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THE GENERAL BOARD

United States Forces, European Theater

TYPES OF DIVISIONS - POST WAR ARMY

MISSION: Prepare report and recommendations, based on experiences and lessons in the European Theater of Operations, on types of divisions which should be an integral part of our post war Army.

The General Board was established by General Order 128, Headquarters, European Theater of Operations, United States Army, dated 17 June 1945, as amended by General Order 182, dated 7 August 1945 and General Order 312, dated 20 November 1945, Headquarters, United States Forces, European Theater, to prepare a factual analysis of the strategy, tactics and administration employed by the United States Forces in the European Theater.

File: 381/1

Study Number 17

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THE GENERAL BOARD
UNITED STATES FORCES, EUROPEAN THEATER
APO 408

TABLE OF CONTENTS

SUBJECT — PAGE

CHAPTER 1: GENERAL

Purpose..... 1
Scope..... 1
Study Limitations..... 1

CHAPTER 2: MISSIONS AND REQUISITE CHARACTERISTICS OF THE POST WAR ARMY.

GENERAL..... 3
STRATEGIC RESERVE
Importance..... 3
Missions..... 3
Requisite Characteristics..... 3
Type Units Required..... 4
OTHER MISSIONS..... 4
SUMMARY..... 4

CHAPTER 3: ANALYSIS OF COMBAT OPERATIONS, EUROPEAN THEATER.

SECTION 1: THE INFANTRY DIVISION
General..... 5
Assigned Missions..... 5
Execution of Missions..... 8
Outstanding Lessons..... 8

SECTION 2: THE ARMORED DIVISION
General..... 11
Assigned Missions..... 11
Execution of Missions..... 12
Outstanding Lessons..... 12

SECTION 3: THE AIRBORNE DIVISION
General..... 14
Assigned Missions..... 14
Execution of Missions..... 15
Outstanding Lessons..... 15

CHAPTER 4: CURRENT PROPOSALS FOR CHANGES IN DIVISIONAL STRUCTURE

SECTION 1: REORGANIZATION OF PRESENT TYPE DIVISIONS
General..... 17
The Infantry Division..... 17
The Armored Division..... 17
The Airborne Division..... 17

SECTION 2: COMBINATION OF THE INFANTRY AND ARMORED DIVISION
General..... 19
Advantages of Combination..... 19
Disadvantages..... 19
Discussion..... 20

SUBJECT PAGE

CHAPTER 4: (CONTINUED)

SECTION 3: ELIMINATION OF THE AIRBORNE DIVISION
War Department Proposal..... 22
Advantages of Elimination..... 22
Disadvantages..... 22
Discussion..... 24

SECTION 4: REQUIREMENT FOR SPECIAL TYPE DIVISIONS
Prior Action..... 26
Adequacy of Standard Divisions..... 26
Cavalry Division (Horse)..... 26

SECTION 5: CREATION OF A NEW BASIC UNIT
General Proposal..... 27
Advantages of Unit System..... 27
Disadvantages..... 28
Discussion..... 28

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

SECTION 1: CONCLUSIONS
Regarding Requisite Characteristics of the Post War Army, Ground Component..... 29
Regarding the Present Infantry Division..... 29
Regarding the Present Armored Division..... 29
Regarding the Present Airborne Division..... 30
Regarding the Proposal to Create an All-Ground Purpose Division..... 30
Regarding the Elimination of the Airborne Division 30
Regarding the Requirement for Other Special Type Divisions..... 31
Regarding the Creation of a New Basic Unit..... 31

SECTION 2: RECOMMENDATIONS
As to the Type Major Tactical Units to Constitute the Post War Army..... 32
As to the Organization and Equipment of the Retained Divisions..... 32
As to the Tactical Employment of the Retained Divisions..... 32

BIBLIOGRAPHY..... 34

APPENDICES:
Appendix 1 - Directive
Appendix 2 - Recommendations for Combat and Combat Support Units in the Post War Army

THE GENERAL BOARD
UNITED STATES FORCES, EUROPEAN THEATER
APO 408

STUDY

OF

TYPES OF DIVISIONS - POST WAR ARMY

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THE GENERAL BOARD
UNITED STATES FORCES, EUROPEAN THEATER

TYPES OF DIVISIONS - POST WAR ARMY

CHAPTER 1

GENERAL

1. Purpose. The purpose of this report is to present the recommendations of The General Board on the types of divisions which should form an integral part of the post war Army of the United States, basing such recommendations on combat experiences and lessons in the European Theater of Operations. (Appendix 1).

2. Scope. The report will be developed as follows:

a. First, the missions of the post war military establishment, insofar as they can now be forecast, will be analyzed to determine the requisite characteristics of major tactical units which will comprise that Army.

b. Combat performances of the divisions which participated in the European Campaign will be discussed to point out their demonstrated suitability or unsuitability for the execution of proper missions.

c. Taking into consideration current thought on the reorganization of standard type divisions, an analysis will be made to determine the desirability of combining two or more present type divisions into one which possesses the characteristics and capabilities of both.

d. Finally, the study will recommend the type divisions essential for the successful accomplishment of post war missions and the general organization, equipment and tactical employment of each type. Attached as Appendix 2 is the recommended list of ground units which should be included in the post war Army, either as components of the combat echelon or as experimental and testing agencies.

3. Study Limitations.

a. The General Board has no authoritative statement of the pattern of the foreign and military policy of the United States and, consequently, the missions of the Army of the future have been based on intelligent estimates. It is entirely conceivable, therefore, that the ultimate interests of the United States may require the organization and maintenance of tactical units possessing characteristics not contemplated by this report.

b. The study concerns itself solely with combat experiences in and lessons derived from the European Theater of Operations. It attempts no analysis of warfare in the Pacific Theater, Africa or Italy, nor of the most suitable type of division for employment in those areas. Consequently, while it enumerates the possible global missions of the post war Army, it premises its recommended organization on the lessons of one theater only.

c. The study, while discussing future missions on one hand, bases its recommendations for accomplishment of those missions on the experience of the past. It does not consider or conjure with the potentials of atomic energy, rocket propulsion, guided missiles, or the field of radar or infra-red. With the effects of these latter on the concept and conduct of future warfare eliminated from consideration, the study is admittedly not completely comprehensive, and the conclusions must be reviewed from time to time in the light of the future influence of these factors. There is no alternative method; our preparation for the next war must be founded on the best lessons of World War II, properly evaluated and revised as necessary in step with the finest possible technical research and development.

CHAPTER 2

MISSIONS AND REQUISITE CHARACTERISTICS OF THE POST WAR ARMY

GENERAL.

4. The foreseeable major tasks and responsibilities of the military establishment fall into distinct categories:

a. Maintenance of a strategic reserve force prepared for emergency action, offensively or defensively, whenever required.

b. Assistance to the Security Council of the United Nations Organization.

c. Occupation of conquered enemy nations, initially, to preserve order and, subsequently, to enforce the terms of the final peace settlement.

d. Security of bases, beyond the continental limits, essential to the defense of the United States.

e. Training of the civilian component, in whatever form it may take, and testing of new developments in equipment, organization and tactics.

STRATEGIC RESERVE.

5. Importance. Another war will start with a lightning blow to take the nation unaware. The pace of the attack will be at supersonic speeds of rockets, or comparable weapons, closely followed by a striking force to exploit the initial and critical advantage.[1] It follows that the most essential element of the post war defense establishment is an immediately available large strategic reserve of regular troops to counter this threat and hold the enemy at a distance until the full strength of the United States can be mobilized.

6. Missions. The strategic reserve, comprising the bulk of the regular post war military establishment, must be prepared to:

a. Reinforce on call occupational armies or overseas base garrisons.

b. Assume offensives to block, or forestall the intentions of, aggressor nations.

c. In the last resort, to provide initially for the defense of the continental United States.

7. Requisite Characteristics. The ground force component of the strategic reserve should be a compact, efficient organization possessing these characteristics:

a. Versatile. The operational area or areas cannot be forecast; the concept of hemishpere defense has given way to global defense. Circumstance may dictate commitment any place in the world and consequently, the force must be trained to fight in jungles, mountains, deserts or plains, in temperate, tropical or arctic climates. It must be capable of executing strong offensive operations including amphibious landings and vertical envelopment.

b. Highly Mobile, both enroute to and on the battlefield. The entire combat echelon should be air transportable to permit rapid movement over great distances, complete and at full fighting strength. In the area of employment, the force must possess superior mobility in order that, despite possible inferiority in numbers, it may concentrate decisive strength at the decisive point.

c. Hard Hitting. In a professional army, this requirement must be met by constituting subordinate units capable of developing heavy fire power and shock action.

8. Type Units Required. The foregoing clearly indicates a need for infantry, armored, and assault airborne formations in proper proportion and properly organized. Economies in manpower will dictate that the strength of this force be provided by a higher percentage of armored mechanized units than has been customary in the past. The need for airborne units is obvious: the strategic force must be capable of applying pressure directly from the air either to reinforce beleagured garrisons or to assault enemy-held rocket or guided-missile launching and control sites.

OTHER MISSIONS.

9. Assistance to the United Nations Organization will probably be provided by elements of the strategic reserve. If, on the other hand, policy dictates the creation of a separate "Police Force", its responsibilities will require that it be a smaller prototype of the strategic reserve. The maintenance of an occupational force is an interim mission which will eventually terminate and, consequently, should exercise no particular influence in determining the types of divisions to compose the post war Army. Naval and air base security will be provided by static garrisons, functioning basically as outposts. Training of the civilian component will be accomplished in units specifically organized for that purpose and bearing no relationship to combat divisions. Testing of equipment and tactics is a logical responsibility of divisions of the strategic reserve.

SUMMARY.

10. From the foregoing it is apparent that the strategic reserve, as the largest and most important element of the post war Army, will dictate the composition of the military establishment. With the need for infantry, armored and airborne units established, the study will henceforth seek to determine whether the three should be retained in division form, whether one or more can be combined or eliminated, or whether other combinations are feasible.

CHAPTER 3

ANALYSIS OF COMBAT OPERATIONS, EUROPEAN THEATER

SECTION 1

THE INFANTRY DIVISION

11. General. As the basis of organization of the field forces, in warfare as it is still conceived, the infantry division is charged with the conduct or support of all types of operations.[2] Normally it requires reinforcement, occasionally modification, but its basic composition and structure is so designed that it may carry the brunt of battle day in and day out.

12. Assigned Missions. The 42 infantry divisions employed during the campaign of western Europe were assigned, at one time or another, every type mission enunciated in the field manuals. Of the many examples recorded, certain are illustrated herein as typical.

a. Attack in War of Movement.

(1) Collision of 1st Infantry Division with the German forces evacuating the Channel Coast at Mons, Belgium, in September 1944.

(2) Battle between 79th Infantry Division and 16 German Division at Mirecourt, France, on 13 September 1944.

b. Attack of an Organized Position.

(1) VIII Corps offensive of 3 - 15 July 1944 against the Mahlman Line north of Periers and Lessay, Normandy.

(2) VII and XIX Corps breach of the German defenses in conjunction with the Roer crossing, 22 February 1945.

c. Attack from the Defensive.

(1) Third United States Army attack against the southern shoulder of the German Ardennes penetration beginning 22 December 1944.

(2) First United States Army attack against the northern shoulder of the same salient, 3 January 1945.

d. Pursuit.

(1) The operations of the infantry divisions of Third United States Army across northern France during August 1944; and, as a continuation thereof, the movement of the First United States Army infantry through Belgium.

(2) The operations of Seventh United States Army up the Rhone Valley following the assault on southern France, 15 August 1944.

(3) The operations of both 6th and 12th Army Groups through central Germany in the closing stages of the campaign.

e. Conduct of the Defense.

(1) VIII Corps operations in the Ardennes from late September to 17 December 1944.

(2) Operations of elements of First United States Army during the last two weeks of December 1944 in holding the shoulder of the German Ardennes penetration.

(3) VI Corps January operations in Alsace during the reduction of the Ardennes salient.

f. Retirement.

(1) 90th Infantry Division's evacuation of Saar River bridgehead, 21 December 1944.

(2) VI Corps withdrawal from exposed positions to the Moder River Line, January 1945.

g. Delaying Action.

The reinforced VIII Corps operations in the Ardennes during the period, 16 - 25 December 1944.

h. Attack of a Fortified Locality.

(1) VII Corps reduction of the outer defenses of Cherbourg, France, 16 - 25 June 1944 and the similar operations of VIII Corps at Brest, France, August 1944.

(2) XIX Corps breach of the Siegfried Line north of Aachen, Germany, October 1944.

i. Attack of Defended River Line.

(1) XII and XX Corps Moselle crossings, September and November 1944.

(2) XX Corps Saar crossing, December 1944.

(3) First and Ninth United States Armies Roer crossing, February 1945.

(4) Ninth United States Army Rhine crossing south of Wesel, Germany, 23 March 1945.

j. Defense of River Line.

(1) Operations along the Roer during the German Ardennes counteroffensive.

(2) VI Corps Rhine defense during December 1944.

k. Night Combat.

Night attacks, defenses, river crossings and pursuits were participated in by practically all divisions on occasions too numerous to cite.

l. Combat in Towns.

(1) VII Corps capture of Cherbourg, France, June 1944.

(2) VIII Corps reduction of Brest, France, September 1944.

(3) VII Corps reduction of Aachen, Germany, October 1944.

(4) XV Corps reduction of the walled city within Nurnberg, Germany, April 1945.

m. Combat in Woods.

(1) VII Corps operations in the Hurtgen Forest during the fall of 1944.

(2) XV Corps operations in the Forot de Parroy, October 1944.

n. Mountain Operations.

While no combat during the western European campaign offers examples comparable to the fighting in Italy insofar as mountain warfare is concerned, the operations of Seventh United States Army in the Vosges Mountains affords a good illustration of this type mission.

o. Amphibious Landings.

(1) V and VII Corps landings in Normandy, 6 June 1944.

(2) VI Corps assault on the beaches of southern France, 15 August 1944.

p. Additionally, when reinforced with transportation, the divisions performed these missions:

(1) Close support of armored units to consolidate and hold gains.

(a) 1st, 4th and 9th Divisions' support of 2d and 3d Armored Divisions during Operation 'Cobra' (the 25 July 1944 breakout).

(b) 79th and 90th Divisions' back-up of the 5th Armored Division and 2 Armored Division (French) in the drive from Le Mans to Argentan, France.

(c) Infantry of the VII Corps in support of the 3d Armored Division in the encirclement of the Ruhr April 1945; the similar function of the infantry behind the 2d Armored Division during the same operation.

(2) Exploitation of success achieved by armored divisions.

(a) The general breakout by 12th Army Group following the capture of Avranches, France, August 1944.

(b) The rapid reduction of the Saar Palatinate following the break created by the 4th and 11th Armored Divisions, March - April 1945.

13. Execution of Missions. While the fact that the final defeat of Germany was brought about 11 months after the Normandy invasion is not of itself conclusive proof of the efficiency of the infantry division, it definitely is an index of the soundness of divisional organization and structure. Almost without exception, infantry divisions, with certain basic reinforcements, successfully executed assigned missions. They fought continuously for more extended periods of time than had heretofore been considered normal or reasonable and still possessed the capacity to press the attack. It is a tribute to the American officer and soldier that divisions which were stunned by the initial shock of battle and bloodied by it rallied without rout, recovered composure, and went forward to glorious victories.

14. Outstanding Lessons. Combat in Europe developed certain weaknesses in the structure of infantry divisions, but none worthy of name in the tactical doctrine of infantry in combat. These weaknesses, while not of sufficient import to spell the difference between success or failure in battle, did serve to keep the efficiency of infantry divisions below the maximum attainable, and demand rectification in the future.

a. The Need for Armored Units Organic in the Division. The uniformly better performance of infantry, in any operation, when closely supported by tanks is probably the biggest single tactical lesson of the European Campaign. Frequently tanks were employed primarily as close support weapons, but regardless of their role they materially enhanced the aggressiveness of infantry in the attack and its staying power in the defense. The presence of supporting armor was demanded by the infantry even when it was not essential to the establishment of fire superiority, to the countering of enemy tank threat or to the engagement of enemy assault guns. In these instances they were strictly a morale factor, greatly increasing the confidence of American infantry and, conversely, exerting, by their very presence on the battlefield, a demoralizing effect on an enemy unprepared to counter them.

The desirability of providing infantry divisions with tank battalions was recognized too late to permit integration of the two in prebattle training. As a result, teamwork between infantry and tanks was developed on the field of battle. Until the two learned each other's limitations and their respective roles in joint action, results were not good. Subsequently, where the same tank battalion remained with a particular division, excellent teamwork resulted. However, complications arose from the fact that there were only 28 separate tank battalions available to reinforce 42 infantry divisions and a shifting of battalions was mandatory. Each time an infantry division and a tank battalion met for the first time, the old problem had to be resolved.

It logically follows that since infantry-tank action is more satisfactory on the battlefield than infantry alone, the two elements should be organic in the division.

b. Inadequacy of Organic Anti-Tank Means. The anti-tank defense of the division was built around the towed 57mm gun, a weapon which proved impotent for the task. It never earned its way in combat. It had insufficient penetrating power to match the tanks normally opposed; it was too limited in mobility and cross-country maneuverability; it had inadequate speed in preparing for action and engaging moving targets. A satisfactory alternative solution was found only by the attachment of self-propelled tank destroyer battalions, mounting either 76mm or 90mm guns, to infantry divisions. As was the case with tank battalions, the number of self-propelled tank destroyer battalions, except at the end of the war, was considerably short of the total of infantry divisions.

c. The Ineffectiveness of the Infantry Cannon Company. In the prewar concept, the cannon company's designed role was that of an infantry accompanying weapon under the direct control of the regimental commander, engaging from position defilade behind the first mask from the front line those point targets most troublesome to the infantry. Because of the characteristics of the weapon and its prime mover, it was entirely too cumbersome and vulnerable to be employed as planned. Generally, it was used as an artillery battery and in many instances was attached to the supporting light artillery battalion. As such, it failed to justify its existence, for there were already more tubes available than ammunition to fire therefrom.

If the infantry has need of an accompanying gun, and the consensus of infantry commanders is that it does, then the cannon company as presently constituted must be replaced. A weapon comparable to the German 75mm assault gun - fulltracked, low silhouette, and possessing excellent battlefield mobility - is a suggestion as a point of departure. Actual caliber is relatively unimportant; the essential is its ability to move close and rapidly destroy targets by direct fire methods.

d. Desirability of Additional Medium Caliber Artillery Support. The 155mm howitzer was employed for close support on a very extensive scale. The M1 howitzer early demonstrated that its accuracy compared favorably with that of the 105mm howitzer and could, consequently, be employed on similar missions. Its use was dictated by the effectiveness of German field entrenchments which greatly decreased the casualty effect of the light artillery; against entrenchments, buildings and other shelters, the additional punch of the 155mm howitzer was of tremendous assistance to attacking infantry.

e. Impotency of Division Reconnaissance Troop. In its conduct of close battle reconnaissance; in its fight for information and in its screening operations during rapid movement, the troop was handicapped in several ways. It possessed insufficient dismounted strength and its main fighting vehicles were under-armored and under-gunned.

The strength of the reconnaissance element should be at least doubled to make it adequate to its properly assigned tasks.

f. Inadequacy of the Reinforcement System. Under the former operation of the replacement system, divisions fought until losses so depleted their ranks that they were incapable of further sustained action, and then were taken out of the line and brought back to peak strength by the influx of new men. During World War II, it was decided to provide a lesser number of divisions and maintain these divisions at fighting strength by a constant flow of replacements in proportion to battle losses. How much this revised system was dictated by expediency, that is to say by the inability to form more than 89 divisions, is not known. In any event, the replacement system as operated proved costly in lives. Faced with continuing missions even after sustaining heavy losses and with no reserve of manpower, divisions were forced to commit replacements to front line action the moment they passed to division control. As a result many recruits were killed or seriously wounded before they knew their squad mates or their commander; before they were inculcated with their unit's history or esprit, and most important, before they had absorbed the battle lore necessary for survival.

The war conclusively demonstrated the need of a replacement unit organic within the division. Such a unit should be staffed by battle-trained, high-caliber division personnel who will be charged

with the preparation of replacements earmarked for a division for their reception in that unit and for their entry into combat. A system as proposed would work tremendously to the advantage of both individual and unit.

5. Other Weaknesses, such as strength inadequacies in the engineer, military police and signal components, were developed in varying degrees by all divisions, but none had effect on combat efficiency comparable to the foregoing.

SECTION 2

THE ARMORED DIVISION

15. General. A total of 15 armored divisions, including two of the heavy type, were employed during the European Campaign. Both the light and the heavy proved their mettle in combat and in great measure were responsible for the rapid defeat of Germany. They provided the mobility on the battlefield and the shock action required in operations of breakthrough, exploitation and pursuit.

16. Assigned Missions.

a. Like the combat record of the infantry divisions, the operations of armored units in western Europe ran the gamut of the missions listed as typical in Field Manuals 100-5 and 17-100. A detailed discussion of these missions, together with recorded examples, is contained in The General Board Study Number 48, report on the organization of the armored division , and consequently no attempt will be made to repeat them herein. Most frequently they involved exploitation of success, spearheading of attacks against enemy formations incompletely prepared for defense, pursuit of defeated enemy units. and the restoration of impetus to stalled attacks.

b. The lack of adequate infantry divisions, quantitatively, to man the extensive Allied front and still press the offensive in those areas indicated by the overall strategic plan made mandatory the frequent employment of armored divisions in other than usually accepted roles:

(1) Attack of an Organized Position.

(a) 7th Armored Division's attack against the outer defenses of Metz, France, September 1944.

(b) 2d and 3d Armored Divisions' attacks between the Roer and the Rhine Rivers, February 1945.

(2) Defense.

(a) 7th Armored Division's maintenance of an extended front west of Roermund, Holland, while attached to the XII British Corps, October 1944.

(3) Attack of a Fortified Locality.

(a) 2d Armored Division's penetration of the Siegfried Line as part of XIX Corps, October 1944.

(b) 10th Armored Division's assault on the switch position of the Siegfried Line in the Saar - Moselle triangle, November 1944.

(4) Attack of Defended River Line.

(a) 3d Armored Division's assault of the Erft Canal line during the Roer - Rhine drive, February 1945.

(b) 6th Armored Division's Our River crossing, February 1945.

(5) Combat in Towns.

(a) 4th Armored Division's fight at Aschaffenburg, Germany, April 1945.

(6) Attacks over Terrain Adverse to Tank Maneuver.

(a) 2d, 3d, 4th, 6th and 11th Armored Divisions' attacks during the reduction of the Ardennes salient, January 1945.

17. Execution of Missions. The remarks contained in the corresponding paragraph under the infantry division analysis have equal application to the armored division. In general, they were excellently employed and excellently led. The most successful results were achieved when they were committed to those actions for which they were primarily designed. Suitably reinforced by infantry, artillery and engineers, they satisfactorily accomplished secondary missions.

18. Outstanding Lessons. However spectacular the operation of armor in its primary role during the war, there was no commander who did not feel that performance could and would have been better had certain specific structural and equipment deficiencies been corrected or eliminated.

a. Insufficiency of Organically Assigned Infantry. Analysis indicates that in many of the operations in which the main effort was entrusted to armor, infantry was attached on the usual scale of one regiment per armored division. These attachments were much more frequent in the case of the heavy armored divisions for the obvious reason that while there is parity at battalion level between infantry and tanks in the light division, a one to two ratio exists in the heavy unit. Even the light divisions, although successful in exploitation and pursuit without attached infantry, required additional dismounted rifle strength when employed on secondary missions.

It can be stated that combat experience has definitely shown the need for at least parity between infantry and tank units in an armored division. Consensus of field commanders is that the ratio of infantry to tank units at company level should be three to two.

b. Desirability of Medium Caliber Artillery Support. The non-inclusion of medium caliber artillery battalions in the armored division as presently constituted was based partially on (1) a concept that such artillery would not be essential to the successful execution of armor's primary missions and (2) the lack of a suitable mounting to give this class of artillery weapons mobility comparable to that of the other combat elements. In actual practice during World War II, medium caliber artillery was frequently attached or in direct support of armor and proved invaluable for the reasons enunciated in paragraph 14 d. It was definitely required in all armored operations involving heavy fighting. The recent standardization of the self-propelled 155mm howitzer has satisfactorily solved the problem of mobility and should permit better support in the future.

c. Limitation of Reconnaissance Element. The reconnaissance squadron's handicaps in battle were identical with those described in the infantry division analysis — inadequate dismounted strength and main fighting vehicles under-armored and under-gunned.

d. Organizational Weakness of Reserve Command, Light Armored Division. The reserve command headquarters was designed to control but not to fight the division reserve set up for any operation. The theory

behind this was that the light division would not fight in more than two main tactical groupings and that the reserve would constitute a reinforcement pool rather than a self-contained combat unit. Experience on the battlefield demonstrated that it was more efficient to organize a reserve group which could be committed as a unit. By way of advantage, this solution gave the division commander an immediately available force to be committed in mass in the decisive direction at the proper time. In exploitation it permitted the formation of additional columns without adding to the control problem of the two main combat command headquarters. The difficulties in the operation of this system stemmed from the fact that the reserve command's staff, transportation and communications had to be reinforced by improvisation and at the cost of lowered efficiency in the components from which withdrawals were made. The attachment of armored group headquarters to constitute the reserve command headquarters was likewise an expedient measure and not wholly satisfactory.

The concept of a triangular organization is considered sound by the best military minds and would indicate that any reorganization of the armored division should provide for three identically constituted combat command or regimental headquarters.

e. Inadequacy of Organic Cargo Trucks in the Light Division. The conversion of the bulk of the armored divisions from the old standard to light units in 1943, included the elimination of the supply battalion and its two truck companies. In battle the need for reinforcing transportation for supply purposes was apparent in every operation participated in by the light armored divisions. These were provided by higher echelons, but in quantities varying with availability and were occasionally withdrawn without notice, with resultant breaks in continuity and efficiency of supply operations. The armored division, particularly in fast moving situations, must have complete assurance of its ability to maintain adequate supply levels.

f. The weaknesses in the replacement system and in the strength of engineer, signal and military police components discussed in paragraphs 14 f and g are equally applicable to the armored division.

SECTION 3

THE AIRBORNE DIVISION

19. General. World War II saw the development of a completely new type combat unit; one which possessed the capability of closing with the enemy by air. The airborne division was conceived, organized and equipped as a specialized force to assault or envelop the enemy from the air and seize and hold limited objectives to assist the advance of the main forces. Since they were not designed for sustained independent action, tactical doctrine limited their employment to missions where support or relief was assured within a week.[3]

20. Assigned Missions. The troop basis for the European Theater of Operations included four airborne divisions, three of which saw combat. Of the several type missions enunciated in field manuals, only four were assigned these units:

a. Seize, Hold, or Otherwise Exploit Important Tactical Localities in Conjunction with or Pending the Arrival of Other Forces.

(1) The general mission of the 82d and 101st Airborne Divisions during the invasion of Normandy, 6 June 1944.

(2) The operations of the First Allied Airborne Army (including the 82d and 101st Airborne Divisions) beginning 17 September 1944. Objectives were the seizure of successive bridges and defiles along a selected route, up to and including the Maas River bridge at Arnhem, Holland, to open a corridor for the Second British Army.

b. Attack the Enemy Rear and Assist a Breakthrough or Landing by the Main Force.

(1) The partial mission of the 82d and 101st Airborne Divisions on 6 June 1944 to seize the beach exits and assist the landing of the 4th Infantry Division.

(2) The operations of the 17th Airborne Division at Wesel, Germany, on 23 March 1945 in conjunction with the Second British Army assault across the Rhine River.

c. Block or Delay Enemy Reserves by Capturing and Holding Critical Terrain Features.

Subsidiary missions in all operations cited above.

d. Capture or Destroy Vital Enemy Installations, thereby Disrupting His System of Command, Communications and Supply.

Subsidiary missions in examples cited in a and b above.

e. Missions Involving, as primary effort, the Capture of Enemy Airfields and Delay of Retreating Enemy were planned from time to time but were never executed.

f. All Airborne Divisions were Assigned Successive Ground Missions once their primary missions had been accomplished and fought as infantry divisions. During the reduction of the Ardennes salient

and the operations east of the Rhine, the three divisions were committed in a strictly ground role.

21. Execution of Missions. In all operations, the airborne divisions displayed superior fighting qualities. Constituted entirely from volunteers, selected for initiative and aggressiveness, these units accomplished the most difficult of missions with distinction; they repaid the investment represented by the careful personnel selection system. The varying degrees of success in the performance of primary missions were basically a function of the accuracy of the drop - once assembled on the ground, all units achieved their objectives with dispatch and thoroughness.

Employed on ground missions, not their designed role, the efficiency of the airborne divisions was, on the average, lower than that of infantry divisions until suitably reinforced by supporting combat units. When these reinforcements brought the airborne division to the approximate composition and strength of an infantry division, results attained by the airborne were uniformly excellent.

22. Outstanding Lessons. The airborne divisions were organized without benefit of prior experience in the intricacies of air assault operations, except for such knowledge as was gleaned from the German campaigns in Holland and Crete. It was therefore logical that the combat experiences of World War II should develop several deficiencies in the existent organization.

a. The Necessity for Developing Greater Staying Power in the Airborne Division. The concept of the employment of the airborne division, as enunciated in Field Manual 100-5, was virtually complete commitment to action by air, seizure of essential but limited objectives, and quick relief after juncture with the assisted main ground effort. Experience in battle has shown that this doctrine is not entirely sound. Without exception, airborne divisions remained in the line for extended periods after link-up had been effected because the nature of fighting precluded relief or rendered it non-desirable; because there were no relief formations available; or because logistical factors considerably delayed the arrival of relieving units. Consequently, airborne divisions were called upon to perform the normal missions of the infantry division without the wherewithal of the latter.

In any consideration of the airborne division of the future, we must visualize airborne operations on a scale unapproached during World War II. Entire armies will be transported to the combat area by air and supplied by the same medium. The assault formations, airborne obviously, must establish the airhead and continuously expand it to permit the safe arrival of the main body; this may or may not be accomplished in the space of one week. Such missions are analogous to those undertaken by assault amphibious forces - reinforced divisions - and it follows that the assault airborne divisions must have adequate artillery, adequate anti-tank means, adequate mobility and adequate supply means for heavy and sustained fighting.

b. Desirability of Training All Division Personnel in All Means of Air Transport. The tangible advantage to be gained from such a proposal is greater flexibility in the employment of the airborne division. Under the present organization, division personnel are trained in one of three means of air transport: parachute, glider or troop carrier plane. If the latter, troop carrier, were to be the primary means of transport, as in the case of an unopposed landing, no particular difficulties would be involved in moving the entire division. However, current training and tactical employment prevents an

interchange of parachute and glider elements without prohibitively long preparation.

During the European Campaign, the employment of the parachute formation for the initial and main effort was dictated in all airborne operations by consideration of all known factors; glider echelons were used solely in a reinforcing role. At the same time, mission requirements were such that another parachute regiment in lieu of the glider regiment would have been most desirable since the premium was on the rapid development of the maximum of force. This was true not just for infantry but for all other combat elements. Whereas by actual experience, the same parachute formations borethe brunt of all engagements, had all combat elements been trained as paratroops, a better distribution of the burden would have been possible and, more important, greater success might have accrued.

Although gliders were used in a subordinate role in Europe, the reverse may be true in another war. The development of improved, powered gliders will greatly enhance their value as a means of transport and permit more rapid and orderly build-up on the ground. Furthermore, it is considered that helicopters will one day provide a better substitute. In any event, training of all personnel in gliders is indicated on the grounds of flexibility.

c. The Need for Overall Unity of Command in Airborne Operations. Although at first glance this problem appears to become important only at echelons above the division, it is actually closely associated with the efficiency of airborne division operations. During the Mediterranean campaigns (North Africa and Sicily) and the invasion of Normandy, the Theater Commander alone had command jurisdiction over the airborne and air formations; control was not vested in the commander having primary responsibility for the success of the airborne drop. Lift was therefore based on what the Air Forces said they could furnish, not on what was tactically desirable. Pre-engagement planning, preparation, training and briefing were not as closely integrated as they might have been. Most important, in the movement to the assault area and in the drop proper, the joint activities of the two participants were on a cooperation basis. As a consequence, although performance became increasingly better with experience and the development of some measure of teamwork, results were short of anticipation. The organization of the First Allied Airborne Army, charged with the control and coordination of all phases of airborne operations including planning, training, pre-invasion reconnaissance and bombing, troop carrier operations, escorts, anti-flak missions, and resupply, was a concrete step forward. The merit in the unified command principle as applied to airborne operations was clearly demonstrated in its first test - the efficiently conducted daylight airborne assault on Holland. Continuation of this principle in the future is of the greatest importance.

CHAPTER 4

CURRENT PROPOSALS FOR CHANGES IN DIVISIONAL STRUCTURE

SECTION 1

REORGANIZATION OF PRESENT TYPE DIVISIONS

23. General. The three divisions discussed in Chapter 2 are currently being studied in great detail by separate committees of The General Board. Their recommendations will follow from an exhaustive examination of all available records and the consensus of most experienced field commanders. The division organization they will propose will be based on two main factors: (1) the rectification of all demonstrated deficiencies in combat, and (2) the principle of integrating within the division the additional supporting elements always needed.

24. The Infantry Division. Briefly stated, the new infantry division, as recommended by the committee charged with its reorganization, has been designed to eliminate or correct the major deficiencies detailed in paragraph 14. Tank and anti-aircraft units have been made organic; anti-tank means have been improved; the artillery component has been strengthened and self-propelled; the reconnaissance element has been substantially increased and indicated additions incorporated in the engineer, signal, military police and service components. Lastly, a permanent cadre for a divisional replacement unit has been included. The resultant product, with the minor modifications necessary for combat in a particular theater, should efficiently handle the foreseeable future missions of the infantry division.

25. The Armored Division. The committee studying the armored division has likewise included in its recommendations such changes as will satisfactorily dispose of the main faults in composition and structure of that type unit developed during combat. Medium tank strength has been increased by one third (as compared to the present light division) while on the other hand the infantry complement has been doubled. The light artillery has been increased and medium artillery and anti-aircraft units added. Reconnaissance element has been strengthened, the supply battalion re-introduced and substantial increases made in the engineer, signal and military police elements. A further important change is the provision for three identically organized regiments containing both tanks and infantry. As in the case of the new infantry division, a replacement unit cadre has been included. As it finally stands, the proposed armored division is double the size of the present light unit but is admittedly a much more potent striking force, adding considerable punch and retaining none of the old deficiencies.

26. The Airborne Division. The basic recommendation of the airborne division committee is that the airborne division of the future should have the same organization as the infantry division with the minor additions requisite to its special role - parachute maintenance company, pathfinder company, three surgical teams and a small air advisory staff. The glider units as such are recommended for elimination; all units are to be a combination of parachute and glider, utilizing the former means of drop for personnel and the latter for the heavier equipment. With respect to equipment, such light items as are required during the initial assault (artillery and engineer equipment basically) are proposed for superimposition on the infantry division equipment until such time as improved gliders provide sufficient lift for

the normal infantry division types. The new airborne division as thus conceived will possess greater flexibility, greater staying power and composed, as it has been, of specially selected volunteers should be adequate for any air assault task within reason.

SECTION 2

COMBINATION OF THE INFANTRY AND ARMORED DIVISION

27. General. As a result of experience in World War II, there has developed a profound sentiment among combat leaders for the elimination of the infantry and armored divisions as separate and distinct types and the substitution, therefor, of an all-ground purpose divisional unit. The growth of this idea is understandable. Expediency from time to time dictated the employment of armored divisions in what were basically infantry division roles; as has been previously discussed, the armored division was not in itself adequate for the successful performance of these tasks. Similarly, during the period of the disintegration of the German armies in France and later of the entire German war machine in the closing stages of the war, infantry divisions were called upon to execute exploitation and pursuit missions side by side with the armored. An analysis of the opinions of general officers regarding the possible amalgamation of the infantry and armored divisions yields some interesting facts. In general, the infantry division commanders feel that the infantry division, properly reinforced and equipped, can satisfactorily accomplish any primary armored division mission. Without exception, armored division commanders state that the armored division must be retained as an exploitation force. A strong majority of the most experienced corps, army and group commanders are of the decided opinion that both infantry and the armored division, a dismounted and a mounted division, are essential and complementary components of any army.

28. Advantages of Combination.

a. Simplicity is one of the major arguments advanced by the proponents of combination. Assuming that such a unit would be equal to any assigned ground task, the entire ground component of the army could be trained in one set pattern. All the best military minds could devote their attention and energy to perfecting the employment of one type unit only. Development and procurement of equipment would be facilitated.

b. Flexibility is the most tangible advantage to accrue from the combination of the two type units. In any corps or army, any one division would be potentially capable of executing any foreseeable ground mission. All divisions in corps or army reserve would be immediately available for employment in a breakthrough or exploitation role should the conditions precedent to such commitment arise. Thus there would be no further necessity for the time consuming delays, experienced during World War II, each time armored formations were shifted from one army to another to build the requisite striking force in the proper area.

c. Finally, a better distribution of the burden of combat could be effected if all divisions possessed equal characteristics and capabilities. The infantry divisions bore the brunt of the fighting in the European Theater. Their days of rest from the moment of initial entry into combat until the end of the war were fewer, much fewer, than the manuals on operations had ever assumed would be reasonable. At the same time, armored divisions, not all but several, with fresh tank and infantry strength, remained in reserve for days and weeks. Were all divisions to be of similar structure, an extremely better rotation system could be evolved.

29. Disadvantages. The proponents of the theory that the infantry and the armored divisions must be retained as distinct types bol-

ster their opinions with seemingly more effective arguments:

a. Resulting Expense is a consideration. Excluding from consideration monetary matters, it would take vastly more machine hours to turn out the equipment of a given number of all-purpose divisions than it would to equip an equivalent number of infantry divisions. Furthermore, an all-purpose division would provide fewer riflemen per unit (and there will always be occasions when rifle strength is all important) than would the infantry division.

b. Such a Unit would be Unwieldy. No one will admit that the infantry strength of an all-purpose division can be cut below the nine battalions of the infantry division as it now stands. Therefore in the conversion from infantry to all-purpose division, all changes would be additive and the resulting product would approach a total of 25,000 officers and men.

c. Logistical Problems would be Greatly Multiplied. The road space required by an armored division is roughly four to five times that of the infantry division. It is doubtful that during the European Campaign, the road net of western Europe would have been adequate for the support of 57 mounted divisions whereas they did suffice for 15 mounted and 42 dismounted. And yet, western Europe has the finest road net in the world, outside of the United States. The next war may be fought in Asia or Africa or South America and communications will be more difficult in these areas. Two other logistical problems may be cited. Requirements for fuel, gas and oil, and for vehicle maintenance would be staggeringly high; and facilities were overtaxed during the European Campaign. The provision of adequate covered assembly areas for the multitude of infantry carriers, which all-purpose divisions would have to have available, when these divisions were fighting dismounted would impose serious problems at division and corps level.

d. The Efficiency of an All-Purpose Unit would be Less Than that Attained Separately by Infantry and Armored Units. Assuming a training period comparable to that afforded the average soldier prior to his entry into combat during World War II the individual soldier, could not satisfactorily absorb the lore essential to success in both infantry and armored tactics. The average man cannot change his ways of thinking and of fighting overnight. He cannot "slug it out" in close combat ffom day to day and then immediately regear himself for fast exploitation when a break occurs. He is a physical, not a mechanical, phenomenon and he gets tired!

30. Discussion. On a football team guards and the tackles are the main stays of the forward wall. Offensively and defensively they are in every play. Without them the greatest galaxy of backs can make no headway against opposition even approaching equal caliber. They stem the opponent's offense and, when they themselves are on the attack, soften the opposition and create the necessary breaks. Occasionally, they may pull a blocked kick or a fumble or an opponent's pass out of the air and carry the ball for a touchdown. That, however, is the exception. It is not their primary purpose, their "raison d'etre". Every good football team also has a fast, hard running ball carrier, a "scat back". He is not in every play. He can and will act defensively to tackle an opposing ball carrier when that ball carrier breaks through the secondary. That, however, is equally exceptional; it is not the purpose for which this man was placed on the team. He is an opportunist and his strength is conserved to exploit the breaks which his forward wall creates. Both the lineman and the back play on the same team. Both are imbued with the same spirit and the same desire: to crush the

opposition, to win the game. But their ways of thinking and operating are different. The lineman's approach is to wear down the opposing wall by constant grinding pressure and contact throughout a 60-minute game. The star half-back's tactics are to give his all at the crucial moment when and where directed by the generalship of the team.

There is an analogy between the foregoing and the concept of a dismounted and a mounted division. The infantry division is, and should be, a rugged organization designed for continuous and sustained combat under any and all circumstances of warfare. It is the bulwark of a field army. It is the force which must meet, slow and stop the enemy's attack. It is the force which, when sufficient strength is summoned, must drive the enemy backwards with accelerating pressure until that enemy begins to disintegrate. These are tremendous tasks, the most gruelling and the most important, if not the most spectacular in all of warfare. But to expect the infantry division, and we must remember that the all-purpose division would simply be a reinforced infantry division, to make the break and then exploit it with full efficiency, is to expect too much. The armored division or the cavalry division or the mounted division, whatever it may be called, is by approved tactical doctrine, the exploitation force. Breakthrough, pursuit, and operations in hostile rear areas are its primary roles.[5] It is trained and equipped to move fast, to hit hard, to disregard open flanks and lines of communication. Its strength is conserved for decisive action, and when the decisive time comes it is expected to enter combat fresh and at full strength and to give its all for one important mission. It is no more aggressive than the infantry division, but it should be imbued with a peculiar spirit which differentiates it; it must be completely offensively minded.

At first glance it may appear that, with the proposed inclusion of tanks in the infantry division and the increase of infantry strength in the armored division, the two units are approaching a common structure and a single type is the logical goal. But however basically similar in composition the two may be, there is one pronounced and fundamental difference which cannot be reconciled. The tanks in the infantry division are support weapons and their primary mission is to assist the advance of the infantry. The tanks in the armored division are the main striking force and the infantry is the support with the mission of breaking the tanks free. These widely separated functions require entirely different training and mental attitudes.

It is felt that no all-purpose division can be created which can combine all of the best qualities that the best infantry and the best armored divisions displayed during the late war. Some "jacks-of-all-trades" are creditable performers in most fields, but they never approach genius in any one. An all-purpose division might well be an excellent compromise but all experience augurs that it would not attain the full efficiency of the dismounted and the mounted divisions as separate organizations.

SECTION 3

ELIMINATION OF THE AIRBORNE DIVISION

31. War Department Proposal. In a recent War Department letter eliciting opinions on future airborne organizations this question was propounded:

> "Rather than specifically designating airborne divisions, would it be practical or desirable, in a relatively modest regular army, to envisage all divisions trained in airborne technique and operations? Would such a view hold if separate specialized units were maintained as parachute units?"

Stated otherwise, comment was requested on the feasibility of eliminating the airborne division as a type, its missions to be taken over by the standard infantry division, reinforced if need be by parachute formations, approximating regimental combat teams, for the airborne assault phase.

A total of 73 officers of field grade or above (one half of which were generals) in the European Theater answered the questionnaire.[6] While the bulk of the officers were members of airborne organizations, the remainder provided an excellent cross-section of the experienced ground force commanders. Fifty (50) officers stated categorically that it was not practical to train all divisions in airborne technique and operations and expect those divisions to execute airborne primary missions whether or not separate parachute units were retained.

32. Advantages of Elimination. The proponents of elimination cite the following:

a. Simplicity, for the reasons discussed under the previous proposal, would be a definite resulting advantage. It is pleasant to contemplate that stage of military progress, wherein each officer and soldier would be properly qualified for the successful execution of all manner of operations. The retention of one type division only would greatly facilitate personnel placement, training, equipment procurement and comparable problems.

b. Flexibility of employment of the field forces would be tremendously increased. If all divisions of the army were potentially capable of executing vertical envelopment, any enemy power would be forced to so disperse his available forces to protect vital installations deep in his rear areas that his front line strength would be materially weakened. The scope of airborne operations would be limited only by arithmetical factors -- the amount of air lift available.

c. Economy has been cited by several senior commanders as a reason for eliminating the airborne division as such. The airborne division is an extremely expensive unit to train, equip and maintain, out of all proportion to the number of combat days it saw in World War II in a strictly airborne role. The retention of parachute regiments only would be more economical from both monetary and manpower considerations.

33. Disadvantages. Those commanders who take the view that the proposal is not feasible find substantiation in:

a. Impracticability of Training all or even the major portion of the personnel of all divisions as paratroopers. Any screening of

the officers and men of the average division, based on present and probable future volunteer or induction standards, will disclose many men who are temperamentally or physically disqualified for parachute training. The average man is reluctant to jump from an airplane. To enforce jump training on these men would have a deleterious effect on morale. Even all volunteers, who would already represent a small minority of any division's strength must be further reduced by screening for physical condition, stamina and intelligence; even then there will be some who will never make the first jump. The same arguments apply to a lesser degree to glider training. While physical requirements can be met more nearly by the average man, temperament considerations are the same.

It therefore appears impossible to count on subordinate units of the average division being wholly susceptible of executing parachute missions whether they be infantry, artillery or engineer. Any attempt to constitute parachute infantry or other arms components by amalgamation of small contingents of properly qualified personnel from several units would be extremely complicated, would destroy unity of command and would fail from lack of developed teamwork.

b. The Standard Division, Trained in the Technique of Transport by Air, in Assembly and Deployment for Combat from the Landing Area, but without Organic Parachute Units, Cannot Accomplish the Primary Airborne Missions. Until a defended landing field is cleared of the enemy or until a given area, defended or undefended, is prepared for the reception of transport planes, such a force cannot land. The initial effort must be made by parachute formations, personnel and equipment capable of dropping in all types of terrain, assembling rapidly and carrying the fight to the enemy. Not even glider formations have this capability.

c. The Attachment of Special Parachute Units to the Standard Division to Undertake the Assault Phase Would Not Be a Satisfactory Solution. The successful seizure of an airhead requires a force sufficient in number to hold a comparatively large area, sufficiently strong in weapons to overcome heavy enemy opposition, adequately trained to make an efficient team and properly staffed to handle the multitudinous details of airborne planning. This mission can only be accomplished by a force of the combined arms. The parachute force must be prepared to sustain itself for a limited period and consequently some service elements for resupply duties are indicated. When it is considered that the parachute force must hold the perimeter of an area large enough to permit the landing of modern transport planes and deny small arms and ground observed artillery fire on that perimeter, the requisite size parachute force becomes apparent. The parachute attachments approach divisional size but fall short of the advantages accruing from a divisional organization. For any airborne operation there would be superimposed on the standard division, a great collection of separate units without any overall command structure; the burden on the division staff would be tremendous. More important, the weight of evidence derived from combat operations conclusively demonstrates that the integration of attachments into the division team requires a long period of association and careful instruction. The need for team training is especially pronounced in airborne operations. Each element of a dropped force must, even under the most adverse conditions, be able to assemble at its designated point and initiate its team mission with or without further orders. This team work cannot be developed, on short notice, among separate units grouped together for a particular operation only.

34. Discussion: Assuming that airplanes will fly in the next war, and there is no evidence yet to indicate that the efficiency of defense weapons will keep piloted aircraft from the skies, the scope of airborne operations will greatly exceed those of World War II. The United States must retain, either for defensive or offensive purposes, the superiority it now enjoys in the airborne field. It has already been suggested that all elements of the strategic reserve be trained in the technique of air transport to achieve the maximum of mobility and speed in deployment. To permit an air transported combat force to develop its combat power in the area of employment, safe landing zones must be guaranteed -- airfields must be wrested from an enemy power and defended against counterattack while the main body is landing.

Upon the successful accomplishment of the initial task, the securing of the airhead or several airheads, depends the effectiveness of the entire combat echelon following by air. The main force's deployment and development for combat is completely dependent upon the work of the airborne assault formations. When it is visualized that entire armies may be moved to the combat area, reinforced and supplied by air, the critical importance of assuring its safe and orderly entry into combat becomes strikingly apparent. The initial task, the assault phase, can only be entrusted to units which are of demonstrated high caliber, the most aggressive and skillful fighting teams it is possible to produce.

Until such time as assault aircraft, approximating the amphibious landing craft of World War II, are developed, parachute and glider units alone can be counted upon for execution of the assault phases of vertical envelopment. It is admitted by all that the factors of morale and the particularly hazardous nature of their missions demand that parachute units be constituted from volunteers -- air as a medium is not as universally accepted by the ordinary person as is land or sea. It is likewise admitted that special requirements of physical condition and mental alertness must be met by parachutists. Thus a high personnel investment is represented in the creation of a parachute unit -- justifiable in view of their peculiar and important mission. Having made this special investment in manpower, the best results should be expected and demanded. The highest order of performance must be assured in training, in planning and in execution of missions.

The great majority of experienced commanders agreed that the execution of an airborne assault mission of the magnitude conceived herein requires a force of the combined arms; that that force must operate instinctively as a closely integrated team, under the most adverse of conditions; that that force must be capable of limited independent action with the ability to resupply itself thereby entailed; and finally that the most expert planning, with all the complexities and intricacies involved, must precede the commitment of the force.

No collection of attachments can develop the requisite teamwork for any operation in short order; teamwork results only from close and long association in training, each element learning its particular task and how it fits into the overall picture and simultaneously becoming acquainted with the capabilities and limitations of the other team components. Efficacy of training demands centralized control, supervision and direction with the battle team the basic unit.

Likewise, in the planning of a mission, in the coordination of the multitude of details characteristic of airborne operations,

adequate staff, experienced and thorough, must be available. This staff must be prepared to handle all personnel, intelligence, operational and logistical matters, all liaison with ground, air and naval agencies; its functions are varied and many. In the concept of the reinforcement of an air transportable infantry division with the requisite number of parachute units, these planning duties must be superimposed upon the division staff, an organization already concerned with its share of equally important but non-related problems. By training and experience, the division staff cannot be as expert on airborne matters as a similar group which has been groomed exclusively along airborne lines. The alternative solution is the proposal to improvise a staff from officers and key men of the parachute units, but this makeshift organization, however well qualified individual members might be, would lack developed intra-staff coordination, overall guidance and would represent a drain on the units from which withdrawn. The most feasible suggestion, then, would be to provide a well-knit, adequately manned airborne staff to handle the planning problems. For best results, the staff should have been associated with the units to participate in the operations during their training period and preferably should have directed that training. Finally, and of paramount importance, is the requirement for centralized command and control of the parachute units after the engagement has been joined. The standard division commander and staff cannot undertake the task, except from a distance simply because they are unable to enter combat with the parachute formations by reason of their inability to jump. Even were they so qualified their main duties lie with the uncommitted air transported division which is their parent unit.

From the foregoing it is apparent that for any sizeable airborne operation, the assault elements must consist of a force of the combined arms approximating divisional size; that the component units must have training as a unit; that they must be provided with command and staff continuity in training, in mission planning and in battle. The division is the basic unit providing these and it therefore appears that such an airborne organization is indicated.

SECTION 4

REQUIREMENT FOR SPECIAL TYPE DIVISIONS

35. Prior Action. Immediately prior to and during the early stages of World War II there was much thought as to the desirability of organizing special divisions for jungle, mountain and arctic warfare. Experiments were conducted with several infantry divisions and one, specially organized and equipped, the 10th, saw considerable combat in the Italian Theater.

36. Adequacy of Standard Divisions. Actual experience in special operations, particularly mountain and jungle warfare, is inconclusive as to the need for special type divisions; the infantry division with minor modifications, proved capable of conducting satisfactory operations in all types of terrain. While the army must spur research and keep abreast of the latest development in equipment and tactics for these special operations, the advantages of standardization of basic type units - training, procurement, adaptability - suggest the retention of the standard type infantry division only. A special purpose division is limited by training and equipment in the scope and area of its employment, whereas an infantry division is extremely versatile. It has been demonstrated that an infantry division earmarked for a given theater can, in six month's time, superimpose upon its basic preparation, the additional specialized training in the tactics and with the equipment required for a peculiar role.

37. Cavalry Division (Horse). While there was no employment of horse cavalry during the European Campaign, it was necessary to improvise horse cavalry units in Sicily and in Italy. Operations in certain theaters will always require horse units in limited numbers for special tasks and correspondingly the training of officers and enlisted men of the regular establishment in horsemanship and horsemastery is a continuing requirement. To this end a horse cavalry division should be maintained with a permanent cadre of senior officers and noncommissioned officers and specialists; the remainder of the division to be students. By this method, there will be a guarantee of the presence in any theater of a certain number of officers and men with the requisite knowledge to use horse cavalry, horse-drawn artillery, and pack or animal transport.

SECTION 5

CREATION OF A NEW BASIC UNIT

38. General Proposal. The idea of the task force has long had a place in manuals of tactics and operations.[7] Their stated purpose is to insure unity of effort and to increase readiness for combat. During World War II many special tactical groupings, loosely called task forces, were employed on missions of secondary importance. This use was mainly dictated by expediency, namely the gathering together of sufficient available combat units considered adequate to a task for which no division or major component thereof could be spared. Only rarely were task forces designed for a particularly important mission, meticulously selected and assembled and committed to tasks for which peculiary fitted by virtue of composition and structure.

The division as the basic unit of combined arms and services has evolved from long experience and is accepted by all armies of the world. No one questions its soundness or suitability. But the thought comes to mind, as a projection of the task force principle, that there is or might be an equally good or even better solution. Instead of retaining the infantry division as the basis of field force organization, the proposal is to drop down one echelon and make tactical groupings, comparable in size to regimental combat teams, the new basis. Similarly there would be created supply groupings, under unified command and charged with the support now provided by the several service elements of a standard division. On the one hand, then, would be the unit fighting groups and on the other, unit supply groups, which could be assembled in a variety of combinations for any given operation. Basically the proposal is an extension of the German "einheit" system.

39. Advantages of Unit System.

a. Flexibility is the keynote of the proposal. With due consideration given the requirements of any given mission - enemy resistance, character of terrain, communication problems and the like - the composition of the force to be employed could be selectively designed. Whereas many divisions were given missions for which no more than one or two regiments could conceivably be needed, the unit system would permit the formation of the force exactly required. If the task were bigger, four or five or six units could be committed, backed, if necessary, by more than one supply group. Higher echelon reserves, while individually smaller than divisions, would be more plentiful quantitatively than would otherwise be the case.

b. Training Efficiency Would be Increased. Despite popular opinion to the contrary, it is doubtful if the divisions which are to constitute the post war Army can be kept intact and assembled at one and only one location. More probably there will be a breakdown into regiments and separate units, each quartered at its own garrison post; the assembly of the division will probably be limited to maneuver periods or emergencies. Training therefore will be mainly of unit type. If, however, the basic units are so organized as to be tactically self-sufficient on the battlefield the dispersion of units would have no deleterious effect on pre-combat preparation. Perfection of training of the unit itself would be the ultimate goal, with only such familiarization with the workings of the supply groups as essential to efficient teamwork.

40. Disadvantages.

a. Lack of Pre-Battle, Developed Teamwork. This argument has been detailed in other sections of this study and needs no great amplification. Experience has shown quite clearly that no two units function with complete harmony until they develop mutual confidence in the other's ability; this condition arises only from association and known unity of purpose. However efficiently the German Army employed their unit system, it must be remembered that they were almost completely on the defensive; units were told to hold this or that piece of ground at all costs, and there orders ended. Whether equal success would have greeted offensive operations is an unanswerable question.

b. Requirement for Staff Improvisation. The command and staff organizations which would have to be created in numbers corresponding to the planned troop basis, could be given training supervision of the various units and would develop creditable intra-staff teamwork. However, in combat, the size of the staff would necessarily vary in conformity to the size of the force commanded. In the additive process, the newcomers would not immediately reach full productive capacity until they had learned the staff methods and techniques peculiar to their new organization; requisite staff decreases when smaller forces were commanded could well hurt efficient staff operations by withdrawal of key personnel.

c. Task Forces Would Tend to Become Fixed Organizations, Defeating the Purposes of Organization. In the normal pattern of warfare, once a particular combination of units, be they divisions or smaller units, begin to function as a close-knit team there is a reluctance to separate the several components. Because a force constituted, let us say, of three combat groupings, a supply group and an artillery group, would be adequate for nearly every task, the force commander and his immediate superiors would argue to retain the identity of that force. In effect, therefore, the result would be a set organization approximating what are now called divisions.

41. Discussion. There is insufficient evidence or background of experience available at the moment to permit a categorical statement that the unit system would or would not be a satisfactory substitute for the present division structure. It potentially provides an increased flexibility which must be balanced against the proved teamwork evident in a division and the non-intrinsic but significant aspects of division history and esprit. This study can draw no sound conclusion as to the relative merits of the system but it does suggest that the proposal is worthy of detailed consideration.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

SECTION 1

CONCLUSIONS

42. Regarding Requisite Characteristics of the Post War Army, Ground Component.

a. The major missions of the post war military establishment are: maintenance of a strategic reserve or striking force; assistance, by way of a police force, to the United Nations Organization; occupation of conquered countries; security of outlying air and naval bases; and training of the civilian component. The most important single mission is the constitution, training and readying for action of the strategic reserve.

b. The strategic reserve, comprising the bulk of the post war standing army, must possess high mobility, heavy fire power and shock action, versatility in employment and the capacity for sustained independent combat. Mobility of requisite speed demands that all elements be trained in the technique of air transport. The fire power and shock action desirable envisages substantial armored mechanized elements. Versatility makes it mandatory that the force be prepared for all type operations in any terrain. The most critical capability of the force is that it be prepared to undertake airborne assault missions of considerable magnitude. The requirement for independent action makes essential the constitution of forces which are self-contained from tactical, administrative and supply standpoints.

c. The characteristics and capabilities cited above as essential dictate a proper proportion of infantry, armored and airborne divisions, as they are known at present, or comparable organizations of the combined arms.

43. Regarding the Present Infantry Division.

a. The operations of the infantry divisions during the European Campaign were, in the main, highly satisfactory and gave added verification to the concept that that type unit is the basis of field force organization. The infantry division executed with success and distinction every type mission enunciated by the field manuals.

b. Experience in combat disclosed certain major weaknesses in divisional organization and equipment which hampered the efficiency of the division. At the same time, no evidence of weakness or errors in tactical doctrines, worthy of mention, were disclosed.

c. Those weaknesses in organization and equipment have been fully reported to proper authorities for future rectification. The revisions in the infantry division as proposed by The General Board Study Number 15 will adequately correct or eliminate the demonstrated deficiencies.

44. Regarding the Present Armored Division.

a. The armored division was eminently successful in its execution of primary missions during the European Campaign and it contributed materially to the early completion of the war.

b. No evidence was produced during the European Campaign to alter the concept that the primary role of armored divisions is exploitation and operations in the hostile rear.

c. Experience in combat disclosed certain major weaknesses in armored division structure, both in the light and the heavy types. On the other hand, doctrine of employment and tactics was demonstrated to be basically sound.

d. The General Board committee charged with the reorganization of the armored division has included in its recommendations sufficient changes to correct or eliminate the deficiencies disclosed in World War II.

45. Regarding the Present Airborne Division.

a. These divisions, despite their limited employment in designed roles, justified the expense and special personnel selection involved in their creation. Even when committed in a ground role, the splendid fighting qualities of the individual airborne trooper produced satisfactory results, regardless of equipment shortcomings.

b. So much of established doctrines as visualizes the relief of airborne divisions within a few days after commitment is fallacious, combat evidence being unanimous to the contrary. In no instance was it feasible or advisable to withdraw from the line 10,000 or more excellent fighting men, even after contact with the main ground effort was established.

c. Since airborne divisions are expected to continue to carry the fight to the enemy for sustained periods, functioning in the manner of an infantry division, they should be provided the wherewithal for sustained action that the latter enjoys.

d. The greatest developed deficiency of the airborne division was its lack of staying power in a ground role, unless heavily reinforced.

e. The recommendation of The General Board, Study Number 16, charged with the reorganization of the airborne division, that the division have the same structure as the infantry division will serve to correct the main demonstrated weaknesses.

46. Regarding the Proposal to Create an All-Ground Purpose Division.

a. As a result of the experience of the European Campaign, considerable sentiment has developed for the amalgamation of the infantry and the armored divisions into one all-ground purpose unit.

b. For the reasons detailed in paragraphs 29 and 30, the elimination of the two units as separate and distinct types and the substitution therefor of a single all-ground purpose division is not desirable.

47. Regarding the Elimination of the Airborne Division.

a. The capability of executing vertical envelopment will become an increasingly important characteristic of the armed forces and it is therefore paramount that the United States retain its present superiority in the airborne field.

b. For the reasons stated in paragraphs 33 and 34, the elimination of the airborne division and the substitution of separate parachute units designed to be attached to air transportable divisions for airborne assault tasks, would not be a satisfactory solution.

48. Regarding the Requirement for Other Special Type Divisions.

a. For the reasons detailed in paragraph 36, there is no requirement for divisions specially organized, equipped and trained for ground infantry operations in particular areas. However, the armed forces must spur and keep abreast of research, experimentation and development in equipment and tactics required for special operations.

b. While combat in the European Theater developed no need for horse cavalry, the requirement did exist in other theaters, and consequently, a horse cavalry division should be maintained in the post war Army as a training and experimental agency.

49. Regarding the Creation of a New Basic Unit.

a. The replacement of the division as the basic unit of the field forces with smaller self-contained tactical groupings would increase flexibility of employment and peacetime training efficiency. It would conversely hamper the development of pre-battle teamwork.

b. No categorical recommendation as to the desirability or non-desirability of adopting the unit or task force system can be made at this time but the proposal merits detailed consideration.

SECTION 2

RECOMMENDATIONS

50. As to the Type Major Tactical Units to Constitute the Post War Army.

It is recommended that:

a. The Infantry Division continue to constitute the basis of field force organization.

b. The Armored Division, the modern cavalry, be retained as a distinct type unit.

c. The Airborne Division be retained and incorporated in the post war Army structure.

d. A Horse Cavalry Division, with a permanent specialist cadre, be maintained as a training and experimental agency for the personnel of the post war Army.

e. No other special type division be organized or maintained in the post war Army; in lieu thereof that the infantry or armored or airborne division, depending on particular mission requirements, be charged with the execution of any possible task.

f. The combat units listed in Appendix 2 be accepted as a point of departure in the determination of which units should be included as components of the combat echelon of the post war Army, maintained for experimental and development purposes, retained on paper only, or eliminated.

g. The application of the German "einheit" or task force principle to the Army of the United States be given further study.

51. As to the Organization and Equipment of the Retained Divisions.

It is recommended that:

a. The Infantry Division of the post war Army be as proposed by The General Board Study Number 15, "Organization, Equipment and Tactical Employment of The Infantry Division".

b. The Armored Division of the post war Army be as proposed by The General Board Study Number 48, "Organization, Equipment and Tactical Employment of The Armored Division".

c. The Airborne Division of the post war Army be as proposed by The General Board Study Number 16, "Organization, Equipment and Tactical Employment of The Airborne Division". Further, that the special equipment proposed be eliminated when improvements in gliders or helicopters make possible the transport of all equipment items of the proposed infantry division.

52. As to the Tactical Employment of the Retained Divisions.

It is recommended that:

a. The doctrine of employment of the Infantry Division for the present be basically as enunciated in the pertinent field manuals.

Additionally, that the missions detailed in Field Manual 100-5, as particularly applicable to the light division be charged to the infantry division.

b. The doctrine of employment of the Armored Division for the present be as enunciated in the pertinent field manuals with continued emphasis on exploitation as its primary and normal mission.

c. The doctrine of employment of the Airborne Division be expanded to visualize the continuing operation of that division as an infantry division after completion of the assault phase.

d. The doctrine of employment and techniques of combat be continuously revised in step with the latest developments in weapons, transport, ammunition and similar materiel with particular attention to the full exploitation of air transport for the movement and maintenance of ground forces.

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1. War Department, Biennial Report of the Chief of Staff of the United States Army, 1 July 1943 to 30 June 1945; 1 Sept 45, P. 120.

2. War Department, Field Manual 100-5, Operations; 15 June 1944, Chapter 15, Par. 1010, P. 297.

3. Ibid.; Chapter 14, P. 290.

4. The General Board, United States Forces, European Theater, G-3 Section, Answers by Major Generals, Brigadier Generals, and Colonels to Questionnaire on Types of Divisions; 8 Oct 1945.

5. War Department, Field Manual 100-5, Operations; Op. Cit., Pars. 1038 - 1040, Pp. 305-306.

6. The General Board, United States Forces, European Theater, Organization, Equipment and Tactical Employment of the Airborne Division; Appendix 2.

7. War Department, Field Manual 100-5, Operations; Op. Cit., Chapter 1, Par. 22, P. 5.

THE GENERAL BOARD
UNITED STATES FORCES, EUROPEAN THEATER
APO 408

R 381/1 TGBSY 3 October 1945

STUDY DIRECTIVE NUMBER 141.

TO : Assistant Chief of Staff, G-3.

SUBJECT: Types of Divisions - Post-War Army.

1. Mission.

Prepare report and recommendations, based on experiences and lessons in the European Theater of Operations, on the types of divisions which should be an integral part of our Post-War Army.

2. Scope.

The report will include:

a. Missions.

Missions to be accomplished and the type of organic combined armed unit essential for the execution of these missions.

b. Analysis of combat operations:

(1) Analysis of combat operations of the present types of divisions (Infantry, Armored, Airborne) to determine major strengths and weaknesses of these divisions to accomplish assigned suitable missions.

(2) Analysis to determine whether other combinations of arms and services within divisions would have given greater tactical flexibility.

(3) Analysis to determine whether it is desirable to combine two or more of the present type divisions into one which has the characteristics and capabilities of those replaced.

(4) As a result of analysis to recommend the types of division for the Post-War Army.

c. Organization.

The general composition of each type of division recommended, to include the proportion of the various arms and services to constitute the division. This proportion should not extend below the number and types of battalions and separate companies.

d. Equipment.

The major items of equipment to be included in each type of division recommended, with recommendations, if any, for any changes or modification in major items of present equipment.

e. Tactical Employment.

The role or mission of each recommended type of division in both offensive and defensive operations.

3. Source Material.

a. Current War Department publications.

b. Special comments by senior commanders in the European Theater of Operations.

4. Instructions.

a. See Plan of Operation, The General Board.

b. You are authorized to request the assistance of other sections in the preparation of this report. Requests for the assistance of other staff sections will be initiated without delay and will include the general nature and scope of the assistance desired together with the approximate date upon which this information will be required.

c. You are further authorized to request the assistance of agencies and personnel under jurisdiction of United States Forces, European Theater in preparation of the report. Such requests will be submitted to the Secretariat.

FOR THE PRESIDENT OF THE BOARD:

/s/ L. R. Garrison
/t/ L. R. GARRISON,
Colonel, AGD,
Secretary.

THE GENERAL BOARD
UNITED STATES FORCES, EUROPEAN THEATER
APO 408

RECOMMENDATIONS FOR

COMBAT AND COMBAT SUPPORT UNITS

IN

POST WAR ARMY

Appendix 2

SECTION 1

GENERAL

1. The purpose of this appendix is to present, as a point of departure for further detailed study, The General Board's recommendations as to which of the existent non-divisional combat or combat support units, by type only, should be retained as active ground components of a balanced post war Army. As a further recommendation, it lists those other combat units, of which at least one per type should be retained for purposes of experimentation, development and testing. Finally it proposes that for all remaining units (excluding service) for which a foreseeable future need exists that appropriate Tables of Organization and Equipment only be retained.

2. No deductions have been made as to the number of each type organization required in the post war Army. Lacking information as to the approximate size and actually assigned missions of the future military establishment, imponderables rule out any conclusions as to required quantities of type units.

3. The lists as prepared include no detailed justifications for the retention of types. It does however represent, in the case of the units of any particular arm or service, the opinion of the appropriate staff section of The General Board. The lists should be studied in conjunction with similar report prepared by G-4 Section, The General Board on service units.

SECTION 2

TYPE UNITS TO BE RETAINED IN THE COMBAT ECHELON, POST-WAR ARMY

UNIT	T/O	REMARKS
ANTI-AIRCRAFT		
Hq & Hq Btry, Anti-Aircraft Command	44-1-1S	Or equivalent organization. (With administrative functions)
Anti-Aircraft Artillery Operations Detachment	44-7	
Hq & Hq Btry, Anti-Aircraft Brigade	44-10-1	
Hq & Hq Btry, Anti-Aircraft Group	44-12	Or regimental organization.
Anti-Aircraft Gun Battalion (Mobile)	44-15	
Anti-Aircraft Automatic Weapons Battalion (SP)	44-75	
Anti-Aircraft Intelligence Battery	44-147S	May be Signal Corps organization if an integrated aircraft warning service developed.
Anti-Aircraft Balloon Battalion (VLA)	44-325	
CAVALRY		
Hq & Hq Trp, Cavalry Group (Mecz)	2-22	Or a regimental organization.
Cavalry Reconnaissance Squadron (Mecz)	2-25	

UNIT	T/O	REMARKS
CHEMICAL WARFARE		
Chemical Mortar Battalion	3-25	May be infantry or artillery unit.
COAST ARTILLERY		
Hq & Hq Btry, Harbor Defenses	4-260-1	As required for manning of harbor defenses to remain active or which may be constructed. If Coast Artillery Corps incorporated into a single Artillery Corps, requirements will be unchanged; if Navy assumes responsibility for coastal defense, these units may be eliminated.
Hq & Hq Btry, Coast Artillery Group (HD)	4-62	
Battalion (HD)	4-65	
Battery (HD) (Anti-Motor Torpedo Boat)	4-77	
Battery (HD) (Searchlight)	4-68	
Battery (HD) (Mine)	4-69	
Battery, Mine Planter	4-104	
Battery (HD), Underwater Ranging	4-227	
Battery, Surface Warning		
Hq & Hq Btry, Coast Artillery Group (155mm Gun)	4-152	Or regimental organization. If a single Artillery Corps formed, these units can be eliminated and their missions assumed by the present Field Artillery Battalion (Motorized) (155mm Gun Trac-D).
Battalion (155mm Gun)	4-155	

UNIT	T/O	REMARKS
ENGINEER		
Headquarters, Engineer Command, Army	(New Unit)	
Hq & Hq Co, Engineer Command, Corps	(New Unit)	
Hq & Hq Co, Engineer Combat Group	5-192	Or regimental organization.
Engineer Combat Battalion	5-15	Or regimental organization.
Engineer Topographical Battalion (Army)	5-55	
Engineer Panel Bridge Transport Company	(New Unit)	Recommended to replace Engineer Light Pontoon Ponton Company.
Engineer Ponton Bridge Company, Rigid Boat	(New Unit)	Recommended to replace Engineer Heavy Ponton Battalion.
Engineer Ponton Bridge Company, Pneumatic Float	(New Unit)	Recommended to replace Engineer Treadway Bridge Company.
Engineer Topographical Company, Corps	5-167	
Engineer Combat Equipment Company	(New Unit)	Recommended to replace Dump Truck Company and Light Equipment Company.
Engineer Map Depot and Distribution Company	(New Unit)	
Engineer Photo Center, Army	(New Unit)	
Engineer Photo Center, Corps	(New Unit)	

UNIT	T/O	REMARKS
FIELD ARTILLERY		
Hq & Hq Btry, Artillery Division (and Special Troops)	6-50-1	As recommended by General Board Study 10, file 320.3/8.
Hq & Hq Btry, Field Artillery Group (Mtz)	6-12	Or regimental organization.
Field Artillery Battalion (Mtz) (105mm How, Trk-D)	6-25	
Field Artillery Battalion (Mtz) (105mm How, Trac-D)	6-325	
Field Artillery Battalion (Mtz) (155mm How, Trac-D)	6-335	Development of wheeled prime movers to be continued.
Field Artillery Battalion (Mtz) (155mm Gun, Trac-D)	6-355	Development of wheeled prime movers to be continued.
Field Artillery Battalion (Mtz) (8" How, Trac-D)	6-365	Development of wheeled prime movers to be continued.
Field Artillery Battalion (Mtz) (240mm How, Trac-D)	6-395	
Field Artillery Battalion (Mtz) (8" Gun, Trac-D)	6-395	

UNIT	T/O	REMARKS
FIELD ARTILLERY (Cont'd)		
Armored Field Artillery Battalion	6-165	
Field Artillery Battalion, (Mtz) (155mm How, SP)	Not Published	
Field Artillery Battalion, (Mtz) (155mm Gun, SP)	6-125	
Field Artillery Observation Battalion	6-75	
MILITARY POLICE		
Military Police Battalion	19-55	
Military Police, Company (Sep)		
SIGNAL CORPS		
Signal Battalion	11-15	
Signal Light Construction Battalion	11-25	
Signal Heavy Construction Battalion	11-65	
Signal Radio Intelligence Company	11-77	Service is essential but may be divorced from Signal Corps and incorporated within some overall security or intelligence agency.

UNIT	T/O	REMARKS
SIGNAL CORPS (Cont'd)		
Signal Operation Battalion	11-95	
Signal Radio Relay Station Company	11-137	
Joint Assault Signal Company	11-147S	
Signal Aircraft Warning Organization	11-400	Service essential but may become an Air Force responsibility en toto.
Signal Intelligence Service Detachments	11-657S 11-667S 11-677S 11-687S 11-697S	Service essential but may be divorced from Signal Corps and incorporated within some overall security or intelligence agency.
MISCELLANEOUS		
Hq & Hq Co, Army (Including Special Troops)	200-1,2,3	
Hq & Hq Co, Corps	100-1,2	
Photo Interpretation Team		
Order of Battle Team	30-30T	
Counter Intelligence Corps Detachment	30-500	
Intelligence Service Organization	30-600T	

Section 3

TYPE UNITS TO BE RETAINED AS EXPERIMENTATION AND DEVELOPMENT AGENCIES

UNIT	T/O	REMARKS
ANTI-AIRCRAFT		
Anti-Aircraft Searchlight Battalion	44-135	Recommended for transfer to Engineers.
ARMORED		
Hq & Hq Co, Special Equipment Group	(New Unit)	To co-ordinate and test development of such special units as amphibious tank battalions, airborne tank battalions, amphibious tractor battalions, flame throwing tank units, etc.
CAVALRY		
Cavalry Division (Horse)	2	

UNIT	T/O	REMARKS
ENGINEER		
Engineer Camouflage Company (Army)	5-97	
Engineer Base Topographical Battalion	5-186	
Engineer Special Brigade	5-510-S	Or comparable organization adequate to the task of supporting post-war divisions in practice amphibious operations.
FIELD ARTILLERY		
Rocket Battalion (Mtz) (4.5" Rocket, Trk-D)	6-85T	
Field Artillery Battalion (75mm Pk How)	6-155	Including truck drawn unit.
SIGNAL		
Signal Information and Monitoring Company	11-87S	
MISCELLANEOUS		
Deception Unit		Comparable to 23rd Special Troops employed under auspices of 12th Army Group; should include one each of all type subordinate units.
Tactical Information Service	(New Unit)	As recommended in General Board Study 34, file 320.2/15.

(One of the post-war airborne divisions to be set up as development and testing agency for all airborne techniques and equipment. At least one of the post-war infantry divisions to handle parallel work with respect to mountain, jungle and arctic operations. Air transport technique to be developed at division level.)

SECTION 3

UNITS TO BE RETAINED ON PAPER ONLY (T/O and E)

UNIT	T/O	REMARKS
CHEMICAL WARFARE		
Hq & Hq Det. Smoke Generator Battalion	3-266S	
Smoke Generator Company	3-267	
COAST ARTILLERY		
Railway Artillery Units	4-	Of armament 10" and above only.
ENGINEER		
Hq & Hq Co, Engineer Construction Group	5-72	
Engineer Construction Battalion	5-75	
Engineer Camouflage Battalion (Army)	5-95	
Engineer Special Service Regiment	5-251	
Engineer Service Organization	5-500	
FIELD ARTILLERY		
Field Artillery Battalion (Mtz) (8" How, SP)	(New Unit)	
Field Artillery Battalion (Mtz) (240mm How, SP)	(New Unit)	
Field Artillery Battalion (Mtz) (8" Gun, SP)	(New Unit)	
INFANTRY		
Ranger Infantry Battalion	7-85	

UNIT	T/O	REMARKS
SIGNAL CORPS		
Hq & Hq Co, Signal Intelligence Battalion	11-76	
Airborne Army Signal Battalion	11-155T	
Airborne Corps Signal Battalion	(New Unit)	
Signal Service Organization	11-500	
Signal Detachment, Headquarters	11-2027T	
MISCELLANEOUS		
Hq & Hq Co, Airborne Army	210-1T, 2T	Not in present form; the designation is not properly descriptive. A headquarters capable of co-ordinating and controlling airborne operations of Army scope is desired.
Band, Separate	20-107	
Hq, Intelligence Detachment	30-600T	