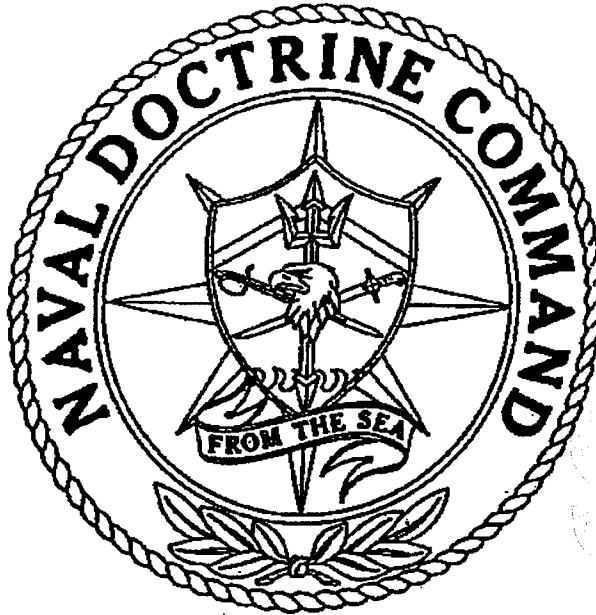


3-00-006

# NAVAL DOCTRINE COMMAND

Norfolk, Virginia



DTIC  
CITE  
DEC 1 0 1994

Doctrine in the Spanish Navy

by

Dr. James J. Tritten

November 1994

Approved for public release; distribution unlimited.

19941212 042

DTIC QUALITY INSPECTED 1

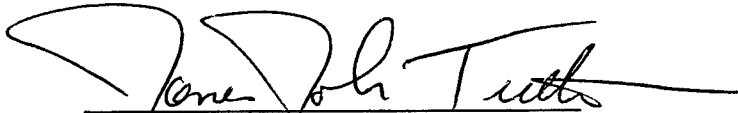
NAVAL DOCTRINE COMMAND  
Norfolk Virginia

Rear Admiral F.L. Lewis  
Commander

The work reported herein was prepared by the Naval Doctrine Command. This report reflects the opinion of the author only and does not represent the views or policies of the Naval Doctrine Command, the U.S. Navy and Marine Corps, or the Department of Defense.

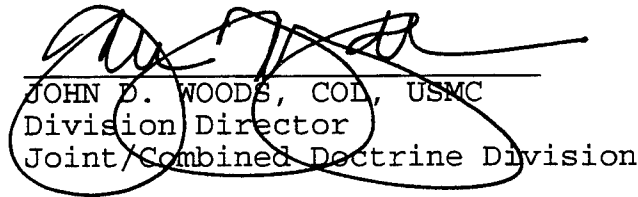
Reproduction of all or part of this report is authorized.

This report was prepared by:



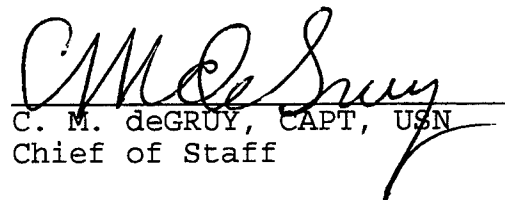
DR. JAMES JOHN TRITTEN  
Joint/Combined Doctrine Division

Reviewed by;



JOHN D. WOODS, COL, USMC  
Division Director  
Joint/Combined Doctrine Division

Released by;



C. M. deGRUY, CAPT, USN  
Chief of Staff

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
1a. REPORT SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT  <b>APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED</b>		
2b. CLASSIFICATION/DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S) NDC 3-00-006			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION  NAVAL DOCTRINE COMMAND		6b. OFFICE SYMBOL  N5A	7a. NAME OF MONITORING ORGANIZATION		
6c. ADDRESS (CITY, STATE, AND ZIP CODE) 1540 GILBERT STREET NORFOLK, VA 23511-2785			7b. ADDRESS (CITY, STATE, AND ZIP CODE)		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (CITY, STATE, AND ZIP CODE)			10. SOURCE OF FUNDING NUMBERS		
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
			WORK UNIT ACCESSION NO.		
11. TITLE (INCLUDE SECURITY CLASSIFICATION) DOCTRINE IN THE SPANISH NAVY					
12. PERSONAL AUTHOR(S) DR. JAMES J. TRITTEN					
13a. TYPE OF REPORT FINAL	13b. TIME COVERED FROM FEB 94 TO NOV 94	14. DATE OF REPORT (YY,MM,DD) 94,11,14	15. PAGE COUNT 13		
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS		
FIELD	GROUP	SUB-GROUP	Continue on reverse if necessary and identify by block number)		
			DOCTRINE	MILITARY DOCTRINE	TACTICS
			NAVAL DOCTRINE	STRATEGY	TECHNOLOGY
			NAVY DOCTRINE	OPERATIONAL ART	SPAIN
					SPANISH NAVY ARMADA REAL ARMADA ESPANOLA
19. ABSTRACT (CONTINUE ON REVERSE IF NECESSARY AND IDENTIFY BY BLOCK NUMBER)					
<p>HISTORY OF DOCTRINE IN THE SPANISH NAVY 1270-1994. EARLY DOCTRINE WAS ORIENTED TOWARDS THE CLOSE ABOARD BATTLE. UNDER FRENCH (BOURBON) RULE, NEW NATIONAL NAVY ORGANIZED AND GREATLY INFLUENCED BY FRENCH NAVY DOCTRINE. SOME OF THE MOST SOPHISTICATED NAVY DOCTRINE DURING THE AGE OF SAIL WAS WRITTEN IN SPAIN. THE LACK OF CONTINUED COMBAT HAD A NEGATIVE INFLUENCE ON DOCTRINAL DEVELOPMENT. DOCTRINE CAME EASY TO THE SPANISH NAVY-PROBABLY DUE TO CULTURAL CONDITIONING. LESSONS LEARNED INCLUDE: (1) THE LONG TIME NECESSARY TO CHANGE DOCTRINE IN THE SPANISH NAVY, (2) THE VERY TWISTED PATH THAT DOCTRINE TOOK IN SPAIN, (3) THE CLOSE COOPERATION WITH FRANCE DID NOT SERVE SPAIN WELL, (4) SUCCESSFUL INNOVATION WAS NOT POSSIBLE WITHOUT A FRIEND IN COURT, (5) DOCTRINAL INNOVATION SUFFERS WITHOUT FREQUENT COMBAT, AND (6) THE SPANISH NAVY TAKES IT FOR GRANTED THAT THERE WILL ALWAYS BE DOCTRINE IN THEIR NAVY.</p>					
<div style="float: right; border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>For</p> <p>A&amp;I <input checked="" type="checkbox"/></p> <p>B <input type="checkbox"/></p> <p>C <input type="checkbox"/></p> <p>D <input type="checkbox"/></p> </div> <div style="clear: both;"></div> <div style="float: right; border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Distribution/</p> <p>Availability Codes</p> <p>Dist Avail and/or Special</p> <p style="font-size: 2em; margin-top: 10px;">A-1</p> </div> <div style="clear: both;"></div>					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT X UNCLASSIFIED/UNLIMITED    SAME AS RPT.    DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED		
22a. NAME OF RESPONSIBLE INDIVIDUAL JAMES J. TRITTEN			22b. TELEPHONE (INCLUDE AREA CODE) (804) 445-0565/6		22c. OFFICE SYMBOL N5A

## ***DOCTRINE IN THE SPANISH NAVY***

by  
James John Tritten<sup>1</sup>

### **First Written Navy Doctrine**

Although one can find mention of naval strategy in works such as the *History of the Peloponnesian War* by Thucydides,<sup>1</sup> the first written navy doctrine was issued by the King of Castile--"Título XXIV, *De la guerra que se face por la mar* [Of The War That is Made On the Sea]" (1270).<sup>2</sup> This section of the national legal code dealt with maritime warfare in the form of ten "laws." The first law dealt with war at sea being different than war ashore and that it required a different type of individual. It also acknowledges that there are two basic forms of naval warfare, warfare between major fleets and that between just a few ships. The second law discusses the types of men required for maritime warfare. The third through sixth laws dealt with the necessary qualifications and selection of admirals, ship's captains, navigators, and other officers.

The seventh law is concerned with the types of ships that should be used for warfare at sea whereas the eighth attempts to draw a comparison between the requirements to support ships and horses. The ninth law states that ships must be supplied in order to fight and established a basic load out for warships. The last law again addresses the differences between land and sea warfare and also explains how to divide the profits when achieving victory.

### **Early Years--Close Aboard Battle**

With the union of Castile and Aragon in 1479, the embryonic modern state of Spain took shape. The next substantive work of written navy doctrine was by Alonso de Chaves--*Quatri Partitu en cosmografía práctica*, also known as *Espejo de navegantes* [Seaman's Glass], written between 1520-1538,<sup>3</sup> during the reign of Carlos I and two wars with France (1521-1529 and 1535-1538). *Espejo de navegantes* advanced the concepts of squadron formations, the use of artillery, and the taking of the weather gauge, or the upwind side, during battle. This work is the earliest record that we have of an attempt to write down the fighting

---

<sup>1</sup> The views expressed by the author are his alone and do not necessarily represent those of the U.S. government, Department of Defense, or the U.S. Navy. The author is indebted to Rear Admiral José Ignacio González-Aller Hierro, SPN, Director of the *Museo Naval* (Madrid, SP) and Captain Jaime Goyanes, SPN, at the Spanish Military Mission to SACLANT [Supreme Allied Commander, Atlantic] (Norfolk, VA) for their assistance and input to this paper. The author is also indebted to Michael Johnson at the Center for Naval Analyses and to Petty Officer Damaso Medel of the Naval Doctrine Command for their assistance in translations.

formations and tactical principles. *Espejo de navegantes* was adopted and modified by King Henry VIII in the first written navy doctrine issued in England.<sup>4</sup>

De Chaves argued that whenever two fleets meet, one formation would probably be better than the other. That being the case, he proposed to recommend battle formations that would maximize combat potential. The concept for combat was for close-order engagement based upon galley tactics. De Chaves' mistake was that he failed to take into account the uncertainty of seamanship with ships of sail and assumed that relative positions could be easily maintained.<sup>5</sup> In other words, navy doctrine had failed to successfully account for the new technological environment. The navy was finally separated from the army in 1586.

From the middle of the 16th Century through the 17th Century, Spain maintained divisions and squadrons of naval forces in each of three different geographic areas: the Atlantic, the Mediterranean, and the Pacific. In addition to operational missions, these divisions had administrative and logistical functions. In the Atlantic, overall command was held by the *Capitán General de la Mar Océano*. The Atlantic division consisted of an ocean-going fleet of three subordinate squadrons based at Vizcaya, Guipúzcoa, Portugal, as well as the Guard of the Straits of Gibraltar. The Atlantic division also included an independent squadron at Dunquerque, which maintained station in *los Países Bajos* [the low countries], and an independent *Armada de Barlovento* based in the Antillas. Overall command in the Mediterranean was held by the *Capitán General de la Mar*. The Mediterranean division consisted of subordinate squadrons in Spain, Naples, Sicily, and Genoa. The Pacific division was composed of the *Armada de Peru*, also known as the *Armada del Mar del Sur*, and a tasks group of variable size deployed to the Philippines.

Spain and England fought the Eighty Years War, or the Dutch War of Independence (1568-1648), largely over control of Holland. As a part of this war, the Spanish Armada of 1588, consisting of some 130 ships manned by 30,000 men, two-thirds of which were soldiers, attempted to attack and invade England. The concept of operations for the Armada was to fight a close-in battle at sea where the Spanish would use their superiority in boarding. After all, Philip II had seen his brother Don John of Austria use the same galley-oriented doctrine to win at the recent Battle of Lepanto (1571) and his own forces achieve success over the French in the Battle of Punta Delgada, Azores (1582). In these battles, the overall tactical objectives were to select an opponent and board in a general *mêlée*.<sup>6</sup> The latter battle, under the command of Captain-General Don Álvaro de Bazán, Marqués de Santa Cruz, reinforced Spain's need for sailing ships that could engage in distant water combat. The undefeated Santa Cruz had planned the Armada and would have been its commander had he not died.<sup>7</sup> Today we still have copies of instructions issued by Santa Cruz at sea in July 1587 to govern the fight near the island of San Miguel in the Azores<sup>8</sup> as well as the instructions provided to the Armada in April 1588.<sup>9</sup>

The English recognized the Spanish advantage in sailing skill, numbers, and tactics--they kept their distance using long-range artillery to wreak havoc on the Armada which formed into defensive galley-oriented formations. The English also held the superior logistical

position, being close to their own ports for reprovisioning. The Spanish commander, Don Alonso Perez de Guzman, Duke of Medina Sidonia, knew this and, from his written sailing orders, it was clear that he felt that Spain's religious and moral superiority would make up the difference.<sup>10</sup> This is not unlike the French concept that their *élan* could make up for material deficiencies. The previous destruction of twenty-three merchant ships at Cádiz in 1587 and the failure of the Armada in 1588 started a major naval decline in Spain. As a result of a later combined Anglo-Dutch effort, Cádiz was occupied and the Spanish fleet again neutralized in 1596.

Combat instructions used by the fleets of the 16th and 17th Centuries were modified to abrogate galley concepts and were contained in various books and instructions issued by local commanders throughout these years. The basic fundamentals of theories of war for the Spanish, including warfare at sea, were found in Bernardino de Mendoza's *Theorica y práctica de guerra* (1596) which was to serve as the fundamental source of navy doctrine through the 18th Century.

Concurrent with the Eighty Years War was Spanish participation in the Thirty Years War with France (1635-1659). Spain suffered naval defeat at the hands of the embryonic French fleet. The Spanish battled the Dutch throughout the Eighty Years War and the Battle of the Downs (1639) confirmed Spain's naval eclipse. A subsequent Anglo-Spanish War (1654-1659) also had unfortunate consequences for Spain.

The years of wars with England necessitated a method of ensuring the security of treasure ships, and the Spanish introduced the concept of convoy escorts in the mid-16th century.<sup>11</sup> Initially, escort ships were essentially armed merchantmen. Even improved designs lacked maneuverability, although they were stable gun platforms due to the large cargo-carrying capacity built into the hull.

Command of Spanish ships of the line included a divided command; one officer was in charge of the soldiers at sea and another commanded the ship's company. This system of dual command was to last for nearly a hundred years. The command and manning policy reflected a naval doctrine that called for a warship to be both a platform for small arms shooting by troops as well as a platform for artillery fire from cannon. The result was that Spanish ships generally had crews of half marines and half seamen--consequently they could do neither job well.

### French Influence

It was not until 1700 under Philip V, the first Bourbon [French--Philip V was a descendent of Louis XIV] king, that a true national navy, the *Armada Real*, was organized in Spain. Early uses of this new national navy during the War of the Spanish Succession (1701-1715) were not particularly successful. A Spanish treasure fleet escorted by a French squadron under Admiral Châteaurenault was successfully attacked in port at Vigo in 1702. The engagement of the Dutch and English against the combined Franco-Spanish fleet off

Malaga in 1704 reaffirmed the defensive doctrine favoring control advocated by the French Navy theorist Père Paul Hoste in his *L'Art des armées navales ou traité des évolutions navales* (1697). Hoste's influence over Spanish Navy doctrine could be felt until the early 19th Century.<sup>12</sup> Spain could not prevent the landing of an army in Catalonia resulting in the subsequent capture of Madrid. The War of the Spanish Succession at sea was largely a *guerre de course*, with some 1,500 merchantmen being lost by both sides.

With the arrival of the Bourbon rule in Spain, many bureaucratic and administrative reforms took place. In addition to the creation of a national navy, another important development was the provision, in 1717, for midshipmen to serve as the Royal Company of Marine Guards. The embryonic national fleet under the command of Vice Admiral Antonio Gaztañeta y de Iturribálzaga was virtually destroyed by British Admiral George Byng at the Battle of Cape Passaro (1718), also known as the Battle of Messina. The defeat at Passaro, the battle having been initiated just prior to the formal declaration of the War of the Quadruple Alliance (1718-1720), resulted in a further loss of control of the Mediterranean seas and the subsequent inability to defend the Spanish coastline from disastrous English raiding attacks. The defeat of the escorting force at Cape Passaro, however, had no impact on the arrival of 340 transports with 33,000 troops that recaptured Sicily. It did, however, affect the ability of Spain to support a distant army. The major impact of the defeat at Cape Passaro and the end of the wars with the Quadruple Alliance was a resurgence in naval construction.

### Founding a Modern Navy

The father of modern Spanish Navy shipbuilding methods was the same Admiral Gaztañeta as had fought at Passaro. Gaztañeta wrote *Proporciones de las medidas más esenciales...para la fábrica de los navíos y fragatas de guerra, que pueden montar desde ochenta cañones hace diez...* (1720), an excellent book on warship design. Gaztañeta also served as the first Director of Naval Construction. Spanish naval fleet construction shifted to warships designed to provide convoy escorts rather than warships designed to engage in a decisive engagement against an enemy battle fleet.

Francisco Cornejo prepared his *Instrucciones y ordenes* (1732) providing naval doctrine and the plan for an amphibious operation at Oran between June and November 1732. A Spanish fleet of some 50 escorts and 500 transports brought an army of 30,000 men and successfully captured a large fortified city defended under the command of Bey Hassan.

The father of the modern Spanish Navy was José Patiño, Intendent and later Minister of the Navy--one of the Bourbon's better appointments. Patiño's early service to the crown was with the army as an administrator. Patiño's main task was to rebuild the navy and develop safer locations for shipyards which could be defended--making them less subject to British attack from the sea. Under Patiño the fleet expanded its capabilities with ships of the line that were designed for decisive sea battle. Patiño's tenure as Minister is similar to that of Jean-

Baptiste Colbert, under Louis XIV. By the time of Patiño's death in 1736, Spain possessed a professional fleet of considerable strength.<sup>13</sup>

In an interesting interpretation of international law, France was obligated by a defensive alliance with Spain to provide warships to Spain during the latter's War of Jenkins's Ear (1739-1741) with England. A French squadron of twenty-two ships essentially operated as a part of the Spanish fleet and convoyed a division of Spanish ships to North American waters. The massing of forces and the presence of French warships deterred a British attack on the Spanish. Otherwise during this war, France claimed the rights and privileges of a neutral. Cooperative interaction between the French and Spanish fleets over the years would eventually lead to the development of multinational navy doctrine.

The worst defeat suffered by the British at the hands of the Spanish during the 18th Century was the abortive amphibious invasion of Cartagena de Indias led by Admiral Edward Vernon and General Wentworth between 1740-1741. The defending Spanish naval commanders, Vice Admiral Blas de Lezo, and General Sebastián Eslava, Viceroy of New Granada, fought with 6,000 sailors and troops in their defended fortifications against 30,000 troops and 120 ships. Blas de Lezo, a Basque, fought with courage and tenacity. Blas de Lezo had served at Oran in 1732 and was thus able to put to practice his knowledge in the subsequent anti-landing operation at Cartagena--he fought the English at the outer defenses and refused to surrender. His personal presence was similar to that of Admiral Lord Horatio Nelson--Blas de Lezo fought with one leg, one arm, and one eye. He had lost the leg fighting at Velez-Malaga in 1704 and his eye at Toulon.<sup>14</sup>

Spanish Navy strength was again demonstrated against the English during the War of the Austrian Succession (1740-1748) in the actions off Cape Sicie (1744), near Toulon. In the Battle off Cape Sicie, a French fleet, under Admiral La Bruyère de Court, successfully escorted a Spanish squadron under Don Juan José Navarro through a blockading English fleet under Admiral Thomas Mathews. De Court was under orders not to fire unless attacked and offered to intermix his ships amongst the Spanish. Navarro refused and although the subsequent tactical engagement was indecisive, the Spanish squadron made its way to Cartagena where Navarro was decorated with the title of Marqués de la Victoria. Spain remained neutral during the Seven Years War (1756-1763), although she took advantage of the opportunity to retake Minorca from the British.

In 1759, Carlos III took the throne and ushered in another era of administrative reform. In 1776, then-Lieutenant José de Mazarredo Salazar published a tactical treatise for junior officers.<sup>15</sup> *Rudimentos de táctica naval para instruccion de los oficiales subalternos de marina* contained only minimal sections on actually fighting an enemy, but did introduce innovative methods of breaking the line and using fireships. Mazarredo later published a signals book which bore the strong influence of French works by Jean François de Cheyron, Chevalier du Pavillon. This signals book was prepared for use in combined operations by the Franco-Spanish fleets and was far more simplified than the French signals book actually



placed in use. The close cooperation between the French and Spanish fleets was, no doubt, a result of Bourbon rule.

The formation of a combined Franco-Spanish fleet in 1779 during the American War of Independence resulted in the issuance of French navy doctrine for both fleets. Overall command was given to Admiral Louis Guillouet, Comte d'Orvilliers, who prepared a revised instructions and signals book that could be used by both fleets. Spanish ships were both integrated within the French fleet as well as maintained as a national force in a separate Squadron of Observation which would join the battle once the enemy was engaged.

British Admiral Lord George Brydges Rodney with a considerable portion of the Channel Fleet seized the opportunity to attack a Spanish convoy and then a Spanish squadron under Admiral Langara at the Battle of Cape of Santa María, also known as the "Moonlight Battle" or the Battle of Cape Vincent (1780). Subsequent strikes by the Combined Fleet resulted in the loss of British convoys. Admiral of the Fleet Luís Córdoba y Córdoba inflicted two of the worst convoy defeats on the English in 1780 and 1781. The former victory was by a Combined Fleet under Spanish command and resulted in the capture of fifty-five ships and 3,000 British sailors and the loss of weapons and supplies bound for Jamaica. Between 1779 and 1782, Spain unsuccessfully engaged in a siege and an amphibious campaign against the British at Gibraltar. On the other hand, between 1779 and 1782, Carlos III supported the American and Spanish forces succeeded in capturing eastern Florida (1780) and the Bahamas Islands (1781). In 1782, the Spanish again succeeded in recapturing the naval base at Minorca from a British garrison.

Spanish Navy doctrine was now influenced by two additional French theoretical works.<sup>16</sup> The first was *L'art de la guerre sur mer, ou tactique navale* (1787) by Commodore Jurien, Vicomte de Grenier. This succinct work is very much oriented towards battle and not control. Grenier stressed massing strength against weakness. Despite some rather innovative suggestions for tactical disposition of the fleet, *L'art de la guerre sur mer, ou tactique navale* was still essentially biased in the favor of the defense and wars of attrition. The other influential book was Admiral Clause François, Comte d'Amblimont's *Tactique navale, ou traité sur les évolutions, sur les signaux et sur les mouvemens de guerre* (1788). *Tactique Navale* also stressed innovation; d'Amblimont advancing the idea of breaking the fleet into separate *pelotons*, or tactical groups with different functions.

During the end of the reign of Carlos III (r. 1759-1788), the king ordered the formation of "working-up squadrons" to train crews in navigational exercises and tactics. Eventually two such squadrons were formed and were aided by the services of retired senior officers with proven combat experience. Carlos III gave a great deal of support to the navy owing to the humiliation that he suffered at the hands of the Royal Navy in 1744 while he was serving as the King of Naples. In 1785, the Spanish Navy was officially christened *La Armada Española*. The navy retains this title today, despite frequent and subsequent changes of types of government. A set of Navy Regulations were issued in 1793 preparing ships for battle<sup>17</sup>--which was to occur immediately due to the declaration of war on Spain by France. By 1795,

the two nations made peace and one year later Spain and France were again at war with Britain.

### Development During the French Revolution

The Spanish fleet during this era was short of men and supplies and was not well trained, although they had been provided with excellent signals books and tactical manuals. As a result, Vice Admiral Don José de Córdoba y Córdoba, commander of an escort to an extremely valuable convoy, suffered a crushing defeat against the well-trained British Mediterranean Fleet at the Battle of Cape St. Vincent (1797). During this time, the British benefited from the experiences of frequent combat against the French and were thus fighting at the height of their combat potential. Fortunately at Cape St. Vincent, the British commander, Rear Admiral John Jervis, did not understand the value of the convoy to the Spanish economy and instead concentrated his attack on warships (which had nearly twice the firepower as the English) rather than the capture of transports. If de Córdoba had possessed better ships, the battle might not have turned out the way it did and de Córdoba might not have been court-martialed.<sup>18</sup>

Following this defeat at Cape St. Vincent, Admiral José de Córdoba prepared a report, published in the *Gaceta de Madrid* (1797), which indicates that he was quite unprepared for command and battle fleet maneuver. During this era, Spain was plagued by selection of officers for command for other reasons than their aggressiveness at sea. Some of the differences between the leadership and command qualities of Royal Navy and Spanish officers have been described as resulting from the longer periods at sea and longer periods engaged in combat by the British.<sup>19</sup> Additional problems stemmed from the constant undermanning of Spanish ships and the lack of camaraderie of the crews.

José de Mazarredo Salazar next published *Advertencias para caso de combate* (1797) and he eventually rose to the rank of Vice Admiral--having achieved a fine combat record. Mazarredo was never defeated at sea but was never entrusted with major fleet command at a critical moment in Spain's history. The reason that he was not in command of the fleet was that he publicly expressed concern over the condition of the fleet and its lack of combat capability. He also criticized the Spanish method of manning ships, with so much of the crew devoted to one task (marines shooting small arms) but not the other (sailors manning long-range cannon). Mazarredo also had the audacity to question Spanish foreign policy.<sup>20</sup>

Another fine combat officer and superb seaman was Commodore Cosme Damián Churruca y Elorza. Churruca published *Instrucción sobre punterías para el uso de los baxales del Rey*, which attempted to deal with the problems of naval artillery, advanced mathematics, and navigation. He had served as a consultant to the French Navy in the area of seamanship. Had he not died at Trafalgar, he would have certainly been destined for higher leadership in the navy.

One of the most sophisticated tactical and signalling books ever to have been produced was *Tratado de señales de día y noche, e hipótesis de ataques y defensas, dispuesto por el Estado Mayor de Marina para auxiliar la instruccion de este ramo* (1804). This official navy doctrine book excelled in its analysis of battle tactics and clearly put the offensive first. An extremely complex signalling system allowed the commander to indicate some 576 signals by flag. The book also included a translation of two of the major doctrinal fighting and signalling works published by British Admiral Lord Richard Howe as well as summaries of the extremely innovative works by Grenier and d'Amblimont.

### Napoleonic Era

During the Napoleonic Wars (1803-1815), Spain again fought the British and Spain also fought the French. At the Battle of Trafalgar (1805), the Spanish and French fleets operated as a Combined Fleet, although in separate national squadrons. There had been no combined fleet exercises for these two navies prior to the battle.<sup>21</sup> Furthermore, the tacking of thirty-three warships from south to north had never been attempted by the Combined Fleet--made all the more awkward by the light winds which prevented the formation of a solid defensive battle line. Admiral Don Federico Gravina, perhaps more pliant and diplomatic than the cantankerous Mazarredo [who probably would have made a more effective commander], was unable to override the defensive navy doctrine of the French and put into practice the new offensive Spanish doctrine outlined in *Tratado de señales*.<sup>22</sup> Mazarredo would have certainly objected to the manning of his ships with crews that were half marines and other infantry men--resulting in a close aboard battle rather than engaging the British at a distance. There is no question over the bravery of the individual Spanish officers and men at Trafalgar. We can only speculate on the outcome had the Spanish fleet operated under their new navy doctrine and under a proven combat leader like Mazarredo.

Given the role of Gravina in acting as a diplomat with France prior to Trafalgar, his selection as the commander of the Spanish fleet is understandable. The unfortunate disaster at Trafalgar, however, resulted in another major decline in Spanish naval preparedness. The immediate threat was from the French forces which crossed the border in 1808. As with France's preoccupation with the Germans later in the 19th Century, neither the French nor Spanish fleets could affect the outcome of more important threats from across the border. Cádiz, from which the Combined Fleet had sailed, became the hotbed of resistance to French occupation forces and the seat of the government in exile. The Bourbon king abdicated in 1808 and was replaced by Joseph Napoleon--Bonaparte's brother. By the next year, France had conquered most of Spain.

The loss of her overseas colonies created an immediate problem (loss of income) and the need to come up with a solution. Spain attempted to use her limited naval forces to pacify her American colonies along the Caribbean during the Spanish-American wars of independence (1810-1824). Her weakened navy proved incapable of suppressing privateers, let alone supporting such a major undertaking.<sup>23</sup> Great Britain chose to use her fleet to thwart Spain's attempt to regain the colonies and thus secured for herself a favored trade status. The

newly independent republics secured the services of foreign seamen to successfully defend their new status.

After the defeat of Napoleon in 1814, the Bourbon monarchy was reinstalled. Civil unrest and mutiny in Spain itself followed and resulted in another French invasion to put down the unrest. Spain turned increasingly inward during the 19th Century, attempting to set up a constitution and needing to address various uprisings and separatist movements. By 1873, the first Spanish Republic had been proclaimed. During this era, there could hardly be any consistent advancement in navy doctrine during the introduction of the ironclad.

The Spanish Navy followed the doctrine advocated by Mazarredo and contained in *Tratado de señales* until Lobo Malagamba prepared a revised text on naval tactics in 1862.<sup>24</sup> This was the first such doctrine for Spanish Navy ships of steam. Lobo's text was the basic navy doctrine for fleet employment during the Campaign in the Pacific in 1866 against Chile and Peru under the command of Rear Admiral Méndez Nuñez.<sup>25</sup> The next two doctrinal publications were authored by Federico Ardois in 1884--*Cuaderno de evoluciones* and *Código de escuadra*. These two publications governed fleet actions during the Spanish-American War (1898) and were kept as the basic doctrine for the fleet, with modifications in 1929 and 1935, until the end of World War II. The lack of continuous combat, as could be found in the British Navy, appeared to therefore be a major damper on naval thought.

### Spanish-American War

The major Spanish combat at sea following Trafalgar was the war with the United States in 1898. The Spanish-American War consisted of two major maritime campaigns. In the Philippine Campaign, Rear Admiral Patricio Montojo recognized the inferiority of his forces and planned to fight at anchor, planning to supplement his naval guns with artillery from shore batteries. Lack of practice in gunnery, anchoring out of range of most shore batteries, and Admiral Thomas Dewey's [USN] surprise night attack helped doom the Battle of Manila Bay to be a one-sided contest. Dewey himself congratulated Montojo for the bravery of the Spanish sailors. Blame for the debacle can be laid at the feet of the government which sent him ill-prepared and the colonial leaders in Manila who would not allow a retreat. Montojo's error was primarily in allowing the Americans to enter the bay unopposed, much the same as the Turks did at the Battle of Navarino (1827). Had Montojo fought at the outer part of the bay, he might have succeeded in forcing the Americans to blockade rather than engage. Montojo was court-martialed but exonerated--partially due to the support that he received from Admiral Dewey!<sup>26</sup>

The Caribbean Campaign was more interesting and controversial, starting with the recommendations of Admiral Pascual Cervera, who recognized that the offensive strikes and blockade ordered by the government were beyond the capability of his small fleet. Cervera felt that his forces were merely capable of defending the homeland. Despite this, he was ordered to and attempted to at least defend Puerto Rico. Cervera outmaneuvered the American fleet and managed to enter the harbor at Santiago, Cuba, where he maintained a

fleet-in-being. The Americans eventually drew out the fleet as a result of joint actions taken ashore and at sea, resulting in a battle in which Cervera was defeated.<sup>27</sup>

### Twentieth Century

Spain remained neutral during the First World War. Spanish naval actions during the Civil War (1936-1939) consisted primarily of blockade and breaking blockades. After years of constitutional and governmental upheaval, some degree of stability arrived with the rule of General Francisco Franco. General Franco maintained Spanish neutrality during the Second World War. Following the Second World War, the Navy accepted an American light aircraft carrier and Spain withdrew from Morocco between 1955 and 1964. Spain undertook a major revision in navy doctrine in 1966 with efforts by the National War College faculty and an ad hoc group of senior officers.<sup>28</sup> Most of their work appears to have been programmatic in nature--defining future navy requirements rather than basic battle doctrine. With Franco's death, the Bourbon monarchy was restored, but as a constitutional monarchy. Following Spain's entrance into NATO, she adopted NATO navy doctrine, although there still remain a few national concerns, such as defense of North African territories, that are outside of NATO's area of operations and for which Spain must maintain her own separate concepts of operations.

### Conclusions

Doctrine came easy to the Spanish Navy. One explanation is that preponderance of Catholic upbringing in the nation made it easier for the average officer to accept the concept of doctrine. Indeed, the parallel between doctrine and religion has been noticed in professional writings in the United States.<sup>29</sup> As in other navies, doctrine was not just the province of the warrior, but often included participation by outsiders. Perhaps the most important lessons to be learned from the Spanish experiences with written navy doctrine are that: (1), it took a tremendous amount of time to change doctrine in the Spanish Navy--the shift from close-aboard battle to long-range artillery engagements and the longevity of basic steamship doctrine till the end of World War II; (2), doctrinal development took a very twisted path due to the frequent changes in government as Spain eventually became a modern nation; (3), close doctrinal cooperation between France and Spain during the age of sail was a disaster for the true Spanish interests--resulting from political considerations and not military; (4), successful innovation was virtually impossible without a champion at court; (5), doctrinal innovation suffers without frequent combat and (6) the officers of the Spanish Navy take for granted that there will always exist written navy doctrine.

### Notes

1. Thucydides, *History of the Peloponnesian War*, Rex Warner, trans., New York, NY: Penguin Books, 1980 ed.

2. Rey de Castilla Don Alfonso X el Sabio, *Título XXIV, De la guerra que se face por la mar* [Of The War That is Made On the Sea], Maguncia, SP: His Majesty's Royal Council for the Indies 1610 [original version published in 1270]. I am indebted to Mike Johnson, of the Center for Naval Analyses, for his translation and synopsis of this document in a memorandum dated 9 June 1994.
  
3. Alonso de Chaves *Quatri partitu en cosmografía práctica*, also known as *Espejo de navegantes*, Madrid, SP: Instituto de Historia y Cultura Naval, 1983 [original written between 1520-1538]; and Vice Admiral William Ledyard Rodgers, USN (Ret.), *Naval Warfare Under Oars: 4th to 16th Centuries--A Study of Strategy, Tactics and Ship Design*, Annapolis, MD: United States Naval Institute, 1939, p. 143-146.
  
4. Clark G. Reynolds, *Command of the Sea: The History and Strategy of Maritime Empires*, New York, NY: William Morrow & Co., 1974, p. 137-138.
  
5. Rear Admiral S.S. Robison, USN (Ret.), *A History of Naval Tactics From 1530 to 1930*, Annapolis, MD: U.S. Naval Institute, 1942, p. 34-36.
  
6. Vice Admiral William Ledyard Rodgers, USN (Ret.), *Naval Warfare Under Oars: 4th to 16th Centuries--A Study of Strategy, Tactics and Ship Design*, Annapolis, MD: United States Naval Institute, 1939, p. 240-335; E.B. Potter and Fleet Admiral Chester W. Nimitz, USN, eds., *Sea Power: A Naval History*, Englewood Cliffs, NJ: Prentice-Hall, Inc., 1960, p. 27-31; and Clark G. Reynolds, *Command of the Sea: The History and Strategy of Maritime Empires*, New York, NY: William Morrow & Co., 1974, p. 142-144.
  
7. Peter Padfield, *Armada: A Celebration of the Four Hundredth Anniversary of the Defeat of the Spanish Armada, 1588-1988*, Annapolis, MD: Naval Institute Press, 1988, p. 17, 42.
  
8. Don Álvaro de Bazán, Marqués de Santa Cruz, *El Marqués de Santa Cruz, a los capitanes y maestros de los navíos de la armada de su cargo: Instrucciones y normas de comportamiento en la mar durante la navegación y campaña* (July 1587): *Archivo General de Simancas*.
  
9. "Battle tactics, 1588: Philip II's instructions to the Duke of Medina Sidona, April 1588 (Spanish)," John B. Hattendorf, et. al., *British Naval Documents: 1204-1960*, Hants, UK: Scolar Press [for the Navy Records Society], 1993, p. 86-87.
  
10. Peter Padfield, *Armada: A Celebration of the Four Hundredth Anniversary of the Defeat of the Spanish Armada, 1588-1988*, Annapolis, MD: Naval Institute Press, 1988, p. 47-48.
  
11. *Flotas de Nueva España* [Mexico] and *Tierra Firme* [Colombia and Venezuela] escorted by the *Armada de la guarda de la carrera de indias*. See: *Plan de combate de un galeón de la armada de guarda de la carrera de indias* (1650): Museo Naval, Madrid, SP.

12. Rear Admiral José Ignacio González-Aller Hierro, SPN, "*La táctica*," *España y el Mar en el Siglo de Carlos III*, 1989, p. 77.
13. John D. Harbron, *Trafalgar and the Spanish Navy*, Washington, DC: Naval Institute Press, 1988, p. 35.
14. John D. Harbron, *Trafalgar and the Spanish Navy*, Washington, DC: Naval Institute Press, 1988, p. 108-109; and Vice Admiral P[hilip]. H[oward]. Colomb, RN, *Naval Warfare: Its Ruling Principles and Practice Historically Treated*, Annapolis, MD: Naval Institute Press, 1990, vol. 2, p. 382-396.
15. Brian Tunstall, *Naval Warfare in the Age of Sail: The Evolution of Fighting Tactics 1650-1815*, Dr. Nicholas Tracy, ed., Annapolis, MD: Naval Institute Press, 1990, p. 144.
16. Rear Admiral José Ignacio González-Aller Hierro, SPN, "*La táctica*," *España y el Mar en el Siglo de Carlos III*, 1989, p. 82-83.
17. *Ordenanzas generales de la armada naval*: Ibarra, SP, 1793.
18. John D. Harbron, *Trafalgar and the Spanish Navy*, Washington, DC: Naval Institute Press, 1988, p. 43-44.
19. Lieutenant Colonel José Cuevas Fernández of the Spanish Marine Infantry, "About Trafalgar," *Revista General de la Marina*, September 1947; cited in John D. Harbron, *Trafalgar and the Spanish Navy*, Washington, DC: Naval Institute Press, 1988, p. 85.
20. John D. Harbron, *Trafalgar and the Spanish Navy*, Washington, DC: Naval Institute Press, 1988, p. 98-102.
21. John D. Harbron, *Trafalgar and the Spanish Navy*, Washington, DC: Naval Institute Press, 1988, p. 115-121.
22. Objections to the French plan were voiced by senior Spanish Navy officers prior to the battle. See: John D. Harbron, *Trafalgar and the Spanish Navy*, Washington, DC: Naval Institute Press, 1988, p. 131-132.
23. Clark G. Reynolds, *Command of the Sea: The History and Strategy of Maritime Empires*, New York, NY: William Morrow & Co., 1974, p. 359; and Robert L. Scheina, *Latin America: A Naval History, 1810-1987*, Annapolis, MD: Naval Institute Press, 1987, p. 1-8.
24. This section is drawn primarily from materials provided to the author from Rear Admiral José Ignacio González-Aller Hierro, SPN, Director of the *Museo Naval* (Madrid, SP) in a letter dated 9 May 1994.
25. Robert L. Scheina, *Latin America: A Naval History, 1810-1987*, Annapolis, MD: Naval Institute Press, 1987, p. 29-31.

26. William Koenig, "Manila Bay," *Epic Sea Battles*, S.L. Mayer, ed., Seacaucus, NJ: Chartwell Books, Inc., 1975, p. 102-119.

27. E.B. Potter and Fleet Admiral Chester W. Nimitz, USN, eds., *Sea Power: A Naval History*, Englewood Cliffs, NJ: Prentice-Hall, Inc., 1960, p. 366-377; Joseph G. Dawson III, "William T. Sampson and Santiago: Blockade, Victory, and Controversy," *Crucible of Empire: The Spanish-American War & its Aftermath*, Annapolis, MD: Naval Institute Press, 1993, p. 54-55, 60-62; Harold D. Langley, "Winfield S. Schley and Santiago: A New Look at an Old Controversy," *Crucible of Empire: The Spanish-American War & its Aftermath*, Annapolis, MD: Naval Institute Press, 1993, p. 80-81; and Graham A. Cosmas, "Joint Operations in the Spanish-American War," *Crucible of Empire: The Spanish-American War & its Aftermath*, Annapolis, MD: Naval Institute Press, 1993, p. 108-110.

28. Interview with Rear Admiral José Alejandro Artal, SPN, former Head Spanish Military Mission to SACLANT [Supreme Allied Commander, Atlantic], Norfolk, VA, June 2, 1994.

29. Lieutenant Colonel Dennis M. Drew, USAF, "Of Trees and Leaves: A New View of Doctrine," *Air University Review*, 33, no. 2 (January-February 1982): 40-41.



# DISTRIBUTION LIST

Commander Naval Doctrine Command 1540 Gilbert Street Norfolk, VA 23511-2785	1
Naval Doctrine Development Division Naval Doctrine Command 1540 Gilbert Street Norfolk, VA 23511-2785	1
Joint/Combined Doctrine Division Naval Doctrine Command 1540 Gilbert Street Norfolk, VA 23511-2785	1
Strategy and Concepts Division Naval Doctrine Command 1540 Gilbert Street Norfolk, VA 23511-2785	1
Technical and Financial Division Naval Doctrine Command 1540 Gilbert Street Norfolk, VA 23511-2785	1
Science Advisor Naval Doctrine Command 1540 Gilbert Street Norfolk, VA 23511-2785	1
Center for Naval Analyses Representative Naval Doctrine Command 1540 Gilbert Street Norfolk, VA 23511-2785	1
Dr. James J. Tritten Naval Doctrine Command 1540 Gilbert Street Norfolk, VA 23511-2785	3
Library Naval Historical Center Building 57 Washington Navy Yard 901 M Street, S.E. Washington, DC 20374-0571	1
Joint Warfighting Center Attn: Joint Electronic Library (JEL) Building 100, Ingalls Road Fort Monroe, VA 23651-5000	1

Library Center for Naval Analyses 4401 Ford Avenue Alexandria, VA 22302-0268	1
Armed Forces Staff College Attn: LIB/62 7800 Hampton Blvd. Norfolk, VA 23511-1702	1
Defense Technical Information Center Attn: DTIC-OCC Building 5 Cameron Station Alexandria, VA 22304-6145	2
Dr. Roger Barnett Joint Operations Division - Code 12 Naval War College 686 Cushing Road Newport, RI 02841-5010	1
CAPT Thom Ford, USN Attn: ATZL-SWL-N U.S. Army Command and General Staff College Fort Leavenworth, KS 66027-5015	1
Rear Admiral José Ignacio González-Aller Hierro, SPN Director Museo Naval de Madrid Paseo del Prado, 5 28071 Madrid, España - <i>via air mail</i> -	1
CAPT Jaime Goyeness, SPN Spanish Military Mission to SACLANT 7857 Blandy Road, Suite 100 Norfolk, VA 23551-2490	1
Dr. Thomas Grassey Editor, <i>Naval War College Review</i> - Code 32 Naval War College 686 Cushing Road Newport, RI 02841-1207	1
Dr. John Hattendorf Director, Advanced Research Department - Code 35 Naval War College 686 Cushing Road Newport, RI 02841-1207	1

CAPT Wayne Hughes, USN (Ret.) Code OR/H1 Department of Operations Research Naval Postgraduate School Monterey, CA 93943-5100	1
Dr. John H. Johns Dean of Faculty and Programs Industrial College of the Armed Forces, Room 228 Fort Leslie J. McNair Washington, DC 20319-6000	1
Professor Kevin Kelly National Strategy Decisionmaking Department - Code 1B Naval War College 686 Cushing Road Newport, RI 02841-1207	1
Dr. Edward J. Marolda Head, Contemporary History Branch Naval Historical Center Building 57 Washington Navy Yard 901 M Street, S.E. Washington, DC 20374-0571	1
CAPT Ryan McCombie, USN ATTN: USAWC/AWC-J Army War College Carlisle Barracks, PA 17013-5050	1
CAPT Michael F. O'Brien, USN Code: NDU-INSS-ROSA Institute for National Strategic Studies, Room 314 National Defense University Fort Leslie J. McNair Washington, DC 20319-6000	1
Professor Paul Odell Strategy Department - Code 1A Naval War College 686 Cushing Road Newport, RI 02841-1207	1
CAPT John N. Petrie, USN Director of Writing & Research Code: NWC-NWFA National War College Ft. Leslie J. McNair Washington, DC 20319-6000	1

COL Jon Stull, USMC  
Code DDCD  
Armed Forces Staff College  
7800 Hampton Blvd.  
Norfolk, VA 23511-1702

1

LTC John Taxeras, USMC  
Attn: Code C400P2  
Marine Corps University  
Marine Corps Combat Development Command (MCCDC)  
2076 South Street  
Quantico, VA 22134-5021

1

Dr. Milan Vego  
Department of Operations  
686 Cushing Road  
Naval War College  
Newport, RI 02841-5010

1

CAPT George Wilson, USN  
Code: AU/CCN  
Air War College  
325 Chennault Circle  
Maxwell AFB, AL 36112-6427

1