked the circumstances of his discovery by Dr. Herbert E. Bolton, at the site on February 28, 1937, Shinn stated: "I found the plate by some rocks on the hillside. We were rolling rocks down the hill. They were very brittle and they would break off easily. It was while I was picking up a rock that I noticed the plate lying on the ground. It was partly covered by a rock." When asked by Dr. Bolton: "Was the plate covered by a rock? Before you picked up the rock, could the plate be seen?", Shinn replied: "It could be seen.

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1. "Personalia and Marginalia," California Historical Society Quarterly, XVI (June, 1937), p. 192.

It was only partly covered by the rock." (1)

It is most important to note that Shinn saw a portion of the Plate on the ground before he removed the rock. It is inconceivable that the the Plate could have lain anywhere for 357 years and not become covered with a gradual deposit of soil, or that long exposure to the atmosphere in this circumstance would not have produced a patina greatly different from that which was found.

It seems much more likely that the same agency which carried the Plate up the hill -- possibly the same Scouts referred to by Chickering -- could have dropped the Plate at the site and inadvertantly covered it partially with a rock. Possibly they, too, like Shinn, rolled rocks down the hill; or built a cairn or fort by the place where they dropped the plate. Also, since the land on which the Plate was found had been a farm, it is entirely possible that rocks were gathered together and placed on the stone outcrop to clear the ground for grazing.

A further point against the Plate being found in situ lies in the composition of its patina, which was minutely studied by Doctors Fink and Polushkin. Although much of the patina on the front surface had been removed by cleaning, the back surface was believed to be in the condition in which it was found, and the whole of this surface and the uncleaned parts of the front surface were still covered with corrosion products and foreign elements. Microscopic examination revealed the patina to be composed of two layers, the lower of which showed a solid layer of corrosion products resulting from chemical changes in the metal caused by atmospheric conditions. (2)

It is the outer layer of patina, however, that is of particular interest here, as the products of this resulted from contact of the Plate with minerals from the surrounding soil sometime after the plate fell or had been removed from its post. This outer layer, a conglomerate of a black substance, was concluded to be chiefly finely divided carbon me-

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1. The Plate of Brass: Evidence of the Visit of Francis Drake to California in the Year 1579," California Historical Society, 1953, p, 16.
2. See Colin G. Fink and E. P. Polushkin, Drake's Plate of Brass Authenticated, p. 12.

chanically mixed with other mineral constituants of brownish and red color and included some particles of sand. Some of the carbonaceous particles had a distinctly fibrous structure and in general appearance closely resembled charcoal. Fink and Polushkin state in their Summary: "There is no doubt whatsoever that the dark coating on the surface of the Plate is a natural patina formed slowly over a period of many years."(1)

With respect to foreign elements in the patina of the Plate, Fink and Polushkin significantly stated in their report that the patina of all objects buried in the ground absorbs some chemical constituents from the surrounding minerals. The soil from the Shinn site therefore could not have contributed to the carbon deposit, nor could that from the Caldeira find site, even if the Plate had been buried for some time in either locality. Dr. Aubrey Neasham, formerly Historian for the State of California, undoubtedly suggested correctly that the carbon can probably be attributed to the fact that the Plate rested for a long period of time in an Indian midden with a soil of characteristically high carbon content. Dr. Neasham is of the opinion that the Plate was found in a midden at some time earlier than its discovery -- possibly by ploughing or road building operations -- and that the midden source may actually have been at some distance from the site of the discovery at the Laguna Ranch where there was no midden. Because of the location of the site at the intersection of two roads, one of which dates back to the earliest days of occupation by white settlers, the Plate may have been discarded at this place by someone who carried it from midden concentrations on Drakes Bay or Drakes Estero.

Fink and Polushkin noted that there was a trace of boron in the patina. Soil tests revealed boron in one of three sites tested at Drakes Bay but no boron in a sample of soil from the Greenbrae site. (2)

Finally, while it was Mr. Starr's opinion that the stone outcrop by which the Plate was found by Shinn at Greenbrae is part of a cairn in which the firm post bearing the Plate was erected, there is no evidence within the area of a posthole, spikes (by which the Plate was

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1. See Colin G. Fink and E. P. Polushkin, Drake's Plate of Brass Authenticated, pp. 9, 10, 12-15, 18, 23-25.
2. Ibid, p. 24.

mounted on the post), or the sixpence -- or, for that matter, any other artifact -- even though as is often said, "where there is one clue there should be others." This is borne out by excavations made at the Shinn site on April 17, 1947, under the auspices of the University of California and the National Park Service. The report of this work concluded: ". . . at no place was there any evidence of subsurface disturbance which would have been recognized had a hole for a post been dug. It is believed that the evidence is clear on the point that the post was not raised within a radius of twenty feet of the spot where the Plate was picked up. . ." (1)

The foregoing are all discrepancies which must be explained before the testimony of Caldeira is discarded. While the true site of the discovery of the Plate of Brass is not of overwhelming importance to settlement of the site of Drake's encampment, one simply cannot afford not to give consideration to all aspects of the question.

In the light of the foregoing, there is no valid reason to question the word of Caldeira, a man who Leon Bocqueraz, his employer for eleven years, said was incapable of lying. (2)

The Plate of Brass, crudely inscribed by chisel, now rests in a glass case at the Bancroft Library, University of California. A comparison of the wording on the Plate and that contained in The World

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1. Quoted in The Plate of Brass: Evidence of the Visit of Francis Drake to California in the Year, 1579, California Historical Society, 1953, Preface, v.
2. This statement of Leon Bocqueraz is in absolute agreement with the opinion formed by Allen Chickering after his interrogation of Caldeira. For Bocqueraz' full statement, see Finding the Drake Plate, a tape recorded interview under auxpices of University Libaries Cultural History Project, University of California, Bancroft Library, November 9, 1955. It should be noted, however, that Mr. Bocqueraz' statement regarding the disposition of the Plate made twenty-two years after the occasion is in conflict with Caldeira's original statement in which he said that he was alone when he discarded the Plate and differs as to location by saying that the Plate was discarded before reaching San Quentin.

THE PLATE OF BRASS

Encompassed by Sir Francis Drake reveals significant correlations between the two, indicating a common origin. The inscription on the Plate reads:

BEE IT KNOWNE VNTO ALL MEN BY THESE PRESENTS

IVNE, 17. 1579

BY THE GRACE OF GOD AND IN THE NAME OF HERR MAIESTY QVEEN ELIZABETH OF ENGLAND AND HERR SVCCESSORS FOREVER I TAKE POSSESSION OF THIS KINGDOME WHOSE KING AND PEOPLE FREELY RESIGNE THEIR RIGHT AND TITLE IN THE WHOLE LAND VNTO HERR MAIESTIES KEEPEING NOW NAMED BY ME AN TO BEE KNOWNE VNTO ALL MEN AS NOVA ALBION.

FRANCIS DRAKE

THE FRENCH DRAKE MAP

LA HEROIKE ENTERPRINSE FAICT PAR LE SIGNEUR DRAECK D'AVOIR CIRQUIT TOUT LA TERRE

Nicola van Sijpe (Antwerp ? 1581 ?)

Henry R. Wagner devoted some time to the study of this map and has commented on it in pages 427 to 434, inclusive, of Sir Francis Drake's Voyage Around the World, published in 1926. He noted that there are at least five or six copies of this map extant, most of which are to be found in the 1641 edition of the French translation of The Famous Voyage, and concluded that the map was, therefore, issued at that date, and certainly no earlier than the 1627 edition. This conclusion was reinforced by his belief that parts of this map had been copied from the Hondius Broadside. In his discussion he mentions several meetings with authorities from the Royal Geographical Society and from the British Museum, whose feeling it was that the map had been produced prior to 1600.

The argument of these authorities is given in a publication of The British Museum, Sir Francis Drake's Voyage Round the World, 1577-1580. Two Contemporary Maps, London, 1927.

"There is good reason for believing this to be the earliest of the maps which show Drake's route round the world. Some six or seven copies of it are known to exist, most of them in America; but the British Museum copy here reproduced differs from all the others in one important particular. It is the only one which has been preserved as a separate map, the others being all bound up in copies of the French work entitled, Le Voyage Curieux faict autour du Monde par Francois Drach, editions of which appeared in Paris in 1613, 1627, and 1641.[1] This fact has led certain American scholars[2] to the conclusion that the map itself is a late production, and that it was prepared for the 1641 edition of the book, in which most of the copies are found. In spite of this, a

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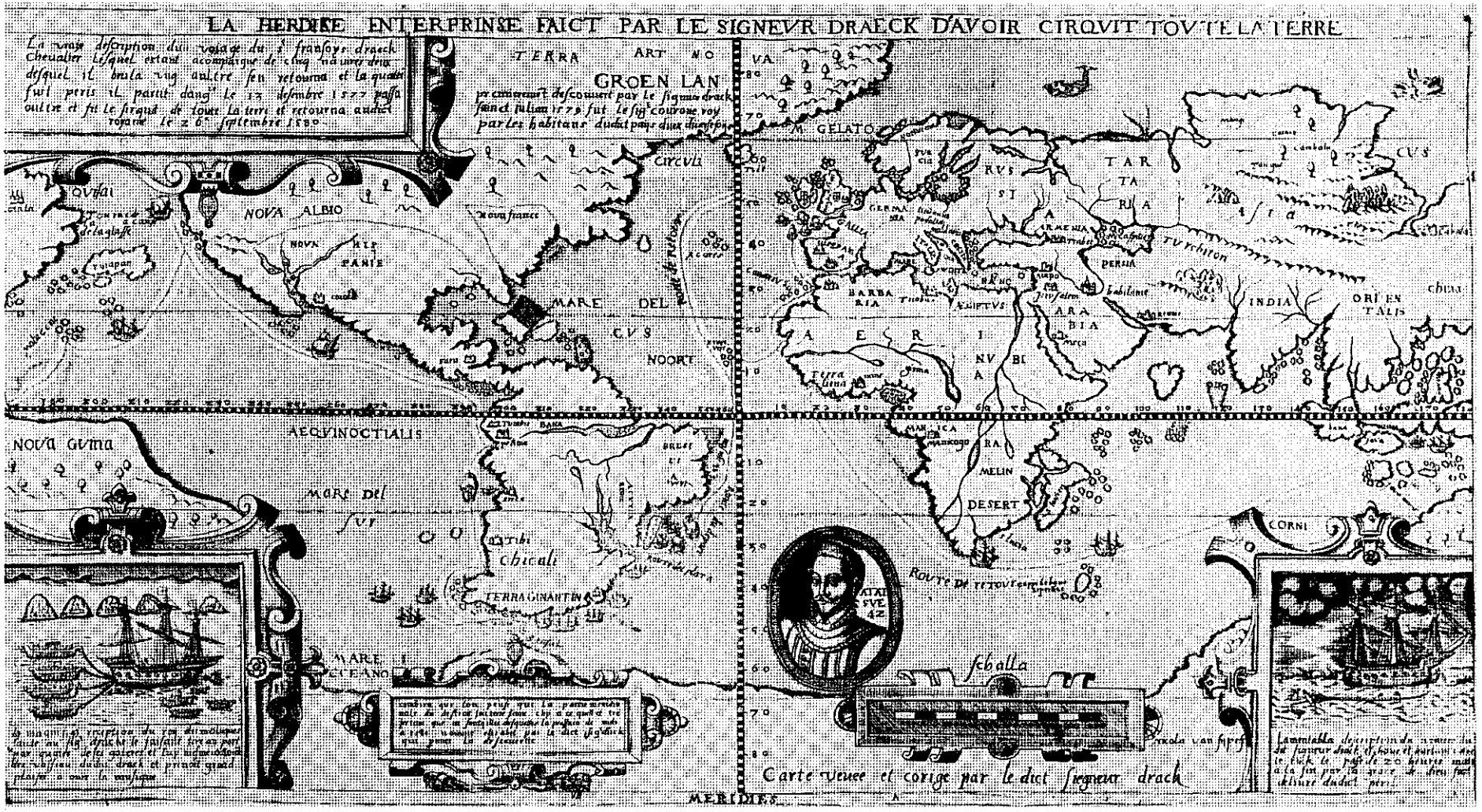
1. "The title varies in the different editions. The version given here is from the edition of 1641, in which most copies of the map are found."
2. "Notably H. R. Wagner in his elaborate monograph on the voyage: Sir Francis Drake's Voyage Around the World, 1926." (In the Second Edition, revised, London, 1931, "certain American scholars" has been changed to "some people". Ed.)



The Henry E. Huntington Library

THE FRENCH DRAKE MAP, c. 1581.

close examination of the map seems to afford good (even if not conclusive) evidence for dating it some sixty years earlier and for regarding it as the first issued to illustrate Drake's voyage. (1)

"The general appearance of the map, both from the point of view of decoration and style and from that of cartography, suggests the late sixteenth century rather than the early seventeenth. The ornaments, for instance, round the insets and legends bear a close resemblance to those on the maps of Ortelius, published between 1570 and 1600, while several of the cartographical features (notably the stumpy shape given to South America) would be most unusual on a map published after 1600. But, quite apart from general impressions, the map possesses several features which point to the same conclusion. The fact that Drake's route is shown, but not that of Cavendish (who sailed round the world in 1586-8) suggests that the latter voyage had not yet been made; maps after 1588 almost invariably show both routes. The portrait of Drake, copied from an unknown original, gives his age as forty-two; it is known that in 1586, when Drake was in Holland, his portrait was painted there, and this portrait (giving his age as 43) was frequently reproduced; it seems unlikely that, if the latter portrait had been in existence when the map was issued, an earlier one would have been preferred to it. The evidence of the watermark is also of considerable interest, though caution is necessary in the dating of documents by this means. The mark on the Museum copy of the map is that of Jean Nivelle, member of a well-known family of paper makers, who were established in Troyes during the greater part of the sixteenth century and the early years of the seventeenth. It is known that Antwerp printers of the late sixteenth century frequently used paper from Troyes, which was then a great paper-making centre, and some of the maps of Ortelius are on paper made by the Nivelles; this point, together with the fact that the Nivelle paper-mills were sold to another firm in 1621, seems to support the theory of an early date for the map. A further consideration worth mentioning is that if the map had been prepared to accompany the little volume of 1641, it is unlikely that the date of Drake's return would have been given on the map as September 26 when the text of the book gives it as November 3.

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1. The 1931 edition adds: "The interest of this map was first recognized by Mrs. Zelia Nuttall, who reproduced it and pointed out its importance in her volume, New Light on Drake, published by the Hakluyt Society in 1914." Ed.

"Thus the portrait, the watermark, and the absence of any allusion to the voyage of Cavendish supply evidence which points to a date not later than c. 1585, but there is reason to think that the actual date is even earlier than this. Examination of the map reveals remarkable carelessness and inaccuracy in its production. In several instances odd portions of names appear without apparent reason, as though they were stragglers from some earlier map, as, no doubt, they are. Two instances of this must suffice: in the lower right-hand section of the map is the word CORNI, evidently a fragment of TROPICUS CAPRICORNI copied from some other map; again, the word CUS, off the West Indies, is the sole remnant of TROPICUS CANCRI. Other instances of carelessness abound. In one place 'route' is spelled 'roete', 'Remus' is apparently meant for Ormuz, 'Ginantin' in South America is for Gigantiñ, while 'Pelima' seems to be a mixture of Guanape and Lima.

"During the winter of 1580-81, immediately after Drake's return from his voyage, the sea-ports of Western Europe were no doubt full of talk of his exploits and discoveries. There seems every reason, therefore, to think that in such a town as Antwerp, with its big sea-faring and trading population, the production of such a map as this may well have been hurried, in order to catch the popular taste while Drake's voyage was still the topic of the hour.

"Several features of the map, apart from the question of its date, deserve notice. In the lower right-hand corner appears the name of the engraver: 'Nicola van Sijpe f.' He seems to be otherwise entirely unknown, and the name, therefore, throws no light on the dating of the map. Near this is an inscription of considerable interest: 'Carte veuee et corige par le dict siegneur drack'. It is, however, impossible to tell whether Drake actually had anything to do with the map; indeed, in view of its many inaccuracies, it seems improbable that he had. The sentence is one that may well have been inserted by an unscrupulous publisher in order to make the map sell.

"The insets in the lower corners illustrate two outstanding episodes of the voyage: the reception given to the Golden Hind by the Sultan of Ternate, and the perilous position of the vessel when she ran upon the reef off Celebes. Two small coats of arms (almost impossible to decipher, but apparently those of Queen Elizabeth) are placed near the two parts of the New World of which Drake took possession in the

Queen's name: the Elizabeth Islands (to the south of the Straits of Magellan), and New Albion in North America. This use of the coats of arms lends colour to the view of Drake as a pioneer of empire, and it is perhaps not too fanciful to regard this map as the remote ancestor of modern maps which illustrate the possessions of the British Empire."

Further reason for assigning an early date to this map is the fact that "Nova france" is shown in an area that was occupied by Sir Walter Raleigh's Virginia Colony in 1584. The presence of "Nova france" here probably stems partly from the discoveries of Verrazzano and in part also through French settlement in South Carolina during the last half of the sixteenth century.

The inclusion of Florida (not named on the map) is curious, and again indicates an early date for the map. The fact that the borders are shown in this way may stem from an English discovery made by John Cabot at the end of the fifteenth century, but in 1562 definite plans were made by Elizabeth and her councilors to establish an English colony in Florida in conjunction with the French Huguenots. Unfortunnately for the English plans, the French settlers there were destroyed in 1564 by a Spanish expedition in command of Pero Menendez de Aviles, and Florida was thereafter occupied by the Spanish. The boundaries express a deliberate nonrecognition of the Spanish occupation, an expression that could have persisted in the early 1580's, especially with Drake, but not so easily as time passed.

The borders of Nova Albion, as laid down on the map, are in keeping with the audacious nature of Drake, and in themselves suggest a source originating with him. That Nova Albion is shown extending from the Pacific to the Atlantic where it is joined by prior English claims is reflected in the tone of the Plate of Brass: ". . . I TAKE POSSESSION OF THIS KINGDOME WHOSE KING AND PEOPLE FREELY RESIGN THEIR RIGHT AND TITLE IN THE WHOLE LAND VNTO HERR MAIESTIES KEEPING." Oddly, the border does not extend all the way to the west coast, but by its termination at a river branch at the head of the Gulf of California, it in one sense implies that the entire west coast from the tip of Lower California was included in the claim.

The map shows no speculation regarding the Northwest Passage, or Strait of Anian, nor any hint of Frobisher's discoveries for the

passage north of Labrador. This omission was probably intentional on the English source map so as to define no limit to the northern extent of Nova Albion while discoveries for the passage were being planned. Immediately after his voyage, in any case, Drake probably had no certain information regarding the extent of Frobisher's discoveries.

The small coat of arms at Nova Albion and below South America reflect the description of the Queen's map at Whitehall given by Purchas, in which he describes a golden crown, garter and her arms affixed to an island that Drake discovered and took possession of below South America.

Some further thought with respect to the statement on the map that the "carte" was seen and corrected by Drake suggests that the gist of the statement probably appeared on the source map instead of being added by the engraver. Nothing can be more certain than that Drake did not see and correct the French map. The meaning is undoubtedly not with respect to a particular map, but reflects an opinion that Drake, by his discoveries, had seen the geography of the world and thereby corrected all maps. That he may have expressed this sentiment himself would be in keeping with his known propensity for vainglorious boastfulness. He had reconnoitered the east coast of South America from Brazil to the Strait of Magellan; he had seen that the Pacific and Atlantic Oceans were joined as one; he had sailed farther south than any man before him; he had discovered that the western tip of South America was not as set down on his charts; he had sailed beyond Cape Mendocino and explored the west coast of North America; he had become embayed in the Celebes where his charts probably showed a direct route from Ternate to Java; he discovered a port on the south coast of Java Major, a coast then barely known. Thus, he could justify such a statement, or others could easily make it for him.

The carelessness shown in the engraving of this map suggests that it was engraved from a hastily copied sketch of another map. The source map was probably not an engraved map, as a copy could then have been brought out of England and a new map made without committing the errors and omissions. The person who made the copy, possibly surreptitiously, would have assumed that the engraver could fill in the omissions and correct errors of geography from available sources and his own ingenuity. That the map was not refined indicates

a desire to place it on the market as soon as possible. Two possible sources, as mentioned previously, may have been the one that was given to Elizabeth and described by Purchas, or one that Drake gave the Archbishop of Canterbury.

The map is unusual as an early source in that it does not show the high latitudes for Nova Albion that were prevalent during the few years following the voyage, and it probably indicates that the source map preceeded the censorship that apparently was soon imposed on Drake's discoveries. Drake's track is shown terminating at about 44° North latitude, which is in accordance with the facts as given in accounts. The return from there and the departure track from Nova Albion leaves some doubt, however, as to which of two bays represents the harbor found by Drake, as the confluence of the two tracks center on an island midway between them.

The geography of the coast of Nova Albion is credible in a general way with what Drake would have found and recorded, and this is the only Drake map known to show islands in this region. Two headlands, one in 43° and the other in 41°, each with an island outside of it, can be considered as representing Cape Blanco and Cape Mendocino. No such islands exist on this coast, but each of these capes has an outlying reef, which in the sixteenth century would have been denoted by a ring of dotted lines; in this instance, they could easily have been mistaken for an island by either the copyist or the engraver. The two bays below the capes could be taken to represent Bodega Bay and Drakes Bay. Bodega Bay has a prominent island-like rock south of Bodega Head and the large island called the Southeast Farallon lies south of Drakes Bay.

The size of this map is 17 5/8' long by 9 9/16" wide.

THE FRENCH DRAKE MAP
c. 1581

Translation of Statements Appearing at
Various Places on the Face of the Map

The following translations were made by Dr. Gerald Herman, Assistant Professor of French, University of California, Davis, Simone Richardson, and Robert W. Allen of the Drake Navigators Guild.

1 - At upper border -- Title of Map:

LA HERDIKE ENTERPRINSE FAICT PAR LE SIGNEVR DRAECK D'AVOIR CIRCVIT TOVTE LA TERRE

THE HEROIC ENTERPRISE DONE BY SIR DRAKE TO HAVE CIRCLED ALL THE EARTH

2 - Cartouche in upper left corner -- Description of the Voyage:

La vraÿe description du voiage du s^{r} fransoÿs draeck cheualier lesquel estant acompaigne de cinq nauires deux desquel il brula vng aultre sen retourna et la quater fust peris il partit dang^{re} le 13 desembre 1577 passa oultre et fit le sirquit de toute la terre et retourna audict roÿame le 26^{e} septembre 1580

The true description of the voyage of the Knight Sir Francis Drake (1) who was accompanied by five ships, two of which he burned, another of which turned back and the fourth just perished. He departed from England December 13, 1577, went across [the Atlantic] and circumnavigated the entire earth, and returned to the said kingdom [England] September 26, 1580.

3 - Upper center:

TERRA ART NOVA GROENLAN premieremēt descouuert par le signeur drack sainct julian 1579 fut le sig^{r} courone roÿ par les habitans dudict paÿs duex diuerse foÿs

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1. Drake was knighted April 4, 1581, and therefore the production of the map could not have preceded this date.

NEW LAND PORTION OF GREENLAND first discovered by Sir Drake in Saint Julian [referring to the calendar] 1579, who was made the noble king by the people of the said country two different times. (1)

4 - Cartouche, lower left corner -- Reception of Drake in the Moluccas:

La magifiq^{t} reception du roÿ des moluques faicte au sig^{r} dracke le faisant tire au port par quater de ses galeres et Luÿ mesme costoiãt des vassiau dudict drack et prenoit grand plaisir a ouir la musique

The magnificent reception by the king of the Moluccas made for Sir Drake as he [the king] was having him [Drake] drawn to port by four of his [the king's] small boats and himself [the king] coasting alongside of the vessel of the said Drake, and taking great pleasure in hearing the music.

5 - Cartouche, lower left corner -- Elizabeth Island:

combieu que lon pense que la partie meridio uale du destroit soit terre ferme chÿ et ce quell et tre sertain que ne sont qilles desquellas la prossain de midi a este nomme elisabet par le dict vig^{r} d^{r}ack qui pmier la descouertte

However one may think the southern part of the strait is of firm earth, what is very certain is that this part consists only of islands, of which the one nearest the south has been named Elizabeth by the said Drake who first discovered it.

6 - Cartouche, lower right corner -- Golden Hind Aground:

Lamentabla description du nauiere du dit signeur drack eschoue et hurtant cõtre le rock le passe de 20 heures mais a la fin par la

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1. ART is probably an abbreviation of a form of the Latin PARS, which means "part" or "portion," though it could also be from the old French Artique, which means "Arctic" or "north," and thus NEW ARCTIC LAND OF GREENLAND. However, the translation given here is the most likely as it retains the Latin to form a phrase.

grace de dieu fust deliure dudict peril

A lamentable description of the ship of the said Sir Drake aground and hurting against the rock [reef] for the passage of 20 hours, but at the end by the grace of God just liberated from the said peril.

7 - Statement off Coast of Nova Albion:

Tournede la a cause de la glass

Turning of the [missing word is probably "ship"] because of the ice.

8 - On Track off East Coast of South America:

Route du depart

Route of departure

9 - On Track off the Cape of Good Hope:

Route De retour cappe de bone Esperãce

Route of return by the Cape of Good Hope

10 - On Track in North Atlantic, left center:

Roete de Retour

Route of return

11 - Statement at bottom of map, left center.

Carte veuee et corige par le dict Siegneur drack

Map seen and corrected by the said Sir Drake.