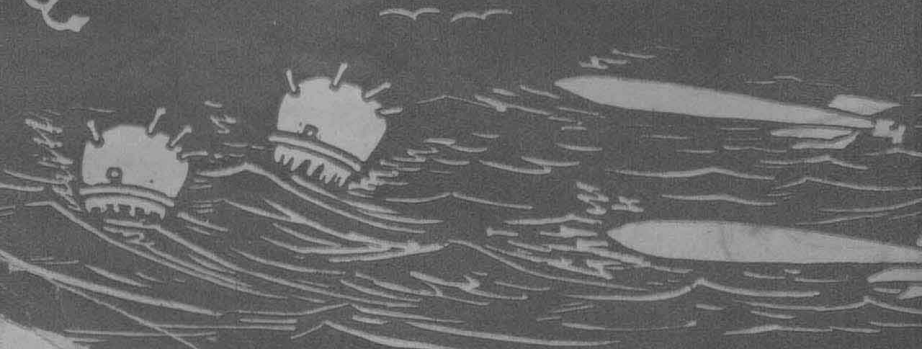


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潛水艇

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THE SUBMARINE TORPEDO-BOAT TORPEDOES AND SUBMARINE MINES

by

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INTRODUCTION



The submarine is an accomplished fact, and the veil of secrecy which up till a few years ago shrouded its construction has been gradually removed. The fact is that although the design, construction, and handling of submarines present several difficulties, it may be said that so long as the displacement and power are kept within certain limits, these difficulties are not serious, and every well equipped shipyard can undertake the construction of such craft. With the public at large there is still considerable misconception on this point. Many seem to think that there is something mysterious about submarines—something beyond the ken of the ordinary engineer and constructor. This opinion, of course, is most liable to be found in countries where people have not had the opportunity to become familiar with this new type of vessel. For this reason, the present book is likely to prove useful. It appears that very little is written in Chinese on submarines, and this little book, which gives a connected and quite comprehensive discussion of the subject, cannot fail to be of value.

To a country like China, which, in spite of its enormous potential power, must for the present base its protection in case of armed conflict on the strictest defensive, the submarine is especially well adapted. It is the defensive weapon *par excellence*. No other type of warship can compare with it in this respect. It threatens the safety of the most powerful warship, and of the most peaceful merchant vessel. No enemy can afford to disregard it. Its cost is comparatively moderate.

The book also gives a description of submarine mines, which, as a defensive weapon, come next in importance to submarines.

It appears that the estuaries of the large Chinese rivers, which extend as strategic highways far into the land, cannot for a given limited expenditure obtain a better defence than that afforded by *submarines* and *mines*; but there must, in addition, as pointed out by the author, be provided secure, well-protected bases, equipped with all necessary facilities for the outfit and repair of submarines. Here the boats can be overhauled and the crews can find a safe place for rest and recreation after the exhausting service. It is proper for the sake of completeness to add that such bases should form points of support also for mobile land forces, detailed to the coast defence, and that other types of warships will be needed, notably destroyers, gunboats and monitors, but submarines, mines, and fortified bases with mobile land forces must be the first requisites.

In view of the necessity for China of developing its coast defence, as evident from past history, this little book seems timely and should be given a careful study by all who are interested in the national defence of that country.

WILLIAM HOVGAARD.



丹麥海軍少將霍夫格序

近世潛艇成效彰然在目。數年前世人對於潛艇奇異機密之思想。漸臻了解。其構造及駕駛等事。雖仍多難處。惟若排水量及推進馬力。不越一定之範圍。則其難殊無足重。舉凡良好之船廠。俱能建造。惟普通人之心理。對於此說。仍多疑竇。甚有以爲潛艇構造學之特異。有非平常造船師所可從事者。此種誤會。在無機會可諳潛艇之國民尤甚。職是之故。此書闡發社會知識之功用。可操左券。且中國報紙登載關於潛艇之文字。似不多覩。此書提綱挈領。論說明貫。其價值概可想見。

以現在之中國。雖其天賦之強度甚盛。然一遇戰事。則其軍事上之防衛。惟有取極端之守勢。潛艇爲保守無上之利器。無論何種軍艦。其保守之功效。俱難望其項背。不問最強戰艦。或最平和之商船。一遇潛艇。則其平安。亟亟可危。且

潛艇造價低廉。尤得費少功多之利。

此書後部。曾有一章討論水雷之效用。水雷保守之力。除潛艇外。無有可與抗衡者。橫覽中國地勢。覺各河口域。爲戰事時所必爭之地。使中國振興國防。則以有限之經費。計無有用於潛艇及水雷者。惟須如作者書中所言。多設良善之軍港。以爲油棧及將士休息之所。且此軍港之位置。必爲海防軍之根據地。此軍港之防護。必合各種戰艦。如滅魚雷艇砲艦及淺舨艦等共守之。惟潛艇及水雷爲尤要耳。

以多難而亟亟待防如中國。此書之刊行。可稱得其時。凡通國之士。熱望中國振興國防者。俱當手置一篇而重讀之也。

自序

國疆臨海。則國際強弱競於海。敵謀兼攻。則海權消長重乎力。凡國軍力雄掌海權者。可以制人而不爲人制。其利在乎攻與戰。軍力備守海疆者。可以或却敵而不能必勝敵。其失在乎退而守。攻戰退守之利害明。斯吾國海防軍力之振備可以言。

凡言海防軍力者。不可不察人事器械二者之要素。外交之折衝樽俎也。管理之法舉政肅也。教育之精勤功效也。士氣之豪勇智能也。商賈之殷裕富實也。罔非人事上之軍力。茲姑弗具論。至器械上之軍力。則吾國幅幘廣闊。海岸線長達數千餘里。勢不能十里爲台。百里爲塞。除此以外。惟有巨艦與潛艇。二者孰爲進攻之具。孰爲退守之器。雖近世兵家。有謂巨艦已失其固有之效用。潛艇可用掌海權者。有反是者。論議紛紜。莫衷一是。然證諸近世歐戰之經驗。及

列國參謀部之定議。則知巨艦雄掌海權。潛艇利守海疆。二者各有其用。不可偏廢。惟國際間強弱之軒輊。海防上權力之消長。則仍在乎巨艦而非潛艇。據此則吾國海防上軍械之振備。似非有強大之艦隊。無以固邦基而張海權。顧際此國庫艱難。司農仰屋之秋。無論造艦製甲。情勢有所不能。且實業未興。教育未昌。徒有利器。適以資敵。是以內審國情。外度邦交。竊以爲今日中國而不言海防則已。防則暫救目前之軍械。除潛水艇外。似無有優於此者。燕謀不敏。目睹國家海防廢弛。深悲夫國人睹利器而不知用。爰不揣陋蠡。艸就此篇。并叙其緣起如右。世之覽者。幸有感於斯文。

全書例旨

一 人生壽命有限。作者負笈異邦。在外求學時短。將來報國時長。現在多一時著作。則少一時習學。故編輯是書。似無以自解。惟目睹強鄰蹂躪。海防廢弛。此心實不能爲太上之忘情。爰不避失時之誚。艸就此稿。海內方家。幸恕其淺學貽誤。并希進而教正之。

二 作者編輯此書之要旨。在乎一方面喚醒國民海防之廢弛。及潛水艇之利用。一方面在乞海軍同袍之誨正。故書中雖極求其淺顯。然稍明潛艇者。讀之或亦不致味同嚼蠟。

三 吾國科學書除一二淺顯理算教本外。殊不多覩。其編輯之難。概可想見。究其故則一由於吾國向無所謂科學。故西方科學名字。爲吾國字典所無。二由於社會上。一般普通人民之科學智識太淺。故與言稍爲艱深之學。則忙

然莫明。編者因此無從下手。此書之成。於名字則全仗中國船學會審定之功。於後者則惟設想讀者俱已有粗淺之電機知識。

四潛艇魚雷水雷所包含之範圍太廣。此編簡略不詳。實非得已。因爲便利有志深造者起見。故每章之尾。莫不附有參考書數種。

五此書名字。概按中國船學會審定之名字。如有尙未經審定者。則或用東名。或爲杜撰。

六本書名字。凡第一次用者。其下必註有英文名字。自後則否。

七本書名字。有時因恐過於冗長。故效法西方。如將船首併作艏。船尾併作艉。餘依此類推。讀者幸注意。

八此書多取材於各國最著名而可靠之科學書。及謀在廠實踐時所記憶者。故大旨當不十分錯誤。惟遺漏及微疵。幸希方家指正。

九是書之成。余師霍夫格氏。及賀君懋慶。袁君晉。王君超。馬君德驥。吳君康諸
同學。均多襄正。特誌於此。以表謝忱。

無錫徐燕謀識

潛水艇(魚雷水雷附)

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潛水艇

第一章 潛艇圖解

此章專爲便利素未識潛水艇之讀者起見。故擇一近世最新式雷克式 Lake Type 之潛水艇。按圖詳解於此。俾讀者可以一覽了然。週知其內外部之機械及裝置。讀者既明此後。則其餘各種潛水艇。不過大同小異。自能迎刃而解矣。如第一圖。

(1) 主壓載櫃。潛艇內恆有數壓載櫃。艇之升降。全持櫃中水之重量。如櫃內之水盛滿。則艇下沉。空則艇上浮。及浮至水面上後。一如平常之船。

(2) 燃料池。

(3) 艙。

(4) 安全艙。此艙置於船底中間。可以抽進放出。當潛艇駛行於風潮時。若