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ADDRESS TO BE DELIVERED BY

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THE FUTURE ROLE OF NAVAL FORCES

ADMIRAL HILL HAS ASKED ME TO TALK TO YOU TODAY ON "THE FUTURE ROLE OF NAVAL FORCES." AS THIS IS THE NATIONAL WAR COLLEGE, I TAKE IT THAT MY SUBJECT IS TO DEAL WITH THE ROLE OF THE NAVY IN WAR AND NOT IN PEACE. THE NAVY HAS MANY DUTIES IN PEACE, SUCH AS SHOWING THE FLAG IN FOREIGN WATERS IN SUPPORT OF OUR FOREIGN POLICIES; BUT ITS PRINCIPAL ONE -- OF WHICH IT MUST NEVER LOSE SIGHT -- IS TO MAINTAIN ITSELF FROM TOP TO BOTTOM AS AN EFFICIENT FIGHTING FORCE. ONLY IF IT DOES THIS, CAN THE NAVY BE THE STRONG RIGHT ARM OF NATIONAL POLICY.

NOW TO GET DOWN TO THE FUTURE ROLE OF THE NAVY IN TIME OF WAR. I THINK WE ALL RECOGNIZE THAT WAR, BOTH AT SEA AND ON LAND, HAS OVER THE CENTURIES BEEN IN A STATE OF CHANGE. THIS CHANGE IS BROUGHT ABOUT BY ALL KINDS OF TECHNICAL DEVELOPMENTS, PARTICULARLY THOSE WHICH EFFECT IMPROVEMENTS IN WEAPONS AND COMMUNICATIONS AND IN OUR ABILITY TO PRODUCE THOSE THINGS THAT ARE NEEDED TO MAKE WAR AND TO SUSTAIN THE CIVILIAN POPULATION. THERE HAVE BEEN CENTURIES IN THE WORLD'S HISTORY WHEN TECHNICAL PROGRESS HAS BEEN SO NEGLIGIBLE THAT THE ART OF WAR REMAINED ALMOST STATIC. THIS CONDITION TENDED TO RESULT IN A CODIFICATION OF TACTICS AND A FORMALIZATION OF WAR WHICH RIGIDLY SUPPRESSED INITIATIVE AND IMAGINATION IN ITS CONDUCT, UNTIL THE BONDS WERE BROKEN BY SOME MILITARY GENIUS LIKE A NELSON OR A NAPOLEON.

TECHNICAL PROGRESS IN OUR MODERN SCIENTIFIC AGE HAS BEEN

AND WILL CONTINUE TO BE EXTREMELY RAPID. OUR MASTERY OF THE AIR AND OF SUBMARINE NAVIGATION HAS ADDED A THIRD DIMENSION TO THE WARFARE OF A CENTURY AGO. IN STUDYING WAR, WE MUST MORE THAN EVER LOOK AHEAD. WE MUST KEEP THOROUGHLY ABREAST OF THE LATEST SCIENTIFIC DEVELOPMENTS AND TRY TO PROJECT OUR IDEAS INTO THE FUTURE, WITHOUT, AT THE SAME TIME, LOSING SIGHT OF THE LESSONS OF THE PAST. WE SHALL FIND, IN STUDYING THE ART OF WAR, THAT TACTICS, WHICH IS BASED LARGELY ON WEAPONS, MAY BE EXPECTED TO CHANGE MUCH MORE RADICALLY THAN STRATEGY, WHICH IS BASED LARGELY ON GEOGRAPHY AND TO A LESSER EXTENT ON TACTICS.

DURING MODERN WAR THE SEA MAY BE DIVIDED ROUGHLY INTO TWO AREAS. ONE IS THE AREA WHICH WE CONTROL AND USE AND IN WHICH THE ENEMY ATTEMPTS TO INFLICT DAMAGE ON US. THE OTHER IS THE AREA UNDER ENEMY CONTROL, IN WHICH HIS SEA TRAFFIC MOVES AND IN WHICH WE TRY TO INFLICT DAMAGE ON HIM. USUALLY THERE IS A KIND OF NO MAN'S LAND IN BETWEEN THESE TWO AREAS IN WHICH NEITHER COMBATANT MOVES HIS NORMAL SEA TRAFFIC AND IN WHICH MUCH OF THE FIGHTING MAY OCCUR.

THE PRIMARY FUNCTION OF A NAVY IN TIME OF WAR IS TO GAIN AND EXERCISE CONTROL OF THE SEA AREAS WHICH ARE REQUIRED BY ITS COUNTRY FOR THE SUCCESSFUL PROSECUTION OF THE WAR, AND TO DENY TO THE ENEMY THE USE OF THOSE SEA AREAS WHICH HE NEEDS.

NEITHER ONE OF THESE TWO ASPECTS OF A NAVY'S PRIMARY FUNCTION CAN, AS A RULE, BE CARRIED TO ENTIRE FULFILLMENT. THE ADVENT OF LONG RANGE SUBMARINES AND AIRCRAFT HAS INTRODUCED A MENACE TO THE NAVIGATION OF WATERS AND THE USE OF ANCHORAGES AND HARBORS WHICH, UNDER EARLIER CONDITIONS, MIGHT HAVE BEEN CONSID-

ERED PERFECTLY SAFE AND SECURE. THE SMALLER TYPES OF AIRCRAFT, MINES AND LONG RANGE GUNS, ASSISTED BY SMALL TORPEDO CARRYING CRAFT, HAVE ALL INCREASED THE DISTANCE TO SEAWARD WHICH CAN BE CONTROLLED FROM LAND FAR BEYOND THE CONVENTIONAL THREE MILE LIMIT OF INTERNATIONAL LAW. DURING WORLD WAR I, FOR EXAMPLE, GERMANY NEVER LOST COMMAND OF THE BALTIC. DURING WORLD WAR II SHE RETAINED THE BALTIC, AND WAS ABLE TO SEIZE NORWAY AND TO SUPPLY HER GARRISONS THERE UNTIL THE END OF THE WAR. JAPAN UP TO THE END OF THE WAR WAS STILL USING THE STRAIT OF TSUSHIMA AND THE SEA OF JAPAN FOR HER COMMUNICATIONS TO KOREA AND MANCHURIA.

WHILE SUBMARINES AND AIRCRAFT AND OTHER NEW TYPES AND WEAPONS HAVE COMPLICATED AND MADE MORE DIFFICULT THE NAVY'S FUNCTION OF GAINING CONTROL OF THE NECESSARY SEA AREAS AND OF MAKING THEIR SUBSEQUENT USE REASONABLY SECURE, THE NECESSITY FOR USING THE SEA FOR MAKING SUCCESSFUL WAR WILL REMAIN JUST AS LONG AS SURFACE SHIPS ARE REQUIRED TO MOVE THE BULK OF THE WORLD'S COMMERCE.

THE NECESSITY FOR MAINTAINING THEIR SEABORNE COMMERCE EXISTS FOR ALL COUNTRIES, WHETHER CONTINENTAL OR INSULAR, BUT IT IS MOST CRITICAL FOR INSULAR COUNTRIES. GERMANY, FOR EXAMPLE, AS A CONTINENTAL COUNTRY, BUT ONE HIGHLY INDUSTRIALIZED AND DEPENDENT ON ITS IMPORTS FOR MANY ESSENTIAL RAW MATERIALS, CONTINUED TO FIGHT FOR OVER FOUR YEARS IN WORLD WAR I AND THE BETTER PART OF SIX YEARS IN WORLD WAR II, BEFORE SHE WAS DEFEATED. IN BOTH WARS SHE HAD VERY LIMITED ACCESS TO THE SEA. HER DEFEAT CAME ON LAND, BUT HER ECONOMIC WEAKENING BY THE BLOCKADE WAS A FACTOR OF GREAT IMPORTANCE IN MAKING THIS DEFEAT POSSIBLE. JAPAN, ON THE

OTHER HAND, WAS AN INSULAR COUNTRY. SHE SURRENDERED BEFORE A SINGLE SOLDIER HAD BEEN LANDED ON HER HOME SOIL AND WHILE SHE STILL HAD GREAT ARMIES IN JAPAN AND ON THE CONTINENT OF ASIA. SHE SURRENDERED BECAUSE HER NAVY HAD BEEN DESTROYED, HER MERCHANT MARINE LARGELY WIPED OUT AND HER MAJOR CITIES BURNED BY THE B-29 RAIDS. HER INSULAR EMPIRE WITHERED AND FINALLY WAS NEAR THE POINT OF ECONOMIC DEATH, AS ACCESS TO THE SEA WAS PROGRESSIVELY DENIED TO HER. WE ALL KNOW WHAT WOULD HAVE HAPPENED TO THE BRITISH ISLES HAD THE GERMAN SUBMARINE BLOCKADE BEEN EFFECTIVE.

NOW I WOULD LIKE TO CONSIDER THE GEOGRAPHIC SITUATION OF THE UNITED STATES IN WORLD POLITICS AS IT EXISTS TODAY. MOST AMERICANS THINK OF OUR COUNTRY AS A CONTINENT -- WHICH IT IS. IT IS A CONTINENT WHICH, ALTHOUGH RICHLY ENDOWED BY NATURE WITH GREAT AGRICULTURAL AND MINERAL RESOURCES, IS FAR FROM BEING SELF-SUFFICIENT. ITS MINERAL DEFICIENCIES ARE GROWING AS A RESULT OF EXHAUSTION. IT HAS EXTENSIVE COASTLINES AND MANY FINE HARBORS WITH WHICH TO CARRY ON THE GREAT SEABORNE TRADE WHICH IT MUST HAVE BOTH IN PEACE AND WAR. ①

IN WORLD POLITICS, THE UNITED STATES IS AN INSULAR COUNTRY. EXCEPT FOR CANADA ON THE NORTH AND MEXICO ON THE SOUTH, OUR ACCESS TO ALL OTHER COUNTRIES IS NORMALLY BY SEA. NEITHER CANADA NOR MEXICO ARE GREAT MILITARY COUNTRIES, NOR HAVE WE WITH THEM ANY TRADITION OF HOSTILITY SUCH AS EXISTS BETWEEN SO MANY COUNTRIES IN EUROPE. THE BULK OF OUR PEACEFUL COMMERCE WITH OTHER COUNTRIES MOVES BY SEA. WE MUST LOOK TO THE FAR SIDES OF THE ATLANTIC AND PACIFIC OCEANS TO FIND THE COUNTRIES WITH WHICH WE HAVE FOUGHT OUR MAJOR FOREIGN WARS IN THE PAST AND WITH WHICH WE

MAY POSSIBLY BECOME ENGAGED IN ANY MAJOR WAR IN THE FUTURE.

WORLD WAR II HAS, HOWEVER, LEFT US -- FOR A FEW YEARS AT LEAST -- IN A SITUATION MARKEDLY DIFFERENT FROM THAT WHICH EXISTED BEFORE THE WAR COMMENCED IN 1939. TODAY THE BRITISH AND OURSELVES HAVE THE ONLY NAVIES OF ANY CONSEQUENCE LEFT IN THE WORLD. IN THE ATLANTIC AREA WE HAVE ARMIES OF OCCUPATION IN GERMANY, AUSTRIA AND ITALY. WE HAVE A SERIES OF MINOR OUTPOST BASES ON BRITISH SOIL EXTENDING FROM BRITISH GUIANA TO NEWFOUNDLAND -- MAINLY VALUABLE FOR PURPOSES OF AIR RECONNAISSANCE, PATROL AND STAGING IN OR THROUGH THE WATERS OF OUR ATLANTIC SEA FRONTIERS.

IN THE PACIFIC WE HAVE ARMIES OF OCCUPATION IN JAPAN AND SOUTHERN KOREA. CHINA HAS NOMINALLY RECOVERED MANCHURIA, EXCEPT FOR CERTAIN RIGHTS IN THE RAILWAYS AND IN THE LIAOTUNG PENINSULA CEDED TO RUSSIA. RUSSIA HAS AN ARMY OF OCCUPATION IN NORTHERN KOREA. SHE HAS TAKEN SOUTHERN SAKHALIN AND THE KURILES FROM JAPAN. THE UNITED STATES HAS GRANTED INDEPENDENCE TO THE PHILIPPINES, WITH RIGHTS TO MAINTAIN SOME, AS YET UNDETERMINED, NAVAL AND MILITARY BASES IN THE ISLANDS. THROUGH HER CAPTURE AND OCCUPATION OF THE MARSHALLS, CAROLINES, MARIANAS, IWO JIMA AND OKINAWA, AND HER INSTALLATIONS IN THE WESTERN ALEUTIANS, SHE IS IN AN EXCELLENT POSITION TO CONTROL THE NORTH PACIFIC OCEAN.

THERE CAN BE NO QUESTION THAT AT THE PRESENT TIME OUR NATIONAL FRONTIERS HAVE BEEN EXTENDED TO EUROPE AND ASIA. SO LONG AS WE KEEP ARMIES OF OCCUPATION ABROAD, THE SEA ROUTES TO THE OCCUPIED COUNTRIES MUST BE KEPT OPEN, SO THAT WE MAY MAINTAIN AND SUPPORT THESE ARMIES. ON THE OTHER HAND, THERE CAN BE

NO QUESTION THAT AT THE PRESENT TIME THERE IS NO MAJOR NAVAL THREAT TO THESE LINES OF SEA COMMUNICATIONS. HOW LONG THIS LATTER CONDITION WILL LAST NO ONE CAN FORETELL. TO ALLOW OUR NAVY TO BECOME WEAK WOULD BE THE SUREST WAY TO ENCOURAGE COMPETITIVE NAVAL BUILDING.

I HAVE POINTED OUT THAT THE PRIMARY FUNCTION OF A NAVY IN TIME OF WAR IS TO GAIN AND EXERCISE CONTROL OF THE SEA AREAS REQUIRED BY ITS COUNTRY FOR THE PROSECUTION OF THE WAR AND TO DENY TO THE ENEMY THOSE SEA AREAS IT NEEDS. TO GAIN FOR OURSELVES SUCH CONTROL OF THE SEA AS WE NEED AND TO TAKE IT AWAY FROM THE ENEMY REQUIRES THE CONDUCT OF MANY DIFFERENT KINDS OF NAVAL OPERATIONS. THESE OPERATIONS, IF THEY ARE TO BE SUCCESSFUL, WILL NORMALLY RESULT NOT ONLY IN AN EXTENSION OF THE SEA AREAS UNDER OUR CONTROL AND A REDUCTION OF THE ENEMY'S, BUT THEY SHOULD CAUSE A RELATIVE WEAKENING OF THE ENEMY STRENGTH TO WAGE WAR BECAUSE OF THE LOSSES WHICH HE SUFFERS. THIS MATTER OF REPLACEMENT OF LOSSES AND BUILDING UP OF FIGHTING STRENGTH IS WHAT MAKES IT SO IMPORTANT TO PUSH OUR FRONT LINES AS FAR AS POSSIBLE FROM THE UNITED STATES, IN ORDER TO KEEP INTACT OUR PRODUCTION FACILITIES AT HOME. THE DEVELOPMENT OF LONG RANGE AIRCRAFT AND GUIDED MISSILES, PLUS THE ATOMIC BOMB, SERVES TO EMPHASIZE THE IMPORTANCE OF THIS.

BEFORE GOING ANY FARTHER, I SHOULD LIKE TO GIVE A FEW EXAMPLES FROM WORLD WAR II OF SOME OF THE OPERATIONS WHICH WERE CONDUCTED TO GAIN AND EXERCISE CONTROL OF THE SEA AREAS WE NEEDED.

FOREMOST AND MOST IMPORTANT OF THESE, AND COMBINING IN THEM

PRACTICALLY ALL VARIETIES OF NAVAL OPERATIONS, WERE THE AMPHIBIOUS OPERATIONS. THERE MUST HAVE BEEN DOZENS OF THESE, RANGING IN SIZE FROM RELATIVELY SMALL ONES TO OCCUPY POSITIONS EITHER NOT HELD AT ALL OR NOT HELD WITH ANY STRENGTH BY THE ENEMY -- SUCH AS ADAK AND AMCHITKA IN THE ALEUTIANS, MAJURO IN THE MARSHALLS AND ULITHI IN THE CAROLINES -- TO THE MUCH LARGER LANDINGS IN THE MARIANAS, THE PHILIPPINES, ON IWO JIMA AND OKINAWA. IN ALL OF THESE OUR SEA CONTROL WAS PUSHED FORWARD BY THE ESTABLISHMENT OF BASES FOR THE SUPPORT OF NAVAL AND AIR FORCES. NAVAL FORCES WERE REQUIRED TO TRANSPORT THE TROOPS TO THE BEACHES, TO FURNISH THE GUNFIRE AND AIR SUPPORT NEEDED BOTH TO GET THEM ASHORE AND TO ASSIST THEM IN THE FIGHTING AFTER THEY GOT ASHORE, AND TO PREVENT INTERFERENCE, DURING THE OPERATION BY ENEMY NAVAL AND AIR ATTACK. PROVISION FOR SHORE BASED AIR WAS AN EARLY REQUIREMENT IN MOST AMPHIBIOUS OPERATIONS, BOTH TO RELEASE SOME OF THE CARRIERS AND TO TAKE ITS PLACE IN THE PERMANENT DEVELOPMENT OF THE NEW BASE.

IN NAVAL WARFARE BASES MUST BE PUSHED FORWARD IF DISTANT SEA AREAS ARE TO BE HELD. THIS IS BECAUSE NAVAL FORCES, WHILE HIGHLY MOBILE AND CAPABLE OF GOING LONG DISTANCES AND OF REMAINING AT SEA FOR EXTENDED PERIODS, ARE VERY DEPENDENT UPON CONTINUED LOGISTIC SUPPORT. WE HAVE LEARNED HOW TO SUPPLY MOST OF THE LOGISTIC NEEDS OF OUR COMBATANT SHIPS WHILE THEY REMAIN AT SEA, BUT THE ADVANCED BASE IS STILL ESSENTIAL FOR EFFECTING REPAIRS TO THEM. THESE REPAIRS HAVE A WIDE RANGE, FROM THE ORDINARY UPKEEP BY THE SHIP'S FORCE, MUCH OF WHICH CAN BE ACCOMPLISHED ONLY AT ANCHOR, TO THE REPAIR OF BATTLE DAMAGE THROUGH THE AGENCIES OF REPAIR SHIPS AND FLOATING DRY DOCKS. REPAIRS OF BATTLE DAMAGE

MADE AT AN ADVANCED BASE MAY BE SUFFICIENT TO RETURN A SHIP TO ACTION WITHOUT SENDING HER BACK THOUSANDS OF MILES TO A NAVY YARD, OR THEY MAY BE NECESSARY TO MAKE HER SUFFICIENTLY SEAWORTHY, IN THE CASE OF VERY HEAVY DAMAGE, BEFORE SHE CAN BE STARTED BACK HOME.

ANOTHER AND VERY IMPORTANT FUNCTION OF THE ADVANCED NAVAL BASE IS THE TRANSFER OF CARGOES FROM THE SHIPS TRANSPORTING THEM FROM THE UNITED STATES OR OTHER POINTS OF SUPPLY. THESE SHIPS BRING IN FUELS, AMMUNITION, FOOD, AND SUPPLIES OF ALL KINDS. FOR MOST EFFICIENT UTILIZATION OF CARGO SPACE, THEY ARE USUALLY SOLID LOADED AND ARE NOT EQUIPPED FOR ISSUE AT SEA. AT THE ADVANCED BASE THEIR CARGOES ARE TRANSFERRED EITHER TO LOCAL STORAGE, TO COMBATANT SHIPS IN PORT, OR TO SHIPS WHICH ARE DESIGNED AND EQUIPPED FOR ISSUE AT SEA.

IN SELECTING AN AMPHIBIOUS OBJECTIVE FOR PUSHING FORWARD OUR SEA CONTROL, IT IS DESIRABLE TO COMBINE SITES FOR AIR FIELDS WITH EXTENSIVE PROTECTED ANCHORAGE AREAS. SOMETIMES WE COULD FIND THESE TWO REQUIREMENTS IN ONE PLACE. SOMETIMES THE AIR REQUIREMENT WAS PREDOMINANT, AS AT PELLELIU AND IWO JIMA, WHERE THERE WAS NO HARBOR AT ALL. SOMETIMES, AS AT SAIPAN, TINIAN AND GUAM IN THE MARIANAS, HARBOR POSSIBILITIES WERE MINOR, BUT THE POSSIBILITIES FOR CONSTRUCTION OF AIR FIELDS AND OTHER SHORE INSTALLATIONS WERE GREAT. SOMETIMES, AS AT ULITHI, ANCHORAGE POSSIBILITIES WERE GREAT, BUT ONLY ONE 3500 FOOT AIR STRIP COULD BE BUILT. SOMETIMES, AS AT MAJURO, KWAJALEIN AND ENIWETOK IN THE MARSHALLS, THERE WERE EXCELLENT ANCHORAGES AND MODERATELY GOOD TERRAIN FOR AIR FIELDS. IN ANY EVENT, AS WE PUSH OUR SEA

CONTROL FORWARD, ADVANCED NAVAL BASES ARE REQUIRED, AND THESE MUST HAVE AT LEAST ONE AIR FIELD FOR LOCAL PROTECTION.

A CONTINUING SEA CONTROL IS NECESSARY AS WE PUSH FORWARD TOWARD THE ENEMY. THIS IS PROVIDED BY BOTH THE FLEET AND SHORE BASED AIR FORCES. THE WAR IN THE PACIFIC PROVED, HOWEVER, THAT WITHOUT FLEET SUPPORT NO OUTLYING INSULAR POSITION COULD BE HELD FOR LONG AGAINST ASSAULT BY PROPERLY EQUIPPED AND TRAINED AMPHIBIOUS FORCES. LOCAL DEFENSE FORCES, BOTH GROUND AND AIR, COULD DELAY THE FINAL RESULT, BUT THAT WAS ALL. SINCE OUR OWN FLEET SUPPORT, AND AN ABSENCE OF EFFECTIVE INTERFERENCE BY THE ENEMY FLEET, IS SO ESSENTIAL TO THE SUCCESS OF AN AMPHIBIOUS OPERATION AND TO THE CONTINUING CONTROL OF THE SEA AREAS INTO WHICH WE HAVE ADVANCED, IT FOLLOWS THAT THE DESTRUCTION OF THE ENEMY'S NAVAL POWER IS A FIRST CONSIDERATION IN NAVAL WARFARE. THIS HAS ALWAYS BEEN TRUE, AND I CAN SEE NO POSSIBILITY OF A CHANGE IN THIS CONCEPTION. A STUDY OF NAVAL HISTORY WILL SHOW, I THINK, THAT ANY COUNTRY WHOSE FLEET WAS NOT READY AND ANXIOUS TO FIGHT ITS OPPONENT'S FLEET TO DESTRUCTION GENERALLY ENDED BY BEING DEFEATED AT SEA.

AS I HAVE SAID, A MAJOR AMPHIBIOUS OPERATION INTO A SEA AREA CONTROLLED BY THE ENEMY COMBINES IN IT PRACTICALLY ALL TYPES OF NAVAL OPERATIONS. ALL FORCES INVOLVED MUST HAVE PROTECTION AGAINST ATTACK BY ENEMY SUBMARINES AND AIR EN ROUTE TO AND AT THE OBJECTIVE. MINEABLE WATERS THROUGH WHICH THEY PASS MUST BE SWEEPED FOR MINES. AT THE OBJECTIVE GUN BOMBARDMENTS AND AIR ATTACKS MUST BE CONDUCTED. RAIDS BY AIR ATTACK OR BY GUN BOMBARDMENT MAY BE MADE ON OTHER ENEMY POSITIONS WHICH

THREATEN INTERFERENCE. SEARCHES AND PATROLS MUST BE CARRIED OUT. ALWAYS, AND MOST IMPORTANT, A MAJOR ACTION WITH THE ENEMY'S FLEET MUST BE PROVIDED FOR, UNLESS HIS FLEET HAS BEEN DESTROYED OR PUT OUT OF ACTION.

SO MUCH FOR A DISCUSSION OF THE NAVY'S PRIMARY FUNCTION OF GAINING CONTROL OF THE SEA AREAS NEEDED TO FIGHT THE PARTICULAR WAR IN PROGRESS. WHEN THIS JOB IS DONE, THE NAVY MAY STILL HAVE TO ASSIST IN SUPPORTING AMPHIBIOUS LANDINGS IN ENEMY CONTROLLED TERRITORY. THIS WAS THE SITUATION IN THE EUROPEAN THEATER AFTER THE GERMAN AND ITALIAN NAVIES WERE ELIMINATED EXCEPT FOR GERMAN SUBMARINES. EVEN THOUGH THERE WAS NO POSSIBILITY OF INTERFERENCE BY AN ENEMY FLEET, NAVAL SUPPORT OF THE NORMANDY AND THE SOUTH OF FRANCE LANDINGS WAS REQUIRED. THE NAVY MAY ALSO USE ITS CONTROL OF THE SEA TO MAKE RAIDS ON ENEMY OBJECTIVES THAT ARE IN REACH OF NAVAL WEAPONS. SO LONG AS THE ENEMY CAN OPERATE SUBMARINES AT SEA OR MAKE AIR ATTACKS ON OUR SHIPPING ROUTES, THE NAVY MUST FURNISH PROTECTION AGAINST THESE ATTACKS. SINCE MINES CAN BE LAID BY BOTH SUBMARINES AND AIRCRAFT, CONTINUED MINESWEEPING IS REQUIRED.

AS MORE OR LESS THE COMPLEMENT OF GAINING CONTROL OF SEA AREAS FOR OUR OWN USE GOES THE DENIAL TO THE ENEMY OF THE USE OF SEA AREAS WHICH HE CONTROLS. WE DO THIS MAINLY BY RAIDS, WITH THE WORD USED IN THE DICTIONARY SENSE OF "A HOSTILE OR PREDATORY INCURSION." BY THIS, I MEAN AN OPERATION TO INFLICT DAMAGE, BUT MADE WITHOUT THE IDEA OF PERMANENT OCCUPATION.

AS EXAMPLES OF RAIDS DURING WORLD WAR II, WE HAVE OUR VERY EFFECTIVE SUBMARINE OPERATIONS IN WATERS THROUGH WHICH JAPANESE

SHIPPING PASSED; OPERATIONS BY U.S. AIRCRAFT FROM SHORE BASES LOCATED SO AS TO ENABLE THEM TO PENETRATE INTO ENEMY CONTROLLED WATERS; AND, FINALLY, ATTACKS BY NAVAL TASK FORCES, PRINCIPALLY BY CARRIER AIRCRAFT BUT SOMETIMES BY SHIP BOMBARDMENT, ON OBJECTIVES IN ENEMY CONTROLLED WATERS. THE ATTACKS MADE BY OUR CHINA BASED ARMY AIRCRAFT ON JAPANESE SHIPPING MOVING ALONG THE CHINA COAST AND TO AND FROM INDONESIA, AND THOSE MADE BY OUR NAVAL PATROL PLANES, BOTH SEA AND LAND TYPES, BASED AT OKINAWA ON JAPANESE SHIPPING WELL UP IN THE YELLOW SEA, ALONG THE COASTS OF KOREA AND IN THE STRAIT OF TSUSHIMA, ARE EXAMPLES OF RAIDS BY SHORE BASED AIRCRAFT INTO ENEMY CONTROLLED WATERS. RAIDS BY NAVAL TASK FORCES, MOSTLY CARRIER TASK FORCES, STARTED EARLY IN THE WAR IN THE PACIFIC AND CONTINUED UNTIL ITS END. THE MOBILITY OF THESE TASK FORCES ENABLED THEM TO PENETRATE DEEP INTO ENEMY WATERS AND USUALLY TO EFFECT SURPRISE. THEIR GROWING STRENGTH ENABLED THEM TO INFLICT GREATER AND GREATER DAMAGE ON THE ENEMY. RAIDS LIKE THESE ARE VALUABLE, NOT ONLY BECAUSE OF THE ACTUAL DAMAGE THEY INFLICT, BUT BECAUSE OF THE PSYCHOLOGICAL EFFECT ON THE ENEMY. THEY TEND TO CAUSE HIM TO SPREAD HIS STRENGTH AROUND IN AN ENDEAVOR TO MEET THEM, WITH THE RESULT THAT HE MAY END BY BEING WEAK EVERY PLACE AND STRONG NO PLACE.

THE OLD STYLE CLOSE-IN BLOCKADE, WHICH EXISTED DURING THE RUSSO-JAPANESE WAR AND PRIOR THERETO, WENT OUT WITH THE ADVENT OF THE SUBMARINE AS AN EFFECTIVE NAVAL TYPE. IT HAS BEEN REPLACED BY A DISTANT BLOCKADE, CARRIED OUT BY ANY SUITABLE AND AVAILABLE NAVAL TYPES, INCLUDING AIRCRAFT. THE OPERATIONS IN ENEMY CONTROLLED WATERS, TO WHICH I HAVE JUST REFERRED, OFTEN

HAVE SOME OF THE EFFECTS OF A BLOCKADE. YOU MAY REMEMBER THAT IT WAS AS A BLOCKADE OF THE BRITISH ISLES THAT GERMANY JUSTIFIED HER UNRESTRICTED SUBMARINE WARFARE DURING WORLD WAR I.

LOOKING TO THE FUTURE, I CAN SEE NO CHANGE IN THE BASIC OBJECTIVE OF NAVAL WARFARE, WHICH IS TO OBTAIN CONTROL OF WHAT SEA AREAS WE NEED OURSELVES, TO EXERCISE THAT CONTROL, AND TO DENY TO THE ENEMY THE USE OF THE SEA AREAS HE NEEDS.

ANY WAR WITH AN ENEMY IN THE EASTERN HEMISPHERE, IN WHICH THE UNITED STATES MAY BE ENGAGED, WILL BE A WAR IN WHICH WE ARE SEPARATED FROM OUR OPPONENT ON THE EAST AND WEST BY GREAT STRETCHES OF OCEAN. WE HEAR MUCH THESE DAYS ABOUT OUR VULNERABILITY TO ATTACK FROM THE NORTHWARD, BY AN ENEMY USING GREAT CIRCLE ROUTES FOR AIRCRAFT ACROSS THE ARCTIC REGIONS. TO COUNTER SUCH ATTACKS IS AN ARMY PROBLEM PRIMARILY; BUT I WISH TO POINT OUT THAT THE NEAREST POINT OF EURASIA TO NORTH AMERICA IS ON THE ASIATIC SIDE OF BERING STRAIT. THIS IS 3000 STATUTE MILES FROM THE NORTHWEST CORNER OF THE STATE OF WASHINGTON, WHICH IS THE POINT NEAREST TO IT IN THE UNITED STATES PROPER.

NO GREAT WAR HAS EVER BEEN WON IN THE PAST MERELY BY BLOWS STRUCK FROM A GREAT DISTANCE. I DOUBT IF ONE WILL BE WON BY THIS MEANS IN THE FUTURE. IF NOT, THEN WE MUST GET CLOSE ENOUGH TO ANY DISTANT ENEMY TO COME TO GRIPS WITH HIM AND TO HIT HIM WITH DECISIVE BLOWS. THIS MEANS QUANTITIES OF MEN, WEAPONS AND MATERIALS OF ALL KINDS. THE OBSTACLES TO MASS TRANSPORTATION IN THE FAR NORTH ARE VERY GREAT, ESPECIALLY DURING THE LONG WINTERS. FURTHERMORE, THE MOST NORTHERLY REGIONS OF EUROPE AND ASIA ARE THINLY POPULATED AND ARE NOT VITAL TO THE WAR MAKING

POTENTIALS OF THESE CONTINENTS. TO GO NORTH FOR A MAJOR EFFORT WOULD MEAN THAT WE WOULD BE EXPENDING OUR ENERGIES IN FIGHTING THE WEATHER AND NATURAL OBSTACLES, RATHER THAN THE ENEMY, AND WOULD STILL HAVE REACHED NO PLACE OF ANY GREAT STRATEGIC VALUE WHEN WE ARRIVED IN HIS COUNTRY.

CONSEQUENTLY, I FEEL THAT SUCH A WAR AS WE ARE CONSIDERING WILL REQUIRE SEA TRANSPORTATION ON A MAJOR SCALE. IT WILL MEAN LONG SEA ROUTES WITH BASES LOCATED AT STRATEGIC POINTS ALONG THEM. THESE BASES WILL BE NEEDED FOR THE REFUELING AND EMERGENCY REPAIR OF SHIPPING AND FOR THE OPERATION OF SEA AND AIR PATROLS AND ESCORTS. SOME OF THESE BASES MAY LIE IN THE TERRITORY OF ALLIES OR OF FRIENDLY NEUTRALS; SOME MAY LIE IN TERRITORY CONTROLLED BY THE ENEMY. POLITICAL CONSIDERATIONS WILL PLAY A GREAT PART IN THE SELECTION OF THESE BASES, WHICH IS WHERE OUR STATE DEPARTMENT ENTERS THE PICTURE AT ALL TIMES. THE MORE OF THESE BASES ALONG OUR LINES OF COMMUNICATION THAT WE CAN GET BY DIPLOMATIC NEGOTIATION RATHER THAN BY SEIZURE THE BETTER.

AFTER WE REACH POSITIONS FROM WHICH WE CAN COME TO GRIPS WITH THE ENEMY, I VISUALIZE THE CONTINUED USE OF AMPHIBIOUS OPERATIONS WHENEVER THE SITUATION PERMITS OR REQUIRES, IN ORDER TO ADVANCE OUR NATIONAL STRENGTH AS RAPIDLY AS POSSIBLE TOWARD OBJECTIVES WHICH ARE VITAL TO THE PROSECUTION OF THE WAR. IF WE USE OUR SEA POWER TO PUSH THE WAR TOWARD THE ENEMY, WE SHALL BE BOTH PROTECTING OUR HOME TERRITORY AND GETTING IN A BETTER POSITION TO INFLICT DAMAGE ON THE ENEMY. WARS BETWEEN EVENLY MATCHED OPPONENTS SEEM TO GO THROUGH AN ATTRITION STAGE, DURING WHICH THE RESOURCES OF ONE ARE BUILDING UP WHILE THOSE OF THE OTHER ARE WEARING DOWN. EVENTUALLY THE SIDE WITH THE SUPERIOR

RESOURCES WINS. WE SEE THIS IN THE NAPOLEONIC WARS, IN OUR OWN CIVIL WAR AND IN BOTH WORLD WARS. SUPERIOR SEA POWER, PROPERLY EMPLOYED, HAD A GREAT EFFECT IN ALL OF THESE WARS IN GIVING TO THE SIDE WHICH POSSESSED IT THIS ULTIMATE SUPERIORITY OF RESOURCES. THE ADVENT OF STRATEGIC BOMBING IN WARFARE, WITH ITS GREAT POWERS FOR THE DESTRUCTION OF PRODUCTION FACILITIES FAR BEHIND THE FRONT LINES, GIVES US THE ABILITY TO ACCELERATE THIS WEARING DOWN OF THE ENEMY'S RESOURCES. IT TIES IN VERY CLOSELY WITH AMPHIBIOUS WARFARE AS WE GET WITHIN RANGE OF THE SOURCES OF THE ENEMY'S ECONOMIC STRENGTH.

NOW I SHALL TURN TO SOME OF THE TECHNICAL DEVELOPMENTS ALREADY IN SIGHT WHICH MAY HAVE A PROFOUND EFFECT ON OUR TACTICS AND A CONSIDERABLE, ALTHOUGH LESS, EFFECT ON OUR STRATEGY. THE MOST IMPORTANT OF THE NEW DEVELOPMENTS AS AFFECTING NAVAL WARFARE ARE:

- (a) SUBMARINES WITH GREATLY IMPROVED PERFORMANCE SUBMERGED,
- (b) GUIDED MISSILES,
- (c) IMPROVEMENTS IN RADAR, SUCH AS AIRCRAFT EARLY WARNING,
- (d) ATOMIC ENERGY.

GERMAN DEVELOPMENTS IN INCREASING THE SUBMERGED SPEED AND RADIUS OF ACTION OF THEIR SUBMARINES FORTUNATELY DID NOT GET INTO USE BEFORE VE DAY. THE PROBLEM OF DESIGNING SUCH SUBMARINES FOR OUR OWN USE AND, AT THE SAME TIME, PERFECTING THE NECESSARY COUNTERMEASURES TO THEM IS A VERY GRAVE ONE. FORTUNATELY, THIS WORK DOES NOT NOW HAVE TO BE DONE UNDER THE PRESSURE OF WAR. WHAT

THE ANSWERS WILL BE I DO NOT KNOW. UNTIL THESE ANSWERS ARE DETERMINED, IT IS DIFFICULT TO SPECULATE ON THE CHANGES IN SUBMARINE AND ANTI-SUBMARINE TACTICS THAT WILL BE INTRODUCED.

THE WORK ON GUIDED MISSILES OCCUPIES CONSIDERABLE SPACE IN THE PRESS THESE DAYS. DURING THE LAST YEAR OF WORLD WAR II THE JAPANESE HAD A VERY EFFECTIVE GUIDED MISSILE IN THEIR SUICIDE PLANES. THEY INFLICTED GREAT DAMAGE ON OUR SHIPS, BUT WERE UNABLE TO PREVENT US FROM WINNING THE WAR. WHETHER OR NOT WE CAN PRODUCE A GUIDING MECHANISM WHICH WILL BE AS EFFICIENT AGAINST SHIPS AS THE BRAIN OF THE JAPANESE PILOT REMAINS TO BE SEEN. THE ANTI-AIRCRAFT PROJECTILE IS, IN EFFECT, A GUIDED MISSILE, BUT WE KNOW THAT, IN SPITE OF OUR BEST EQUIPMENT AND TRAINING, WE FIRE MANY, MANY ROUNDS FOR EACH PLANE BROUGHT DOWN. I DO NOT BELIEVE THAT THE LONG RANGE GUIDED MISSILE WILL BE MUCH OF A HAZARD TO SMALL TARGETS SUCH AS SHIPS AT SEA. AGAINST TARGETS OF LARGE AREA, ITS ACCURACY MAY BE DEVELOPED TO THE POINT WHERE IT CAN MAKE HITS EVEN WHEN FIRED FROM A CONSIDERABLE DISTANCE. IF SO, IT MIGHT AFFECT NAVAL WARFARE THROUGH ATTACKS ON CROWDED ANCHORAGES AND HARBORS. GUIDED MISSILES ARE ANOTHER REASON FOR KEEPING OUR POTENTIAL ENEMIES AT A DISTANCE FROM OUR HOME COUNTRY.

IMPROVEMENTS IN RADAR, SUCH AS AIRCRAFT EARLY WARNING, SHOULD IMPROVE OUR ABILITY TO OPERATE NAVAL FORCES AT SEA. I DOUBT IF THEY WILL HAVE ANY VERY PRONOUNCED EFFECT ON NAVAL TACTICS, OTHER THAN TO CLEAR AWAY SOME OF THE FOG OF WAR AND TO PERMIT BETTER HANDLING OF FORCES.

THERE IS NO QUESTION, I THINK, THAT OUR KNOWLEDGE OF ATOMIC ENERGY AND ITS USES WILL HAVE A PROFOUND INFLUENCE ON NAVAL WAR-

FARE. AT THIS TIME TWO USES OF ATOMIC ENERGY ARE OF PRIMARY INTEREST. ONE IS AS AN EXPLOSIVE FORCE. THE OTHER IS AS A REPLACEMENT FOR THE FUELS WHICH ARE NOW THE SOURCES OF ENERGY IN SHIP'S POWER PLANTS.

AT PRESENT, THE TREMENDOUS POWER OF THE ATOMIC BOMB AND ITS SCARCITY WOULD SEEM LOGICALLY TO RESTRICT ITS USE TO CONCENTRATED AND VALUABLE TARGETS. THIS MEANS THAT INDIVIDUAL SHIPS AT SEA, OR FORMATIONS OF SHIPS WITH THE UNITS WELL SEPARATED, WOULD GENERALLY NOT BE SUITABLE TARGETS. THIS DOES NOT MEAN THAT THE ATOMIC BOMB MIGHT NOT BE USED ON COMBATANT SHIPS AT SEA UNDER CRITICAL CONDITIONS, SUCH AS JUST BEFORE AN IMPORTANT SEA BATTLE, BUT THE CIRCUMSTANCES WOULD HAVE TO BE UNUSUAL TO JUSTIFY IT.

AS
IT IS/A WEAPON FOR USE AGAINST HARBORS OR ANCHORAGES WHERE IMPORTANT CONCENTRATIONS OF SHIPS EXIST THAT THE ATOMIC BOMB MUST BE GIVEN VERY SERIOUS CONSIDERATION IN OUR PLANS FOR FUTURE NAVAL WAR. THE POTENCY OF THE BOMB IS SO GREAT THAT A ONE WAY FLIGHT BY THE AIRCRAFT CARRYING IT TO THE LIMIT OF ITS RANGE BECOMES GOOD WAR. THIS MEANS EITHER A DISPERSAL OF OUR SHIPS AND BASES, SO THAT NO ONE IN RANGE OF ENEMY AIRCRAFT WILL BE TOO VALUABLE A TARGET, OR ELSE A DEVELOPMENT OF OUR DEFENSIVE MEASURES AGAINST AIR ATTACK -- PARTICULARLY AGAINST SNEAK NIGHT RAIDS -- TO A MUCH GREATER EFFECTIVENESS THAN NOW EXISTS. SINCE WE CANNOT DISPERSE OUR GREAT CITIES, I THINK THE NIGHT FIGHTER PROBLEM MUST HAVE A MUCH BETTER SOLUTION THAN EXISTED ON VJ DAY.

ALL OF OUR LARGE AMPHIBIOUS OPERATIONS GAVE US GREAT CONCENTRATIONS OF SHIPPING AT THE OBJECTIVE IN SPITE OF OUR BEST EFFORTS TO KEEP THIS CONCENTRATION DOWN. AN ATOMIC BOMB DROPPED OVER OR

IN THE WATER AMONG THIS SHIPPING WOULD USUALLY HAVE HAD DISASTROUS RESULTS ON THE OPERATION. UNLESS SUCH BOMBS ARE EFFECTIVELY OUTLAWED BY THE UNITED NATIONS, WE MUST LEARN HOW TO KEEP DOWN THE NUMBER OF SHIPS THAT WE HAVE TO BRING TOGETHER AT ANY ONE TIME AT AN AMPHIBIOUS OBJECTIVE, OR ELSE WE MUST HAVE AN AIRTIGHT DEFENSE AGAINST ATTACK. I BELIEVE THAT CUTTING OUR BASE DEVELOPMENT PLANS TO A BARE MINIMUM IN THE EARLY STAGES WOULD BE VERY HELPFUL IN REDUCING SHIPPING REQUIREMENTS. AIR TRANSPORT FROM SEPARATED POINTS NOT TOO FAR IN THE REAR MIGHT ALSO HELP, ONCE WE HAD AIR FIELD FACILITIES TO HANDLE IT. THERE IS PROBABLY NO ONE EASY SOLUTION TO THIS PROBLEM, BUT IT IS ONE WHICH WILL REQUIRE VERY CAREFUL CONSIDERATION IN FUTURE AMPHIBIOUS PLANNING.

THE SECOND USE FOR ATOMIC ENERGY -- AS A FUEL FOR SHIPS -- OPENS UP MANY FASCINATING FIELDS FOR CONJECTURE. WHAT WILL IT BE ABLE TO DO FOR SHIP DESIGN IN THE LINE OF INCREASED PERFORMANCE -- SPEED, OFFENSIVE AND DEFENSIVE CAPABILITIES, SEA KEEPING QUALITIES? WHAT WILL IT DO TO OUR LOGISTIC REQUIREMENTS, SINCE FUEL IS BY FAR THE MOST BULKY ITEM WE NOW HAVE TO SUPPLY? IT IS DOUBTFUL IF ANY DEPARTURE AS RADICAL AS THE SUBSTITUTION OF ATOMIC ENERGY FOR THE PETROLEUM FUELS CAN BE ACCOMPLISHED WITH MAXIMUM EFFECTIVENESS IN SHIPS OF PRESENT DESIGN. IF NOT, IT WILL BE MANY YEARS BEFORE OUR NAVY WILL CONTAIN NOTHING BUT NEW SHIPS OF THE SUITABLE TYPES BUILT FROM THE KEEL UP AND POWERED BY ATOMIC ENERGY. I CAN SEE GREAT ADVANTAGES TO BE GAINED ONCE THE TECHNICAL PROBLEMS HAVE BEEN MASTERED. IT SHOULD MAKE OUR OPERATIONAL PROBLEMS AT SEA EASIER TO HANDLE.

SUMMING UP, I CAN SEE PLENTY OF CHANGES IN WEAPONS, METHODS AND PROCEDURES IN NAVAL WARFARE BROUGHT ABOUT BY TECHNICAL DEVELOPMENTS; BUT I CAN SEE NO CHANGE IN THE FUTURE ROLE OF OUR NAVY FROM WHAT IT HAS BEEN FOR AGES PAST FOR THE NAVY OF A DOMINANT SEA POWER -- TO GAIN AND EXERCISE THE CONTROL OF THE SEA THAT ITS COUNTRY REQUIRES TO WIN THE WAR, AND TO PREVENT ITS OPPONENT FROM USING THE SEA FOR ITS PURPOSES. THIS WILL CONTINUE SO LONG AS GEOGRAPHY MAKES THE UNITED STATES AN INSULAR POWER AND SO LONG AS THE SURFACE OF THE SEA REMAINS THE GREAT HIGHWAY CONNECTING THE NATIONS OF THE WORLD.