Chapter I

Preface to the Campaign in the West of 1940

The campaign in the West was made up of two acts.

Act one, Operation YELLOW (Gelb), includes the breakthrough and the offensive carried out from the middle sector of the German front towards the west, as far as the English Channel.

Act two, Operation RED (Rot), had as its objective the pursuit of the enemy forces from northern France and the subsequent advance towards the south, culminating in the annihilation of the French armies and in the capitulation of France.

Shortly before the beginning of the first act of this drama, fate decreed the insertion of a completely unexpected, let alone planned, prologue -- the Weser Maneuver (Weser-Übung), code designation for the operation which ended in the occupation of Denmark and Norway.

It was inevitable that this prologue should have a decisive effect on the planning and on the deadline established for the long-contemplated offensive in the West. The relationship between the western and northern theaters of operation, necessarily altered by the Weser Maneuver, must be

examined in detail if we are to be in a position to evaluate the decisions and the actions taken by Germany's military leaders prior to 10 May 1940.

For this reason, the account of the offensive in the West, beginning on 10 May 1940, will be preceded by an evaluation of the Weser Maneuver, insofar as the latter affected Operation YELLOW. This evaluation is restricted to its influence xx on Operation YELLOW.

As far as the deployment of the Luftwaffe was concerned, the Weser Maneuver had a decisive effect on the offensive in the West. Above all, the timing of the two operations represented a decisive factor in the overall conduct of the war, a factor which -- in turn -- cannot be separated from the developments brought about by the previous repeated postponements of the offensive in the West.

As a result, our account of the fighting in the West must be preceded by a brief summary of this complex and intimately related problem. Our summary will be divided into two parts:

I. Postponement of Operation YELLOW

II. The Weser Maneuver and its Effects on Operation YELLOW.

I. ~~Postponement of Operation~~ YELLOW

If we are to understand the psychological significance which the actual beginning of Operation YELLOW, on 10 May 1940, had for both officers and enlisted personnel, we must bear in mind that the final order to attack meant a relaxation of the tension felt by all, an end to the fruitless and nerve-racking period of waiting -- a period of waiting which both the Luftwaffe and the Army had borne for seven long months. The so-called "stationary war", to be sure, had been utilized for intensive preparation, planning, and troop training, but primarily it was a period of waiting -- waiting for the order to attack. It was certain that the order would come, but when?

In order to make clear the tension felt by both officers and enlisted personnel, it seems expedient to present a summary of the various postponements of the offensive. It is true that not all of those listed in the following summary applied to all units down to the last squadron -- some of them affected only the higher echelons; nevertheless the enlisted personnel were well aware of what was going on. Quite apart from the strategic planning incidental to the stationary war, which, of course, had its effect on the tactical planning of each individual unit, the postponements dictated from above were bound to

make themselves felt at the very lowest echelon, at least in respect to training programs, technical changes, and leave schedules -- to mention only a few of the sectors which were extremely important as far as field personnel were concerned.

During the course of seven months, the date of the offensive was set at least nineteen times -- and postponed again at least seventeen times[1].

The summary included at the end of this section indicates the exact dates involved as well as the content of the Führer Directives responsible[2].

Careful study of the summary mentioned above reveals that the following conclusions -- of fundamental importance to the purpose of the present study -- are justified:

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1 - The nineteen postponements, or rather new deadlines, can be fully substantiated. The sources detailed in Footnote 2, below, also indicate that on at least one other occasion -- at the beginning of May 1940 -- there was still another postponement, one which is mentioned but not documented. This would mean that the date of the attack was set at least twenty times.

2 - Sections 1 through 4 of the summary are based on information contained in Helmuth Greiner, "Die oberste Wehrmachtführung 1939-43" (The Wehrmacht High Command, 1939 through 1943), Limes-Verlag, Wiesbaden, 1951, pages 64-68. These data, in turn, are based on a copy of the War Diary of the Wehrmacht High Command.

Sections 5 through 19 are based on the original notes of General Keitel, Chief of the Wehrmacht High Command, who issued separate instructions to the High Command of each branch of the Wehrmacht upon receipt of each Führer Directive changing the date of the offensive. The author has had the opportunity to study these instructions. They are also referred to in IMT, Volume XXXIV, pages 284-297.

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1) The vast majority of the postponement orders referred to weather conditions -- when they indicated anything at all as a reason for delay.

This proves that the beginning of the offensive in the West depended in good part on weather conditions -- at least insofar as these might be expected to influence the employment of the Luftwaffe. The weather alone determined the date of the offensive -- and, as we thought at that time -- the outcome of the war.

2) During the period from mid-October 1939 to mid-January 1940, military leaders changed their minds almost daily. For example, the attack was set for 12 November 1939, 17 January 1940, and 20 January 1940; from 15 January to 7 May 1940, however, there was a pause of some four months. And this period of inactivity created just as much unrest as the preceding repeated alterations in plan.

Nor was this second period of indecision regarding the starting date of the offensive based exclusively on weather conditions, which, of course, were particularly unfavorable in the Western theater of operations during the winter and early spring.

There was another factor which played a significant role, a factor which necessarily postponed the final decision. Plans were being made to expand the European theater of operations to the north;

the so-called Weser Maneuver, the occupation of Denmark and Norway, was gradually taking shape.

Section II of the present chapter will explain in detail the effects which this new plan had on the tactical employment if the Luftwaffe in Operation YELLOW.

First, however, the previously mentioned summary.

SUMMARY

of the Documented Postponements of Operation YELLOW

Number	Date of Decision	Content of Führer Directive
1	16 Oct 1939	Hitler's remark to the C in C, Army: earliest possible date for the offensive between 15 - 20 November.
2	22 Oct 1939	Hitler sets 12 November 1939 as provisional date for start of offensive.
3	27 Oct 1939	Hitler's decision to be made on 5 November 1939.
4	5 Nov 1939	Offensive to begin on 12 November 1939.
5	7 Nov 1939	Deadline date postponed by three days; next decision to be made by 9 November 1939, 1800 hours.
6	9 Nov 1939	Deadline set for 19 November 1939 at the earliest; date to be determined definitely by 13 November 1939, 1800 hrs.
7	13 Nov 1939	Deadline postponed until 22 November at the earliest; decision to be announced on 16 November 1939.
8	16 Nov 1939	Deadline postponed until 26 November 1939 at the earliest; decision to be announced on 20 November.
9	20 Nov 1939	Deadline postponed until 3 December at the earliest; decision to be announced on 27 November 1939.
10	27 Nov 1939	Deadline postponed until 9 December at the earliest; decision to be announced on 4 December 1939, 1800 hours.

Number	Date of Decision	Content of Führer Directive
11	4 Dec 1939	Deadline postponed until 11 December at the earliest; decision to be announced on 6 December 1939, 1800 hrs.
12	6 Dec 1939	Deadline postponed until 17 December at the earliest; decision to be announced on 12 December 1939.
13	12 Dec 1939	Deadline postponed until 1 January 1940 at the earliest; decision to be announced by 27 December 1939, 1800.
14	27 Dec 1939	Deadline postponed by at least two weeks; decision to be announced by 9 January 1940, 1800 hours, at the ~~latest~~ latest.

~~Number~~	Date of ~~Decision~~	~~Content of Führer Directive~~
15	9 Jan 1940	Decision postponed until 10 January 1940.
16	10 Jan 1940	Deadline set at 17 January 1940.
17	15 Jan 1940	Deadline provisionally set at 20 January 1940.
18	7 May 1940	Decision to be announced on 8 May 1940.
19	9 May 1940	Deadline set at 0535 hours, 10 May 1940.

II. The Weser Maneuver; the Employment of the Luftwaffe in Denmark and Norway; the Effects of the Weser Maneuver on Operation YELLOW

Four weeks before the actual start of the offensive in the West, the officers and units stationed in the West were taken by surprise by a completely unexpected action in a previously unsuspected area, and this action helped to distract their attention from the strain of waiting for the signal to attack.

The Weser Maneuver began on 9 April 1940, a joint operation by all three branches of the German Wehrmacht with the goal of occupying Denmark and Norway. This action represented the first attempt at the strategic coordination of three Wehrmacht branches in an operation covering a relatively large area of both land and sea.

It was inevitable that there should have been an intimate relationship between the offensive in the West and the operation in the North; this relationship existed in terms of timing and deployment of forces as well as in the definition of the ultimate objectives to be achieved.

Operation YELLOW and the Weser Maneuver had been planned concurrently by the Wehrmacht High Command. The question to be decided was which of the two should be accomplished first. And the views of Germany's top military leaders varied constantly in this respect. It was even considered feasible -- from time to time, before the decision was made -- to start both offensives at the same time, or nearly at the same time.

Precisely in view of the close relationship existing between the offensives in the West and the North, it seems appropriate to examine with some care the development of the plans for the Weser Maneuver, the more so in view of the fact that this development was bound to affect the employment of the Luftwaffe in particular.

In this respect we must base our deliberations on the actual military situation in the West as well as on its psychological implications. Particular attention must be paid to the fact that Germany's top-level military leaders were eager to launch Operation YELLOW as soon as possible and to put an end to the unwelcome series of postponements, most of which were occasioned by weather conditions.

Thus their orientation towards the West was now deflected by the need to turn their attention to the North as well -- although this was true in the beginning of only a limited group, the "brain trust" of the Wehrmacht High Command. It was only very gradually and after a number of changes in the basic plan that the preparations for the Weser Maneuver began to take on a firm outline. The progress of these preparations can be fully understood only in connection with the developments in the West and the relationships of cause and effect thereby implied.

We can reconstruct the internal progress of deliberation and planning, as well as their external effects, somewhat as follows:

January 1940: Hitler conceived the idea of a deterrent action

against Scandanavia. An analysis of the political and military considerations which led to his decision would carry us beyond the proper limits of the present investigation.

5 February 1940: This marked the first meeting of a "preparatory staff" (Arbeitsstab), the so-called "brain trust" within the Wehrmacht High Command[3], whose task was the accomplishment of the preliminary practical planning for the Maneuver.

6 February 1940: At this point a new idea came into being, namely to limit the ~~Maneuver~~ operation to the occupation of Holland in the West and the execution of the Weser Maneuver, and to guarantee the neutrality of Belgium for the duration of the war[4].

Thus it is clear that some thought was given to the plan of giving up Operation YELLOW in favor of an operation directed against Norway, or at least of limiting the operation -- in the beginning anyway -- to the northernmost sector of the Western front, involving only the occupation of a part of Holland.

26 February 1940: Hitler voiced the question which was to command more and more attention during the coming weeks -- whether it was wiser to schedule the Weser Maneuver before of after Operation YELLOW[5].

In other words, Operation YELLOW was still very much a part of the planning at this time; the question of the chronological relationship of the two actions was of paramount interest.

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3 - Jodl Diary, entry dated 5 February 1940.
4 - Jodl Diary, entry dated 6 February 1940.
5 - Jodl Diary, entry dated 26 February 1940.

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28 February 1940: Hitler approved Jodl's recommendation to "prepare Operation YELLOW and the Weser Maneuver in such a way that they could be kept completely separate as far as timing and personnel were concerned".

This principle[6] remained in effect during all future developments, without necessarily having any effect on the final decision as to the chronological precedence of one action over the other.

3 March 1940: It was announced that the Weser Maneuver would take place prior to Operation YELLOW, the latter to follow "after an interval of a few days".

Shortly after the announcement, this decision was officially confirmed[7], and more detailed information recorded in the form of comments in General Halder's Diary[8].

7 March 1940: Hitler signed the final official order for the Weser Maneuver, reserving the right to determine the ultimate deadline date.

During the days preceding this decision, a sort of "palace revolution" had taken place within the top circle of Germany's military command, a revolution incited by the Luftwaffe, or -- to be more exact -- by its Commander in Chief, Goering. This gentleman had suddenly begun to interfere in the preliminary planning and had voiced his protests -- apparently rather brusquely -- over the fact that he had allegedly not been consulted in the plans so far accomplished. He stated in no uncertain terms that he considered these plans misguided, perhaps because he felt that

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6 - Jodl Diary, entry dated 28 February 1940.

7 - Jodl Diary, entry dated 3 March 1940.

8 - Jodl Diary, entry dated 6 March 1940; "The Führer thinks that he can launch a large-scale action in the West as early as three days after the beginning of the action in Norway."

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the Wehrmacht was demanding too large a contingent of Luftwaffe forces for the operation, but more probably because he resented the fact that the Luftwaffe forces involved had been temporarily removed from his command and made subordinate to the headquarters charged with the execution of the operation, the XXI Army Corps, under General von Falkenhorst.

And Goering actually succeeded in changing the original plans -- all the Luftwaffe units scheduled to participate in the Weser Maneuver were placed under the command of the X Air Corps. This Corps, which was directly subordinate to the Commander in Chief, Luftwaffe, was to receive its orders "through the Commander in Chief, Luftwaffe, at the request of the Staff, XXI Army Corps".[9]

Thus the planned integration of the first real "joint operation" of the German Wehrmacht under a central command headquarters was sabotaged by the Luftwaffe, and for reasons which had nothing to do with objective military necessity but were dictated exclusively by a desire to preserve the prestige of the Commander in Chief. That the result of the consequent "cooperation" could only be difficulties and delays in the employment of the Luftwaffe forces involved seems to have bothered him very little.

The final operational order of 7 March, however, did not definitely answer the question of the chronological relationship between the Weser Maneuver and Operation YELLOW; and, indeed, the answer to this question was reached only after a number of intervening indeterminate decisions.[10]

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9 - Jodl Diary, entry dated 4 March 1940.

10 - a) Jodl Diary, entry dated 14 March 1940; "It is questionable

Footnote 10 (cont)

whether it might not be wiser to launch Operation YELLOW before the Weser Maneuver..."

b) Jodl Diary, entry dated 26 March 1940; "The Führer refuses to be swayed - the Weser Maneuver is to come first, and this requires a dark night. This means sometime between 8 and 10 April, with Operation YELLOW coming four or five days later."

c) Halder Diary, entry dated 27 March 1940; "...five days after the Weser Maneuver, Operation YELLOW..."

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2 April 1940: This brought the clarification of the question -- the Weser Maneuver was scheduled for 9 April 1940. And this was the date on which it actually began. The deadline date for Operation YELLOW was still open, and the importance of the new developments soon relegated it to the background.

The author has considered it expedient to describe briefly the events leading up to the beginning of the Weser Maneuver because of its inevitable effects on the last combat-ready elements of the Luftwaffe in the West. Each flying unit, down to squadron level, was aware of its own carefully delineated task for the deadline date in the West and was absorbed in preparing itself for that task in terms of training, technological maintenance, and tactical orientation.

It was clear that the detachment of any of the units to participate in the Weser Maneuver, no matter how short or how long the period might be, was bound to render these preparations relatively useless inasmuch as it would inevitably require a revised assignment of missions to the units left in the West. This problem would remain, irrespective of whether the two actions were launched simultaneously or Operation YELLOW "at an interval of four or five days" later. For, in the latter case, there was no way of telling whether the units assigned to the Weser Maneuver would really be back in time to participate in the second operation, quite apart from the fact that it was impossible to predict their combat strength and thus their fighting effectiveness after participation in the Weser Maneuver.

The interrelationship between the two operations in the West and the North was considerably clearer and at the same time more decisive for the Luftwaffe than for the Army as regarded the problems of timing and the availability of personnel. For the deployment of the Army units in the West and the planning of the Army offensive in that theater were, for all practical purposes, completely unaffected by the minor role it was called upon to play in the Weser Maneuver.

Quite apart from the factors of timing and personnel, there was still another reciprocal relationship between the operations in the West and the North -- that inherent in the objectives determined for each. In addition to providing a safe route for the ore transports, the Weser Maneuver, in its occupation of Norway, was to fulfill the same purpose as Operation YELLOW, namely to provide a base for operations against England. For the occupation of Holland and Belgium, the purpose of Operation YELLOW, corresponded strategically to the occupation of Norway in that it, too, was intended to establish an air and naval base from which to carry out continued operations against England.

In other words, the strategic goals of Germany's overall conduct of the war were clear -- both in the West and in the North, her operations had only one goal, continuation of the war against England, primarily through the German Luftwaffe[11].

So far the German Luftwaffe had made preparations only for Operation YELLOW, and these preparations had been directed towards an all-out commitment

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11 - Paragraph 1 of the Führer Directive for the Weser Maneuver reads as follows: "In this way (i.e. through the occupation

Footnote 11 (cont)

of Denmark and Norway - the author), we can expand ... the base of operations against England for both the Navy and the Luftwaffe."

of Luftwaffe forces in coordination with the strategic plan of the Army. Furthermore these plans had envisioned the tying down of a large enemy force by means of Luftwaffe operations against "Fortress Holland". In retrospect it would seem that the available Luftwaffe forces were rather too few than too many for the tasks at hand.

Within the framework of the Weser Maneuver, a number of tactical Luftwaffe units were to be assigned to a simultaneous action directed against the northern sector. The significance of this for Operation YELLOW can best be evaluated later on, when the reader has had a chance to judge the total number of Luftwaffe units needed for the operation. Suffice it to say at the moment that consideration was even given to the possibility of utilizing the 7th Air Division and the 22d Infantry Division (Air Landing) -- in other words Germany's entire air landing force -- in the action in Norway. This would have meant the omission of an important phase of the contemplated operation in the West, so important, in fact, that the whole operation would have to have been scheduled anew.

There is no question that the Army and the Navy were in a position to provide the personnel needed for the Weser Maneuver without jeopardizing in any way the plans already made for the operations in the West. The Luftwaffe, however, could support only one action or the other if it did not wish to find its forces dissipated disastrously, with too few on either front to do any good at all.

Thus, in spite of the fact that this has not yet been substantiated by any recognized source, it is fairly obvious that it was the question of the commitment of the Luftwaffe which determined the final decision to schedule the two operations farther apart than had been planned originally. There was a second factor which influenced this decision.

The simulatneous scheduling of the two operations had to be abandoned for the simple reason that the launching of the offensive in the West had been necessarily made dependent from the very beginning upon a period of weather favorable for air operations. But in view of the fact that the Weser Maneuver had to be accomplished as soon as possible, since both political and military deliberations advocated -- or seemed to advocate -- the urgency of getting ahead of the British in occupying Norway, the Luftwaffe was inevitably exposed to a weather period which might well have had a detrimental effect on its employment in the West and have thus jeopardized its effectiveness there.

This theory is substantiated when we consider the requirements set up for Luftwaffe units to participate in the Weser Maneuver. As a result of the decision to ~~divide~~ stagger the two operations, at least for a short time, the following units were assigned to the X Air Corps (subordinate to the Commander in Chief, Luftwaffe) for the duration of the Weser Maneuver (Order from the Commander in Chief, Luftwaffe, Operations Staff, Operations Section,

No. 5619/40, Classified, dated 8 March 1940):

26th Bomber Wing

30th Bomber Wing

100th Bomber ~~Wing~~ Group

I Group, 1st Dive-Bomber Wing

II Group, 77th Single-Engine Fighter Wing

1st Squadron (Long-Range Reconnaissance), 122d Reconnaissance Group

1st Squadron (Long-Range Reconnaissance), 120th Reconnaissance Group

Effective 6 April 1940, the following units were to become subordinate to the X Air Corps:

4th Bomber Wing

I Group, 76th Twin-Engine Fighter Wing

I Group, 1st Twin-Engine Fighter Wing

506th Coastal Flight Group (3 squadrons)

In addition, the following units were to be assigned through the office of the Quartermaster General (Generalquartiermeister):

I Group, 1st Parachute Regiment

1st Special Duty Bomber Wing and a number of other air transport units

I Battalion, 32d Antiaircraft Artillery Regiment

II Battalion, 32d Antiaircraft Artillery Regiment

I Battalion, 611th Antiaircraft Artillery Regiment.

This meant that fairly strong Luftwaffe elements, particularly bomber units and air ~~xxx~~ transport forces, would be tied down in the North. And no one could say for how long.

In reality, the following forces were available for the Weser Maneuver as of 0530 hours on 9 April 1940[12]:

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12 - The mission assigned to the X Air Corps was as follows:

Footnote 12 (cont)

"...it is to support both land and sea operations leading to the occupation of Norway and Denmark by means of demonstrations of strength in the air as well as by the utilization of paratroopers and the air landing forces of the Army. It is expected to break enemy resistance, to protect our unloading maneuvers against enemy air interference, and to combat any air intervention or any attempt to drop landing forces on the part of the British air force. In this connection it is of the utmost importance that our Luftwaffe units take possession of the Norwegian and Danish ground organizations."

Bomber forces for operations against the British naval forces:

26th Bomber Wing (two groups equipped with He-111's)

30th Bomber Wing (three groups equipped with Ju-88's)

Forces for "air demonstrations" over the principle cities of Denmark and Norway:

4th Bomber Wing (two groups equipped with He-111's)

III Group, 26th Bomber Wing (equipped with He-111's)

100th Bomber Group (equipped with He-111's)

Forces to provide an "air umbrella" in the north:

I Group, 1st Twin-Engine Fighter Wing

I Group, 76th Twin-Engine Fighter Wing

part of the II Group, 77th Single-Engine Fighter Wing

Forces assigned to ground support operations in the event that they should prove necessary:

I Group, 1st Dive-Bomber Wing

II Group, 77th Single-Engine Fighter Wing

I Group, 4th Bomber Wing

Air transport units for the movement of troops and supplies:

fourteen air transport groups, comprising approximately 400 - 500 aircraft

Forces scheduled for air landing operations:

I Battalion, 1st Parachute Regiment (together with the necessary air transport units).

This summary of the forces available for the operation in the North is deceptive. The actual operational strength can best to assessed through

a comparison of the theoretical fighting power and the actual fighting power. A comparison of this sort is also significant in that it permits an objective conclusion in respect to the actual fighting power of the same units four weeks later, at the beginning of the offensive in the West.

Thus the author has considered it worthwhile to present a comparison between the theoretical and actual operational strength of the Luftwaffe units assigned to the Weser Maneuver.[13]

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13 - Summary I has been compiled and collated by the author. Summary II represents the compilation of data furnished by General von Rohden, former Chief of Branch VIII (Military History) of the Luftwaffe General Staff, in "Europäische Beiträge zur Geschichte des Weltkriegs II 1939-1945 - Luftkrieg" (European Contributions to the History of World War II, 1939-1945 - Aerial Warfare), Volume 14, pages 141-171.

The author naturally assumes that the figures given in General von Rohden's study were based on authentic documents.

I. Theoretical Computation

Aircraft Type	Unit	No. Aircraft per Unit	Total Strength
Bomber	26th Bomber Wing (3 grps)	96)	348
	30th Bomber Wing (3 grps)	96)	
	4th Bomber Wing (3 grps)	96)	
	100th Bomber Group	30)	
Dive-Bomber	I Grp, 1st Dive-Bomber Wing	30	30
Twin-Engine Fighter	I Grp, 1st Twin-Engine Fighter Wing	30)	60
	I Grp, 76th Twin-Engine Fighter Wing	30)	
Single-Engine Fighter	II Grp, 77th Single-Engine Fighter Wing	40	40
Reconnaissance Sqdns	1st Sqdn, 122d Recon Group	10)	20
	1st Sqdn, 120th Recon Group	10)	
Naval Air Forces	506th Coastal Flight Group	30	30
Air Transport Forces	14 groups	40	560

Summary: 348 "bomb carriers"
100 single-engine and twin-engine fighters
50 reconnaissance aircraft
560 transport aircraft

II. Actual Situation

(see Footnote 13, above)

	Aircraft Available for Immediate Employment
a) for operations against British naval forces:	
26th Bomber Wing (2 grps of He-111's)	40
30th Bomber Wing (3 grps of Ju-88's)	~~60~~
	100
b) for "air demonstrations" over Denmark and support of ground operations in Denmark:	
2 bomber groups (He-111's)	40
1 dive-bomber group (Ju-87's)	~~20~~
	60
1 single-engine fighter group (Bf-109's)	25
3 twin-engine fighter groups (Bf-109's)	10-15
(Bf-110's)	15-20
c) for operations over Norway:	
3 bomber groups (He-111's)	60
3 twin-engine fighter groups (Bf-109's)	10-15
(Bf-110's)	15-20
d) for reconnaissance activity:	
2 sqdns from the X Air Corps (He-111's)	15-18
3 sqdns, Coastal Flight Group	20-25

Summary of Aircraft Available for Immediate Employment:

220 "bomb carriers"

50-95 single-engine and twin-engine fighters

35-43 reconnaissance aircraft

400-500 transport aircraft

The last-named figure of 400-500 transport aircraft alone indicates that a considerable part of the overall air transport capacity of the entire Luftwaffe was tied up in the Weser Maneuver and was thus not available for the contemplated air landing inside Fortress Holland. This situation was made even more critical by the fact that approximately one-third of the total Luftwaffe strength employed in Norway was to be lost as a result of enemy activity and aircraft accidents. This loss amounted to about 150 aircraft, naturally a serious disadvantage for the air landing operation in the West.

But even more serious than these materiel losses, which of course could not possibly be made up in the scant four weeks available, was the fact that the veil of secrecy heretofore surrounding the carefully camouflaged "secret weapon", the parachute and air landing forces, had been lifted in a purely tactical action in a secondary theater of operations. To be sure, this was not a strategic mission, but nonetheless the existence and the tactics of the new force had been revealed. We shall leave open for the moment the question of the extent to which the Western Powers were able to evaluate and apply the experience gained in Norway to their defense in the West. But it can certainly be assumed that the unexpected ground resistance encountered by the air landing force in Holland on 10 May 1940 had been organized by the Allies on the basis of what they had learned in Norway. This will be described in more detail in the chapter dealing with air landing operations in the West.

At this point it may be wise to summarize briefly the reciprocal relationships between the operations in the West and the North and to examine them further from a number of viewpoints:

1) Any investigation of the relationships between the two plans must be based exclusively on the operational strength of the forces assigned to the X Air Corps for the start of the Weser Maneuver. In the absence of appropriate sources, we have no way of knowing whether this strength was altered by the assignment or withdrawal of any units during the course of the operation. Thus any relationship subsequent to 9 April 1940 must remain outside our consideration.

2) In summary, all the units assigned to the X Air Corps were tied down in the North for a period of unknown duration. Thus they were not immediately available for employment in the West. This statement is not entirely accurate, however, inasmuch as more than 50% of the bomber units (i.e. the 26th and 30th Bomber Wings) were retained in their previous mission, which -- at the same time -- also represented their future mission, namely air warfare against enemy naval targets. The only difference was that their theater of operations had shifted and expanded. On the one hand, they were oriented towards German operations in Norway, and on the other to the operations of the British fleet, whatever waters the latter might frequent. A shift to whatever

other ocean areas might become important in connection with Operation YELLOW could be effected at any time without changing the established base of operations.

3) Strictly speaking, then, only the following forces can truly be termed "tied down": 4 bomber groups, 1 dive-bomber group, 2 twin-engine fighter groups, 1 single-engine fighter group, and the reconnaissance aircraft. It is true, of course, that these would have been badly missed if the offensive in the West had been launched at the same time or shortly after the action in the North. This was especially true in the case of the bomber units.

4) Far more significant, though, was the fact that fourteen transport groups with approximately 500 aircraft were tied down, and that one-third of these were destined to be put out of action.

In no case would the available air transport groups have been adequate for simultaneous commitment in both the Weser Maneuver and in Operation YELLOW, at least not on the scale envisioned by the plans for these actions. (Even counting every single Ju-52 available in the entire Luftwaffe, the total would have fallen far short of the number of immediately operational aircraft required.) This fact clearly precluded the concurrent fulfillment of air landing and supply transport missions in two theaters of operations. The employment of the air transport units in Norway left only two possibilities: either the postponement of Operation YELLOW un-

til such time as the required transport units could be restored to full operational readiness, in respect to both personnel and materiel, or the abandonment of the air landing operation in Holland.

5) The strategy deliberations carried out by the top-level Wehrmacht command revealed that two alternatives had been taken under consideration:

a) should the Weser Maneuver be carried out before or after Operation YELLOW?

b) should the two operations be prepared and executed independently, as far as timing and personnel were concerned?

The decision was made in favor of carrying them out one after the other; Operation YELLOW was to be carried out after the Weser Maneuver.

There is no doubt that the inevitable interrelationship between the two offensive operations planned for the spring of 1940 was a determining factor in the decisions made by the Wehrmacht High Command. For the participation of the Luftwaffe could not be dispensed with in either operation; the occupation of Norway and on the ground, the defense against British counteroperations both at sea and in the air, and above all the supply of the German forces in the Far North -- none of these would have been possible without the commitment of a strong Luftwaffe force. On the other hand, this force would have been urgently needed if Operation YELLOW had been launched simultaneoulsy in the West, and even a short delay in its release from the Norwegian theater would have necessitated a revision of the plans made thus far.

Even though we have no substantiating documents in the form of notes made by the top-level commanders of the Wehrmacht, it is obvious that the potentialities and the limitations of the Luftwaffe determined the decision to postpone the launching of the offensive in the West not until "four or five days" after the beginning of the Weser Maneuver, but until several weeks thereafter.

The course of events in Norway need not interest us here, apart from the fact that the majority of the Luftwaffe units remained in the North throughout the entire month of April.

A chart showing the organizational structure, strength, employment guidelines, and missions of the units of the X Air Corps at the time of their assembly for the Weser Maneuver on 9 April 1940 has been included as an appendix[14].

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14 - See Appendix 30.

Chapter II

Planning and Deployment of Forces for Operation YELLOW

I. Strategic Planning and Deployment of Army Forces

A knowledge of the strategic intentions of the Army and the deployment of forces dictated by these intentions is a prerequisite to our understanding of the deployment and commitment of the Luftwaffe in the campaign in the West.

The experience gained during the campaign in Poland in 1939 had led away from the theoretical doctrine of independent warfare in the air to practical acceptance of the fact that -- in the last analysis -- even in an era in which the theories regarding aerial warfare were far ahead of the technological developments needed to put them into practice, it was the operations of the army, whose goals were the destruction of enemy forces on the ground and the occupation of enemy territory, which formed the basis for the employment of air units. And this "key to victory", which had been put to the test and found satisfactory in the East, was put into effect in the West.

Just as in Poland, the Luftwaffe units assigned to the West were to be given the primary task of destroying the enemy air forces by means of heavy, concentrated blows. If their destruction should prove impossible, then at least

they were to be weakened or paralyzed. At the same time, the Luftwaffe was to carry out attacks on the enemy's communications system in order to disrupt and render difficult the deployment of enemy forces and any attempt to shift these forces. In the case of the offensive in the West, these tasks were augmented by the need to combat not only the familiar overland transport system (railroads and highways) but also the ocean traffic between England and her Continental allies, to disrupt it and, if possible, to prevent it altogether.

The purely "strategic" employment of the Luftwaffe had been greatly expanded.

But in addition to these missions -- and certainly not less important -- it remained the chief task of the Luftwaffe in the Western offensive to provide both direct and indirect air support for the decision-seeking operations of the Army in the areas of main effort.

For this reason, any investigation of Luftwaffe employment must begin with the Army operations which were to provide the framework for the coming air activity. Nevertheless, this study is not the place for a detailed examination of the planning and execution of Army operations. We must limit ourselves to presenting a framework, and trust to the reader's personal acquaintance with the course of events on the ground.

There are two significant documents which help to reconstruct this framework:

1) Assembly Order for Operation YELLOW (Aufmarschanweisung Gelb), Army High Command, 24 February 1940[1]

2) Map pertaining to the Western campaign of 1940, showing the military situation during the period from 10 through 16 May 1940[2].

These two sources can be understood fully only when they are studied in close conjunction. Moreover the following comments and explanations would seem to be necessary:

1) The strategic plans of the Army had been subjected to thoroughgoing revision during the course of February 1940.

From October 1939 until the beginning of February 1940, the basic principle of the plans for Operation YELLOW lay in the breakthrough via Belgium, to be carried out by a strong right wing and intended to overrun the enemy troop assembly area and system of defense. (This calls to mind the so-called "Schlieffen-plan" of 1914).

During the early weeks of 1940, however, deliberations and suggestions advocating a basic change in the planned deployment of forces began to gain in currency -- as a matter of fact, at almost the same time -- within the Wehrmacht High Command, the Army High Command, and with Hitler himself. It lies beyond the purview of this study to discuss the degree of influence which General von Manstein's plan to shift the point of main effort of the offensive from the right to the center (the so-called Manstein plan)

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1 - The Assembly Order referred to here is a copy of a copy of the original. This copy was made available by the Karlsruhe

Footnote 1 (cont)

Document Collection. See Appendix 31.

2 - The map mentioned is contained in the book, "Geschichte des 2. Weltkrieges" (History of World War II), by Karl von Tippelskirch, Athanäum-Verlag, Bonn, 1954; Map No. 2, The Campaign in the West, Part I. See Appendix 32.

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may have had on the final decision. At any rate, in accordance with the information we have at hand, it would seem that von Manstein's conference with Hitler on 15 February 1940, which represented the culmination of a series of recommendations and memoranda dating back to the fall of 1939, provided the final impetus for a fundamental revision of the plan.

It is a fact, in any case, that the previous plan for Operation YELLOW was changed radically; the result was the new Assembly Order issued by the Army High Command (see Appendix 31).

2) The new strategic plan was based upon a breakthrough on the middle sector.

The map reproduced in Appendix 32 does not reflect the ultimate ramifications of the revised plan clearly; these become obvious, however, in conjunction with the Assembly Order.

The offensive was to be concentrated primarily on the area "south of the Liege-Charleroi line", in other words south of the Sambre-Meuse line[3].

The goal of the operation was surprisingly remote: "The forces ... are to fight their way through the French northern border defenses and to continue in the direction of the lower course of the Somme",[4]

This means that the map in Appendix 32 ought to be completed -- theoretically -- by the addition

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3 - Assembly Order, Paragraph 1, Subparagraph 2.
4 - Assembly Order, Paragraph 1, Subparagraph 4.

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of an arrow pointing towards the west from the area between Dinant and Sedan to the English Channel, north of the lower course of the Somme.

This was a long-range goal, one which -- if it could be achieved -- automatically meant the division of the Allied armies.

3) Inevitably, it was this large-scale and daring operation on the part of the German Army which determined the strategic planning of the Luftwaffe. For Luftwaffe employment was bound to depend upon the planned formation of the area of concentration in the ground operations, the more so as support of the Army would become increasingly important once the first blows of the strategic air arm had been delivered.

Thus it would seem to be desirable to supplement the map in Appendix 32 by a summary of the deployment of the Army forces involved, especially in view of the fact that it is always the grouping of the Army units which determines the employment of the Luftwaffe units[5].

a) assigned to the western fortification line: 17 divisions

b) held back by the Army High Command as a reserve force: 47 divisions

c) assigned to launch the initial attack: 72 divisions

Total: 136 divisions

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5 - Tippelskirch, op. cit., pages 69-72.

The attacking force was organized as follows:

Army Group B

Eighteenth Army: 9 infantry divisions, 1 armored division, 1 cavalry division

Sixth Army: 14 infantry divisions, 2 armored divisions (the Panzer Corps Höppner)

Army Group A

Fourth Army: 12 infantry divisions, 2 armored divisions; with the Panzer Corps Hoth (2 armored divisions) ranged behind

Twelfth Army: 11 infantry divisions; with the Panzer Group von Kleist (5 armored divisions and 5 motorized divisions) ranged behind

Sixteenth Army: 15 infantry divisions.

Army Group C

First and Seventh Armies with all the rest of the divisions.

4) Moreover, within the framework of the contemplated ground operations, two surprise attacks were planned, to be carried out in close coordination between the Army and the Luftwaffe to the north of the assault front manned by Army Group B.

Operating within the area assigned to the Eighteenth Army, the Luftwaffe Air Landing Corps (Luftlandekorps), consisting of the 7th Air Division and the Army's 22d Division (Air Landing), was to be dropped by means of parachute and air landing in the so-called Fortress Holland (area near Mordijk-Dordrecht-Rotterdam-The Hague)

in order to tie down enemy forces, to capture important bridges, and to destroy the "fortress" from within.

In tactical coordination with these isolated Luftwaffe elements, fighting far away from the actual front line, advance troops from the Eighteenth Army were to make contact with them at the earliest possible moment in order to relieve them. Once contact was established, the Air Landing Corps was to be subordinate to the Eighteenth Army for the duration of the ground fighting.

In the sector assigned to the Sixth Army, the Luftwaffe was to carry out a large-scale attack designed to open the way for the Army through the Belgian border fortifications. The plan envisioned the occupation from the air of the Belgian fort Eben Emael (located between Maastricht and Liege) as well as the northern bridges over the Albert Canal by Luftwaffe engineer troops landed by newly-developed freight gliders and by paratroopers. These forces were to hold the fort and the bridges until relieved by Army units.

5) The Assembly Order for Operation YELLOW issued to the Army does not refer clearly to the joint Army-Luftwaffe operations mentioned above, nor does it make mention ~~of~~ in any other respect of the employment of Luftwaffe forces.

The coordination of Army and Luftwaffe forces is mentioned only as follows:

Paragraph 5, referring to the Eighteenth Army, in which there is a reference to "coordination with the air landing forces";

Paragraph 5, referring to the Eighteenth Army, closes with the following sentence: "It is of great importance to the Luftwaffe that the West Frisian islands be occupied as soon as possible." It can be assumed that this refers to the need for early establishment of an aircraft reporting network reaching as far west as possible.

Paragraph 7 indicates that "subsequent orders will be issued regarding the employment and missions of the Luftwaffe."

And this is all. Unfortunately the "subsequent orders" mentioned above are no longer available.

It would not be fair to interpret the extremely reserved manner in which the Assembly Order refers to the Luftwaffe as reflecting a lack of understanding and appreciation on the part of the Army for the role played by the Luftwaffe. On the contrary, the practical experience gained during the campaign in Poland and -- to a certain degree -- the theoretical conclusions deducible from the recently launched campaign in Norway all served to bring about a thoroughgoing alteration in the attitude of top-level Army commanders towards the Luftwaffe. During the preceding uncertain months of planning and preparation for the offensive in the West, the wishes and expectations of Army representatives had often gone much further

than the Luftwaffe was capable of fulfilling or meeting.

The real reason for the reserve demonstrated in the Army order was the following: Luftwaffe leaders could make their decisions in respect to the distribution and deployment of forces only on the basis of the exigencies of "strategic air warfare" on the one hand, and on the demands of direct and indirect support for the Army forces on the other. Until these factors were known, the Luftwaffe could make no definite decision as to the employment of its own forces.

Thus it is quite impossible that the Luftwaffe could have issued any official information regarding its intentions for the western offensive at the time the Army order was issued.

II. ~~The Strategic Goals of the Luftwaffe~~

It is far more difficult to reconstruct the strategic objectives defined by the Luftwaffe leaders and the practical application of these objectives in terms of the final deployment of the Luftwaffe units than was the case in connection with the goals and the resulting deployment of the Army forces. In contrast to those of the Army, the Luftwaffe goals cannot be substantiated by fixed plans or by instructions issued ahead of time, but must be deduced, so to say, from subsequent events and then fitted to the past. For so far nothing at all has come to light in the form of directives or orders issued for Operation YELLOW by the Commander in Chief, Luftwaffe, or by the

Second or Fourth Air Fleets. This means that we lack any and all documentation for an exact and objective reconstruction.

In the absence of such documentation, we have no choice but to dig out the principles in accordance with which the strategic Luftwaffe units were actually committed.

The doctrine of independent air warfare[6] advocated by Luftwaffe leaders prior to the beginning of the war had already been replaced, as a result of the experience gained during the campaign in Poland, by recognition of the fact that only close cooperation with the Army was capable of bringing about a quick and favorable decision. This tried and tested principle of the Blitzkrieg was now to be applied once more in the West; the missions of strategic air warfare, in which the primary objective was the combatting of the enemy air forces, were to be relegated to the background during the first few days of operations in favor of missions primarily designed to provide direct and indirect air support for the operations of the Army.

In evaluating this principle and the delineation of the missions to which it led, we must force ourselves to ignore the experience gained and the conclusions drawn by the world's great air powers during the last years of the war,

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6 - The reader is referred to the "Einführung in die Luftkriegstheorie der deutschen Luftwaffe" (Introduction to the Theory of Air Warfare Advocated by the German Luftwaffe) at the beginning of the author's study "Der Polenfeldzug 1939" (The Campaign in Poland in 1939).

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as well as the further development of these conclusions since the end of the war. For, in the German Luftwaffe, apart from the start represented by the establishment of the Special Duty Air Commander (Fliegerführer z.b.V.) (later the VIII Air Corps), there existed no division into a "tactical" air force, designed for coordinated operations with the ground forces, and a "strategic" air force, designed to be entrusted with the conduct of "strategic" air warfare over vast distances. There was no such thing as a "strategic bomber fleet". During the offensive in the West, as during the campaign in Poland, the German Luftwaffe was expected to accomplish both types of missions with the same forces at the same time. And this could be achieved only by means of highly flexible leadership and rapid shifts in the point of main effort.

For the offensive in the West, then, these were the primary missions assigned to the Luftwaffe:

1) Its main task was the destruction, or at least the weakening, of the enemy air forces on the ground and in the air by means of concentrated blows against the airfields, assembly areas, supply centers, etc. of the French, British, Belgian, and Dutch air forces. Priority was accorded the destruction of bomber and fighter forces on the Continent itself.

2) A secondary task, which was later to become a primary one, was to support the assault being carried out by the German armies.

From the standpoint of timing, however, the following missions were deemed to be of equal importance:

a) to break enemy resistance along the border fortifications in order to facilitate a breakthrough by the German ground forces

b) to disrupt all enemy troop movements in the rear area of the Belgian-Dutch line

c) to prevent, or at least delay the anticipated advance of the Anglo-French armies across the Belgian border towards the east

3) As a third mission, the Luftwaffe was expected to keep the enemy assembly areas and transport networks as well as the Channel ports in France, Belgium, and Holland under constant surveillance; on the basis of this surveillance, it was further expected to disrupt any enemy supply transport operations by means of attacks on railway trains and rail centers as well as on port installations and ocean traffic.

In addition, the following special missions were assigned for the first day of the offensive:

1) The first strategic air landing operations in history, the occupation of Fortress Holland by parachute and air landing forces; seizure of the most important bridges in the Rotterdam area and to the south; tying down the majority of the Dutch forces in Holland in order to help the Eighteenth Army to occupy the country as soon as possible; this, in turn, so that the Eighteenth Army might get ahead of the expected Allied advance from the

southwest into this area (see Section I).

2) The accomplishment of an air landing operation whose mission was the capture of the Eben Emael Fortress and the Albert Canal bridges to the north, in order to facilitate the breakthrough of the Sixth Army into the interior of Belgium.

3) The total disruption of the enemy command system by means of bombardment attacks on known French and British headquarters and command posts.

And, finally, the antiaircraft defense forces were assigned the following tasks within the framework of the operation, all of them of vital importance in terms of the final outcome:

1) Provision of fighter aircraft and antiaircraft artillery cover of the following:

a) assembly areas and marching routes used by the Army, especially in the vicinity of the bridges

b) the German ground organization installations

c) the bridges over the Rhine River

d) the railway stations most important for supply transport purposes.

The missions pertaining to home air defense operations (with the Ruhr District as the point of main concentration) were not affected.

In this connection, the reader's attention should be called to the principle followed at that time in the Luftwaffe command apparatus: the commanders in chief of the Second and Third Air Fleets were responsible not only for the conduct of strategic air warfare against the West

and the support of German ground operations, but also for air defense in the theater of operations as well as at home[7].

In other words, they were expected to look backwards and forwards at the same time.

III. ~~The Problem of Independent Strategic Air Warfare~~

As reflected by its final form, operational planning for the Luftwaffe had obviously been based on the premise that its primary mission would be the support of ground operations. Nevertheless -- like many another plan -- it had been subject to a number of conflicting opinions.

The present study is devoted to a discussion of one of the most hotly contested questions -- one which is still of paramount importance today. This question is one which did not affect the troops directly, but which occupied the attention of both Luftwaffe leaders and the top commanders of the Wehrmacht for months before the offensive began. This question -- in brief -- was the following: "should air operations against the West be launched at the same time as ground operations, or should they begin prior to the start of the latter?"

In other words, "independent strategic air warfare or not?"

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7 - See Section IV of this chapter for information concerning organization and chain of command.

We have no documents or commentaries concerning this question from Luftwaffe sources. All we have in the way of source material are the entries in Jodl's Diary[8]; fortunately these are not only authoritative, but also full of detail.

The first, extremely informative entry was made by Jodl as early as 15 October 1939: "Postpone launching of air warfare in view of Ruhr District."

During a conference between Jodl and Jeschonnek (Chief of the Luftwaffe General Staff) on the following day, 16 October 1939, the following question was posed: "Is it theoretically possible to hold the Anglo-French air forces in northern France under attack for days on end prior to the launching of the ground operation?"[9] There is no record of the opinions expressed on this question.

A scant three months later, on 9 January 1940, the following entry appears in Jodl's Diary: "The Chief, Wehrmacht High Command, has ordered an air attack on the French air force area out of a clear blue sky? Without flying over Belgium or Luxemburg?"

Under date of 10 January 1940, after Hitler's decision to launch the offensive on 17 January, the following entry appears: "Attack against enemy reconnaissance and fighter aircraft set up for the 12th or 13th (in retaliation for British air attacks)" -- it is not clear whether the last is meant as a statement or a question.

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8 - a) Jodl Diary, 13 October 1939 - 30 January 1940, edited and completed by General Warlimont in March 1956; Karlsruhe Document Collection.

b) Continuation of the Jodl Diary, WFA (Wehrmachtsführungs-

Footnote 8 (cont)

amt - ??), 1 February - 26 May 1940, from the records contained in IMT, Volume XXVIII, pages 397-435; Karlsruhe Document Collection, 13 November 1956.

9 - All Diary entries are quoted exactly, which explains the telegram-style in which they appear.

On 11 January 1940, Jeschonnek reports: "Advance attack impossible until the 14th." He continues: "The Führer is in doubt whether to stage the attack on the enemy air forces three days ahead of the ground offensive or at the same time."

And on 12 January 1940: "Führer still in doubt -- 1) Luftwaffe to attack enemy air forces prior to start of offensive?; 2) .....?; 3) with Third Air Fleet or Second and Third?; 4) what time of day -- morning, noon, afternoon?"

Under date of 13 January 1940, i.e. the day on which still another order was issued to postpone the start of the offensive, the Diary contains the following note, which is interesting as regards the overal evaluation of the matter:

"Führer conferring on the question of the air attack to precede the beginning of the offensive.

One must go back to the basic situation. Interval between ground and air attacks too short or too long. A Verdun in the air must be avoided at all costs.

Thus I am forbidden to order the air attack until I am certain that the ground attack will definitely take place a few days later.

1700 hours, order issued to cancel attack for the 14th.... consequently, Luftwaffe will stage its first attack on the day the offensive is launched."

Together with Hitler's decision to postpone the entire operation until spring and to "develop another action on a different basis"[10], the problem of employing the Luftwaffe before or at the same time as the ground forces was also relegated to the background. In any case it was not mentioned again until 10 February, when the following entry was made: "Feldmarschall (=Goering) says he can take off during the night ... Luftwaffe prefers to take off in the dark rather than move forward ahead of time."

The above is the last entry having to do with the problem. One has the impression that the whole question had already been decided in favor of the simultaneous launching of air and ground operations. In addition, at that time the Wehrmacht High Command was so fully occupied with the preparations for the Weser Maneuver and with the subsequent execution of the action in Norway that even such an important item as the revision of the plans for the offensive in the West was temporarily relegated to the background. There was one exception -- Hitler displayed a great deal of interest in the preparations being made for the air landing operation in the West.

But not only Hitler, the Wehrmacht High Command, and the Commander in Chief, Luftwaffe, had concerned themselves with the problem. There are a number of authoritative Army sources which -- surprisingly

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10 - Jodl Diary, entries dated 15 and 16 January 1940.

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enough -- were strongly in favor of a "strategic air campaign" against the enemy air forces prior to the launching of the offensive on the ground.

In a memorandum dated 6 December 1939 to the Army Chief of the General Staff, General von Manstein, who was at that time Chief of the General Staff, Army Group A (von Rundstedt), requested that the Luftwaffe initiate its air offensive prior to the beginning of the ground operation, "in order that the German forces might be assured of superiority in the air by the time the Army launched its offensive."[11]

The same thought is repeated a short time later in a memorandum from von Manstein to the Commander in Chief, Army[12], in which the following appears under Point IV (Luftwaffe):

> "In order to make certain that the entire Luftwaffe is available for ground support operations on the day the offensive begins, it is imperative that the Luftwaffe complete its campaign to eliminate the enemy air forces prior to the launching of the campaign on the ground.
>
> In order to accomplish this, the Luftwaffe must launch its attack at the earliest opportunity, on the first day the weather is good enough to permit the employment of aircraft, and then carry on its campaign, varying both its intensity and the targets involved according to the specific conditions concerned, up to the beginning of the ground offensive."

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11 - This quotation, as well as the following one, is from the book "Verlorene Siege" (Lost Victories), by General von Manstein; see Appendix 33.

12 - Directive from the Chief of the General Staff, Army Group A,

Footnote 12 (cont)

Operations Branch, No. 597/39, Classified, dated 18 December 1939, pertaining to proposals for the conduct of the offensive in the West.

In view of General von Manstein's acknowledged reputation as one of the most capable tacticians the Army had at that time, and in view of the fact -- as he himself specifically emphasized -- that his suggestions were submitted with the full knowledge and approval of the Commander in Chief, Army Group A, we can safely assume that these proposals did not represent the thinking of an "outsider" only, but reflected the opinions of extensive circles of the Army command hierarchy.

The following comments may be appropriate as regards this difference of opinion:

The most decisive attitude is perhaps expressed in an entry in General Jodl's Diary, in which the latter records Hitler's statement of 13 January 1940: "A Verdun in the air must be avoided at all costs."

The fact remains, however, that a reciprocal war of attrition in the air, incapable of bringing about a final decision -- and this is presumably what Hitler meant by a "Verdun in the air" -- accompanied by a stubborn ground operation of unpredictable length, might well come into being if the Luftwaffe were permitted to take advantage of a period of favorable flying weather to launch a strategic air war against the enemy air forces. The Army, on the other hand, would be forced to delay the opening of its offensive until the following period of favorable flying weather in order to be sure of direct Luftwaffe support for its operations. True enough, this might mean a delay of only a few days; on the other hand, it could just as easily be a matter of weeks.

The weather, at all events, was bound to be a determining factor in any decision concerning the offensive, if active support

from the air was to play a significant role. And, as the repeated postponements of the launching date indicate; weather of the type required was rare during the winter of 1939/40; in no case could it be forecast with any degree of certainty.

From the vantage point of history, the decision of the top-level Wehrmacht High Command to coordinate the timing of the air and ground offensives was entirely reasonable -- under the conditions obtaining at that time.

There is only one set of circumstances which might have justified the planning of an independent air action designed to destroy the enemy air forces and to gain air supremacy, to take place prior to the initiation of operations on the ground; 1) the availability of a strong, specifically "strategic" air force which could be brought to bear in its full strength; and 2) the availability of a "tactical" air force which could have taken over the task of providing direct air support for the ground operations at the same time. This would have been the only situation in which Luftwaffe dependence upon weather conditions could have no adverse effect on the operational planning of the Army, since Army operations would have been coordinated without difficulty with the weather requirements of the "tactical" Luftwaffe.

The German Luftwaffe, however, was forced to rely on the same organization and the same forces to fulfill both missions.

If the German Luftwaffe had been willing to consider undertaking these two missions separately, i.e. first an independent air war against

the enemy air forces and then the direct air support of Army operations, then Luftwaffe leadere would have had to be aware of the possible implications and repercussions of such action:

1) The air forces of both sides would be engaged in intensive combat against one another, with attrition -- though a problem on both sides -- naturally more intense on the side of the attacker. As a result, after an initial period of unpredictable length, only greatly reduced (in terms of strength and striking power) air units would be available for the direct support of Army operations. Inasmuch as the Germans had built up their ground offensive on the premise that the Luftwaffe's mission was the providing of air support for the Army, this would mean that the Army would be left without a guaranteed minimum of air support.

2) If the unexpected, but theoretically quite possible contingency should occur that the Western air forces should refuse to be drawn into a struggle for air superiority, but should place the emphasis on air defense instead, withdrawing their bomber forces to the many available emergency airfields in western and southern France in order to have them available for immediate commitment against ground operations when the German offensive actually got under way, then a German "strategic air war" would have fallen short of its goal

while suffering a considerable weakening of its forces. And this would have served, in part at least, to compensate for the relative air inferiority of the other side.

3) In addition there was the danger that an air war, once launched, might have had its effects not only on the enemy camp; it might well have been carried by the enemy air forces into the interior of the German Reich (attacks on Army troop centers, the Rhine bridges, the Ruhr District, etc.). Moreover, there was no reason to bring about -- by Luftwaffe action -- an end to the totally unexpected but nonetheless genuine reserve displayed by the Western air forces -- regardless of what their motive may have been.

4) It lay entirely within the realm of possibility that the planned direct support of Army operations might become necessary at a point at which the Luftwaffe was engaged in aerial combat with the enemy or was so weakened by initially unpredictable losses that only limited elements of the Luftwaffe might be available for commitment in ground support operations. According to the overall plan, however, the primary mission of the Luftwaffe was that of providing direct support for Army operations. Whether or not the Luftwaffe could succeed in freeing the majority of its forces for this mission from one day to the next depended not only upon its own desire to do so, but also on the actions of the enemy.

5) If the Luftwaffe should go into action too early in the game, there was the danger that the Western powers might gain valuable information regarding the employment methods and the tactics of the German Luftwaffe, enabling them to counter its future commitment both indirectly and directly. The effectiveness of such countermeasures would increase steadily, of course, with the length of the interval between the air and ground actions.

As it was, however, combat experience and the advantages to be gained therefrom remained a German prerogative to the very end.

6) In conclusion, let us turn our attention to the following basic principle followed by Germany's top military leaders.

In the opinion of German leaders, the superiority of the Luftwaffe over the Allied air forces in the West was so great that the Luftwaffe would presumably be able to achieve air supremacy within a very short time and would then be able to direct its main effort to the support of German ground operations. The "secret of success" exploited in Poland was to be applied once more. But it could only be applied if the air and ground operations could be launched simultaneously.

And this decision on the part of Germany's military leaders achieved three decisive advantages:

a) A dissipation of forces in separate and distinct missions was circumvented and a concentration of forces on the primary objective

was achieved. The German forces retained the advantage inherent in numerical superiority.

b) The factor of surprise, both on the ground and in the air, was a weapon which remained in German hands up to the end of the offensive.

c) The enemy was forced into action by a surprise attack taking place simultaneously on the ground and in the air; in other words, the German Luftwaffe determined the course of events.

IV. The Chain of Command during the Deployment of the Luftwaffe

The basis here is the organizational structure of the Luftwaffe as of 10 May 1940, in other words the chain of command applicable to the entire Luftwaffe as shown in the table[13].

Supplements to this table, and explanatory notes pertaining to it are contained in Appendix 35.

Appendix 36 indicates the personnel assigned to the various positions shown in Appendix 35.

Appendix 37 is a "Graphic Summary of the Deployment of Army and Luftwaffe Forces for Operation YELLOW, 10 May 1940".

Although accompanied by maps, this summary must be viewed as a "tentative" survey, since at that time it was hardly possible -- or even desirable --

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13 - See Appendices 34, 35, 36, and 37.

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to record the exact deployment area and targets of all the air fleets and air corps. The purpose of the summary was to illustrate clearly the potential areas of cooperation between the Army and the Luftwaffe.

V. Deployment and Striking Power of the Luftwaffe as of 10 May 1940

At present, in view of the lack of definitive sources, the deployment of the air units subordinate to the Luftwaffe headquarters shown in Appendix 37 cannot be substantiated in its entirety. Insofar as these units are clearly identified, they will be listed later on in the appropriate context.

It is just as difficult today to compute accurately the strength of the strategic air forces involved in the West on 10 May 1940. On the other hand, such a computation would seem to be urgently required inasmuch as the available published sources, domestic as well as foreign, are not only quite contradictory but clearly incline to exaggeration. This is augmented by the fact that it is extremely difficult to find a uniformly comparable critique, since the available statistics are based on the most divergent concepts and fundamental ideas, such as "actual strength", "operational strength", "unit strength", etc.

Thus, today, we can only hope to approximate the real situation at that time by means of comparisons.

In the beginning, there are figures which would seem to be substantiated.

The following is quoted from a study prepared by Branch VIII (Military History) of the Luftwaffe General Staff[14].

"At this point[15], the German Luftwaffe -- with an actual strength of 3,824 aircraft -- had the following at its disposal:

501 reconnaissance aircraft
1,120 bomber aircraft
342 dive-bomber aircraft
42 close-support aircraft
248 twin-engine fighter aircraft
1,016 single-engine fighter airdraft
401 transport aircraft
154 naval aircraft
3,824 aircraft of all types.

(based on the records of Branch VI (Quartermaster General) pertaining to the number of aircraft available for immediate employment)".

Since these figures on operational strength have obviously been taken from the records of the Quartermaster General, Luftwaffe, Luftwaffe General Staff, we must assume

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14 - "Überblick über die deutsche Luftkriegsführung 1939-1944" (Survey of Germany's Conduct of the Air War, 1939-1944), study prepared by Branch VIII, Luftwaffe General Staff.

15 - i.e. on 10 May 1940, the beginning of the campaign in the West.

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that they are accurate. But -- just what do they signify? Do they refer only to the strength of the operational units? Or do they include the materiel reserves of each unit, or perhaps the supply stocks still waiting at the depots assigned to the supply organizations? In other words, a computation of materiel alone is not very revealing.

In order to find a valid criterion, i.e. in order to form an accurate picture of the available bomber units, we must take recourse to the "Survey of Existing Bomber Units and Planned Activations up to and Including 1 July 1940" (Übersicht über die Kampfverbände und die bis 1.7.40 geplanten Neuaufstellungen)[16]. Assuming that the goals therein were being met on schedule, by 10 May 1940 a total of fourteen bomber wings, comprising forty-four groups, were available and capable of immediate employment. Assuming, further, that the aircraft strength of each of the fourteen wing staffs was six machines and that of each of the forty-four groups thirty machines (i.e. aircraft plus crew), we have a total strength of approximately 1,400 combat-ready aircraft.

Since experience has shown that at any given time roughly one-third of the aircraft in the units were, for one reason or another, not available for immediate employment, we arrive at a figure of 936 bomber aircraft capable of commitment at a moment's notice. In view of the fact that we are dealing with the initiation of a long-prepared offensive, the figure of one-third may even be somewhat exaggerated. The discrepancy between the figure (1,120) mentioned by Branch VIII of the Luftwaffe General Staff and the one (936)

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16 - See Appendix 25.

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computed just above can be readily explained by the fact that the statistics prepared by Branch VI (Quartermaster General, Luftwaffe General Staff) included the materiel reserves on hand in the line units.

By a fairly generous estimate, we can assume that there were approximately 1,000 bombers available on the take-off fields as of 10 May 1940. Analogous calculation of the strength of the other aircraft branches -- reconnaissance aircraft, dive-bombers, twin-engine and single-engine fighters -- would result in similarly proportionate figures.

As far as the last four aircraft categories are concerned, this study contains the copy of a source which provides a survey of their strength -- the Quartermaster Reports: Operational Readiness of the Units (Quartiermeistermeldungen: Einsatzbereitschaft der Verbände)[17].

The table below reflects only those figures given for the assigned reporting day of 30 March 1940, in other words they pertain to a period roughly six weeks prior to the beginning of the offensive in the West.

The summary provides the following data:

	Number of Aircraft Assigned to Units				
Strength	Bombers	Dive Bombers	Close-Support Aircraft	1-Engine Fighters	2-Engine Fighters
Authorized Strength	1,757	420	39	1,449	369
Actual Strength	1,656	411	42	1,258	325
Operational Strength	1,102	341	27	817	222

17 - See Appendix 21 and page ----- of this study.

In this connection, only the figures in the bottom horizontal row are of relevancy. Careful comparison of these figures with those given in the source cited at the beginning of this subsection (Study by Branch VIII, Luftwaffe General Staff) reveals only very slight discrepancies. It is true, of course, that an absolutely exact comparison is out of the question due to the fact that the two reporting days are some five weeks apart (30 March and 10 May 1940). And during these five weeks, the Weser Maneuver (or the operation in Norway) had taken its toll, particularly in the ranks of the bomber forces. Nevertheless, we can take it for granted that the losses suffered in the Weser Maneuver had been made up by 10 May 1940, so that we can, after all, utilize the figures reported on 30 March as a basis for determining the air strength available at the time the offensive in the West was launched on 10 May 1940.

In summary, comparison of the two available sources reveals approximately the following figures for "operational aircraft"; these, in turn, are compared with a third source, the figures published in a British study[18].

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18 - The Rise and Fall of the German Air Force, British Air Ministry; Part II: The German Air Force in the Offensive (1939-1942); (copy available in the Karlsruhe Document Collection).

1	2	3	4
Type of Unit	SOURCE QM Reports, 30 Mar 40	SOURCE Branch VIII Study 10 May 40	SOURCE British Source
Bomber	1,102	1,120	1,300
Dive Bomber	341	342	380
Close-Support	27	42	-
1-Engine Fighter	817	1,016	860
2-Engine Fighter	222	248	350
T O T A L	2,509	2,768	2,890[19]

19 - These figures have been taken from the British source cited in Footnote 18, above, insofar as they lend themselves to comparison with German calculations.

The overall summary presented by the British source, which refers to the "approximate distribution of the German Luftwaffe aircraft employed", is as follows:

1,300 long-range bombers
380 dive bombers
860 single-engine fighters
350 twin-engine fighters
300 long-range recohnaissance aircraft
340 close-range reconnaissance aircraft (for coordinated operations with the Army)

3,530 total aircraft strength; plus:
475 transport aircraft)
45 freight gliders) for the occupation of Holland

4,050 total (which formed only a part of the overall strength of the German Luftwaffe in terms of combat aircraft -- 4,500).

Apart from this last figure, the above comparison of the British source with the two German ones reveals that the British calculations were by no means wide of the mark. They reflect the actual situation with a fair degree of accuracy.

The discrepancy between the figures of the first and second sources is quite insignificant. The data provided by Branch VIII may well be accorded increased credulity since they reflect a certain growth during the intervening period -- in spite of the Weser Maneuver. On the whole, the British figures given in Column 4, above, would seem to substantiate the German ones.

Omitting the figures pertaining to reconnaissance, transport, and naval aircraft, we are left with a final figure of approximately 2,770 aircraft, plus crews, as the Luftwaffe's operational strength in the West. This figure, however, also includes the materiel reserves of the line units. A recalculation of unit strength alone would result in an even smaller figure. Moreover, at the present time it is quite impossible to compute the unit strength since we have no reliable summaries whatsoever in this field.

Strength computations of this kind for the Luftwaffe must be undertaken with a healthy degree of skepticism. For nowhere was there so much bluffing with statistics, both before and during the war, as in the German Luftwaffe.

This was not true of the Luftwaffe General Staff, nor of the troop staffs -- and least of all of the line units, who were all too aware of their weaknesses and of their constant efforts to raise the operational strength of their forces.

It was most decidedly true, however, of the top-ranking Luftwaffe leaders, above all of the Commander in Chief, Luftwaffe, himself, who accepted only those strength figures which he wanted to hear and believe in. When an authorized strength of 5,142 aircraft, for example, was reported to him by Branch VIII, experience showed again and again that it was this figure which remained in his mind -- and it was this figure which he then reported to Hitler. The fact that only a fraction of these aircraft were actually available for operations at the front was totally irrelevant as far as he was concerned, as was the fact that one could hardly term the hundreds of transport aircraft included in the overall figure as a part of the Luftwaffe's "fighting power".

It can be accepted as certain that Goering never realized that the Luftwaffe had a maximum of 1,000 bombers ready to take off from the airfields on the morning of 10 May 1940.

The author has considered it imperative to point out here the tendency on the part of the top-level Luftwaffe leaders to confuse appearances with reality, for the repercussions of these self-deceptions were to avenge themselves more and more painfully as the war progressed.

CHAPTER III

The Launching of the Offensive: The Commitment of the Luftwaffe During the First Day, 10 May 1940.

At 0535 on 10 May 1940, the German Wehrmacht marched and flew across the borders of the Reich towards the West, in the direction of Holland, Belgium, and Luxemburg.

The surprise attack scheduled for the first day of the Western offensive, long awaited by both sides, brought a number of missions for the Luftwaffe whose accomplishment was to have implications reaching far beyond the military objectives set for the first day. As the advance patrols of the German Army infantry were beginning to throw back the advance posts along the enemy frontier fortifications, the Luftwaffe dropped its first bombs on the Channel coast opposite the British Isles.

It is perhaps this example which best serves to illustrate the difference in the thinking of the Army and the Luftwaffe as regards the military aspects of space and time.

This difference had also been apparent during the lengthy period of planning which preceded the offensive.

The planning of the Army operation has its temporal and

spatial limitations. Whether and how far this operation can be carried out is determined not only by one's own intentions but also by the enemy and his often unpredictable countermeasures. For the enemy, too, has a plan of operation.

The preliminary, and highly diversified planning by the Army for the offensive in the West had been based upon recognition of the fact that it is impossible to dispose in advance over more than limited periods of time and limited areas of space. Thus the Army restricted itself to defining the immediate goals, with the intention of determining longer-range objectives later on, depending upon the overall situation, the condition of its forces, and the countermeasures of the enemy.

In view of this preliminary planning, then, it was surprising, if not revolutionary, that the final plan as defined in the "Assembly Directive for Operation YELLOW" (Aufmarschanweisung Gelb), dated 24 February 1940[1], expressly included delineation of a genuinely long-range objective -- the capture of the Channel coast north of the Somme River. The main area of concentration and the deployment of available forces were ordered in accordance with this objective.

Whereas the Army could approach a remote objective of this kind only step by step, and had to be constantly on the alert to the possibility of daily changes in its plan of operation occasioned by surprise enemy countermeasures, the planning of air operations was based not on the starting

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1 - See Appendix 31.

point of the overall operation, but on the end result of the strategic definition of the objective involved. And this type of planning naturally presupposed an entirely different kind of thinking in terms of space and time than that to which the Army was accustomed -- in spite of the potentialities of that relatively new weapon, the tank forces.

As a result, while the infantry divisions were still fighting their way step by step through the enemy fortifications just inside the border, and while the tank units were still being held in readiness for an advance through the hoped-for breakthrough gap, the Luftwaffe -- looking ahead -- was already engaged in combatting the enemy forces stationed at the Army's final objective, the Channel coast. This surely defines the areas of operation of the two Wehrmacht branches for the next time to come. Each branch devoted itself to the problem of immobilizing the enemy in its own area, and the Luftwaffe added the advantage of attack from the third dimension. Each branch supplemented the work of the other towards the achievement of a common strategic plan.

Recording the progress of an Army offensive is relatively simple; the advances achieved from the launching of the action to the attainment of the final objective can be marked each day on the map. This procedure results in a constantly accurate picture of what has been achieved and what remains to be done, and this picture, in turn, furnishes a basis for further decisions by those in charge of the action.

The accurate recording of an air operation, however, which must always be viewed as an offensive action, is much more difficult; in the first place, because the results apparent at a given moment cannot always be accepted as 100% accurate (as is nearly always the case with a map of Army operations); and in the second place, because the tactical and strategic effects actually achieved often cannot be recognized and evaluated until after some time has elapsed.

For this reason, a historical account of air operations is much more difficult than that of ground operations. The simplest approach would be to base such an account on the operational orders issued to the participating Luftwaffe elements. A comparison of such orders on a day-to-day basis would permit certain valid conclusions regarding not only overall intentions and planning, but also -- by means of a chronological comparison between past and future -- regarding the progress achieved and the goals still to be attained.

As far as the offensive in the West is concerned, however, this approach is not feasible due to the aforementioned incompleteness of the available sources[2]. For the applicable orders for the commitment of the Luftwaffe forces in the West issued by the Commander in Chief, Luftwaffe, and the Second and Third Air Fleets are unavailable, as are the resulting final orders of the Air Corps involved. Moreover, we have not a single combat or progress report from any field echelon.

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2 - In contrast to the sources used by the author in preparing the study "The Campaign in Poland in 1939" (Der Polenfeldzug 1939), which included every operational order issued by the Commander in Chief, Luftwaffe.

Thus we have no choice but to reconstruct the events of the first day and the days following from the Daily Situation Reports (Tägliche Lagemeldungen) issued by the Intelligence Section, office of the Commander in Chief, Luftwaffe[3]; These are available for the first eleven days of the Western offensive.

As a basis for and orientation concerning all subsequent operations, an account of the Luftwaffe's commitment during the first day of the offensive seems necessary. It should be stressed right at the beginning that we must forego any further accounts of this sort, for a reconstruction and detailed description of the events occurring on each day of combat would go far beyond the framework of the present study.

To begin with, the situation reports of the office of the Commander in Chief, Luftwaffe, for 10 May 1940 have been reproduced in the form of maps -- separately for each of the two Air Fleets involved -- in order to permit a clear overall view. The operations map of the Second Air Fleet is contained in Appendix 38.

Clear delineation of the distribution of individual missions to the Air Corps, etc., is not possible on the basis of the situation reports; nevertheless, the individual areas of operation can be defined with relative accuracy on the map.

The targets in Holland were the province of the forces commanded by the Special Duty General (General z.b.V.). Bombardment of these targets was directly connected with the air landing operations designed to aid in the capture of Fortress Holland.

The targets in western Belgium, along the northernmost strip of northern France, and above all the targets along the Channel coast were

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3 - For these Situation Reports, see the Karlsruhe Document Collection.

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the responsibility of the IV Air Corps, the one long-range bomber corps assigned to the Second Air Fleet.

The close-range targets located inside and to the west of the Maastricht-Liege line were assigned to the VIII Air Corps.

The operational map of the Third Air Fleet is contained in Appendix 39.

Unfortunately it shows only the targets taken under attack, so that there is no way of reconstructing their distribution among the I, II, and V Air Corps.

To be sure, elements of the Third Air Fleet, specifically the I and II Air Corps, were assigned to support the advance of the Army forces and their breakthrough through the border fortifications at the point of concentration along the combat front (breakthrough on the middle sector); nevertheless, during the first day the majority of the Third Air Fleet was engaged in strategic air warfare deep in the heart of enemy territory, primarily against the airfields utilized by the French air forces.

The inevitable difference in the type of mission assigned to each of the two Air Fleets was due to two factors:

1) The Third Air Fleet had three air corps at its disposal, all of them designed for long-range missions; in keeping with the main area of concentration of Army operations, they were massed in the south. The Second Air Fleet, on the other hand, had only one long-range air corps (the IV), while the units of the VIII Air Corps and the Special Duty General were bound in the north by locally limited missions.

2) The purely geographical delineation of the areas of operation precluded the assignment of any really long-range missions to the Second Air Fleet, and forced it to limit itself to predominantly tactical employment, while the Third Air Fleet was in a position to bring its long-range units to bear strategically over extensive portions of enemy-held territory.

As regards the maps themselves, which will be discussed in detail in the ensuing section, the following limitations must be borne in mind:

A map can hardly be expected to reveal more than the geographic distribution of the various operational phases over wide general areas. It has no way of indicating either the intensity or the ultimate success of these actions. Thus we can expect no enlightenment from the maps on the following points: Number of attacks carried out, strength of the attacking forces, effectiveness of the attacks, repetition of an attack on the same day in order to stabilize the success of the first attack, assignment of the various offensive missions to the Air Corps and the units.

I. The Operational Map of the Second Air Fleet (Appendix 38) clearly reveals three areas of main concentration:

1) The concentration of the forces assigned to the Special Duty General on targets in Fortress Holland, as preparation for and support of the air landing operation to be carried out by General Student's Air Landing Corps, made up of the 7th Air Division and the 22d Infantry Division[4].

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4 - The air landing operation is described in detail in Chapter IV, which deals with the air landing operations as a part of Operation YELLOW. Thus we can dispense with details in the present context.

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2) The concentration of the close-support units of the VIII Air Corps in the direct support of the Sixth Army during its breakthrough through the Belgian defense lines between Maastricht and Liege.

This overall strategic goal was served primarily by two tactical air operations carried out under the command of the VIII Air Corps, the occupation of Fort Eben Emael by Luftwaffe engineer troops landed by freight glider and the capture of the bridges over the Albert Canal north of the Fort[5].

In addition to their original close-support assignments, the VIII Air Corps units also attacked the Belgian airfields lying directly in front of the German battle line.

3) The missions flown by the IV Air Corps along the Channel coast clearly indicate a concentration on the bombardment of enemy airfields. Every single one of the airfields -- most of them heavily crowded -- lying in the westernmost corner of the operational area, opposite the English coast, was systemtaically attacked. These attacks were intimately connected with the plan for the overall operation; their purpose was to obviate, from the very beginning, any attempt by the British to land troops or supplies for the Continental theater or, failing this, at least to disrupt and harass any such attempts.

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5 - Both actions are discussed in detail in Chapter IV as well as in Chapter V, dealing with the employment of the close-support units of the Luftwaffe (VIII Air Corps).

In order to be able to carry out the prescribed attacks on the French and Belgian Channel ports and on Channel shipping itself, it was imperative that the enemy air defense forces along the Channel coast be neutralized from the very beginning. And most of the airfields bombarded in the initial phase were fighter bases. Thus on the very first day of operations the Luftwaffe, acting with foresight and in accordance with specific plans, indirectly launched the attack on the Channel ports, which was to be pursued with even stronger forces during the subsequent development of events. The events in the Channel theater of operations, which has been accorded far too little mention in the previous military histories, were to retain their vital importance (as will be substantiated in detail elsewhere in this study) until the completion of the Dunkirk operation at the very end of Operation YELLOW, i.e. until the evacuation of the British Continental Army to the British Isles.

The attacks on the fighter bases along the coast were carried out in close coordination with the rest of the missions of the IV Air Corps, which were directed primarily against railway lines, highways, and enemy combat headquarters on both sides of the French-Belgian border. The purpose of these attacks was to disrupt and delay the anticipated advance into Belgium of the French and British armies massed behind the French border.

Both groups of missions were dedicated to the support of ground operations. Thus they cannot be defined as phenomena belonging to the classical category of strategic air warfare; instead, they served for the direct support of the ground operations of the Army.

II. The Operational Map of the Third Air Fleet (Appendix 39) leaves no doubt as to the fact that the point of main emphasis for all the three long-range bomber corps was the combatting of the French air forces and their ground organization installations.

In contrast to the pattern of the offensive carried out by the Second Air Fleet, we are still dealing with strategic air warfare as far as the Third Air Fleet is concerned. Within the overall framework, however, a subordinate area of concentration becomes apparent -- the majority of the airfields subjected to attack were situated before the front (in the area around Reims) and along the southern flank (in the area around Metz) of the German breakthrough Army, which was advancing through Luxemburg with its southern wing in the general direction of Sedan.

In other words, this "strategic air war", whose purpose was to achieve first air superiority and then air supremacy in the most vital area of operations, was still closely coordinated with the ground operations. The concepts of "strategic air warfare" and indirect support of Army operations have become identical in this particular situation.

With its first decisive blow, which was to be followed by others in the next few days, the Third Air Fleet xxx created the prerequisites for a breakthrough of the ground forces through the border fortifications of the enemy and for the first penetration action into enemy territory, all with practically no intervention on the part of the enemy air forces.

In view of this intense concentration on the strategic aspects of the overall plan,

the Corps' peripheral attacks in the south (the Belfort-Dijon area as far north as Lyon) and in the west (west of Paris) seemed at first to be of only secondary importance. But these attacks, too, took place with a view to the overall plan in that they made it impossible for any enemy air force reserves to be brought to the vital sector of the front. Apparently, however, the complex of airfields concentrated around Paris itself was not subjected to attack on the first day.

The attacks on enemy "communication" facilities (communication in its broadest sense) were concentrated on a clearly defined area lying on both sides of the French-Belgian border, approximately the triangle formed by Laon, Valenciennes, and Namur, and served to supplement the attacks carried out by the Second Air Fleet in the adjacent sector to the north (see the map in Appendix 38).

Thus the two Air Fleets complemented each other's share in the task of disrupting and delaying the Anglo-French advance across the Belgian border into the Belgian theater of operations.

The part played by the Third Air Fleet in direct support operations for the Army during the first battles along the border is not so clearly apparent as is that played by the Second Air Fleet. Nonetheless, there were Third Air Fleet elements engaged in ground support actions, despite the fact that their strength and time and place of employment are not clearly defined by the Situation Reports of the office of the Commander in Chief, Luftwaffe.

In connection with both maps, that of the Second Air Fleet as well as that of the Third Air Fleet, it should be pointed out that the entries are not entirely complete. On the maps used as a basis for this study (with a scale of 1:1,000,000,000), it was not possible to find the names of all the places mentioned in the Situation Reports. Consequently the following entries are missing:

Map of the Second Air Fleet

1 airfield target

3 highway targets

1 command post target

Map of the Third Air Fleet

5 airfield targets

1 command post target.

In spite of these few, relatively insignificant omissions, the maps are capable of presenting a fundamental picture of the most important targets attacked on the first day of operations and thus a fairly accurate idea of the areas of main concentration.

One must bear in mind, however, that the Situation Reports were based on the combat reports received from the lower echelons. And there is always the question of whether these were complete and accurate, even if one takes for granted the willingness of the reporting agencies to submit objective accounts of their activities.

III. Results Achieved during the First Day of the Offensive

1) The sketch entitled "Status of Combat Action as of 10 May 1940" shows the ground situation as of the evening of 10 May 1940[6].

The initial breakthrough of the enemy border fortifications succeeded on all sectors of the front. So far no point of main effort can be detected, not even on the main sector of the front, since the advance through Luxemburg was accomplished without any enemy resistance whatsoever.

2) The role played by the Luftwaffe is considerably greater than is indicated by the ground situation map. For the first and most decisive success booked by the ground forces was achieved largely through the participation of the Luftwaffe.

a) In the area assigned to the Second Air Fleet, the air landing in Fortress Holland -- far in advance of the ground front -- was a complete success. In the area Moerdijk - Dordrecht - Rotterdam - The Hague, the Luftwaffe Air Landing Corps was engaged in a bitter struggle to consolidate its gains, in the hope that it would soon be relieved by the Eighteenth Army[7].

b) In the area confronting the Sixth Army, Fort Eben Emael was immobilized for the moment at least, although its Luftwaffe conquerors were badly in need of relief by the advance elements of the German Army.

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6 - See Appendix 40.

7 - See Chapter IV of the present study.

The bridges over the Albert Canal north of Eben Emael, however, which were of decisive importance for the advance of the Sixth Army, were firmly in the hands of the German paratroopers. The VIII Air Corps, the Luftwaffe's close-support force, had smoothed the way for the Army advance into the heart of the enemy territory.

c) Along the entire combat front, the Army was able to carry out its planned operations on schedule only because the employment of the Luftwaffe in strategically important missions had eliminated any serious interference on the part of the enemy air forces.

d) Whatever intervention the enemy air forces were capable of delivering -- and this was extremely limited in terms of both duration and area -- was dissipated by Luftwaffe fighter aircraft or by the antiaircraft defenses of the I and II Antiaircraft Artillery Corps.

At the same time the batteries and batallions of these two Corps were primarily engaged in supporting the Army, and they were highly successful as assault artillery, in antitank operations, and in the bombardment of stationary fortifications[8].

3) The reconnaissance units of the Air Fleets had furnished the commanders of the offensive with comprehensive and clear data which went beyond the purely tactical information delivered by the close-range reconnaissance units employed by the Army in that ~~xxxxxx~~ they were suitable as a basis for the planning of future operations.

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8 - See Chapter X of this study for more detailed information.

Beginning at dawn, the reconnaissance units kept the traffic along the highways and railway lines under constant surveillance, especially along the French-Belgian border, and thus were able to furnish in good time an accurate account of the anticipated Anglo-French advance from northern France into Belgium. On the basis of these reports, the Luftwaffe was able to begin its attacks on the highways and railway lines involved without delay.

The airfields in enemy territory were kept under continuous observation, and as a result of the exact reports submitted by the reconnaissance units, the Luftwaffe was able to stage a number of highly successful attacks on the enemy ground organization installations. In addition, the reports provided an excellent basis for the planning of future bomber missions.

4) The reaction of the enemy air forces was a source of surprise all along the line. There was no attempt at a systematic employment of bomber units. Secondary actions, as for example the British bombardment of the bridges near Maastricht, were effectively countered by German antiaircraft artillery forces.

The enemy fighter aircraft were extremely active in certain areas, but entirely unsuccessful. The first day of operations proved conclusively that the French Morane was decidedly inferior to the German Me-109. Even the Me-110 was a match for the Morane. As an illustration, during the bomber attack on the airfield at Mourmelon (carried out by the Third Air Fleet, with an escort of twin-engine fighters), the ensuing air battle between sixteen Me-110's and twenty Moranes resulted in the confirmed destruction of seven Moranes-

On the whole, the enemy fighter units managed to escape the

first surprise attack by the German bomber forces, since they had been alerted by early warnings and were already in the air by the time the bombardment of the airfields began. Thus it must be assumed that the fighters suffered relatively few losses as a result of the German bombardment. In any case the attacking German units met with considerable fighter resistance; they managed to defend themselves successfully, but at the cost of considerable losses.

5) ~~Summary of Successes Achieved and Losses Sustained~~

Beginning at dawn, which meant that the attacking units had to take off during the night, and extending until the late evening, the Second and Third Air Fleets, employing all their available bomber, dive-bomber, close-support, single-engine, and twin-engine fighter units, managed to attack all the targets envisioned by the original plan -- airfields, railroads and highways, troop assembly areas, troop maneuvers, fortifications, and enemy command headquarters. Enemy fighter resistance had been brought to a standstill on the Dutch, Belgian, and French sectors of the Channel coast, and a start had been made in the combatting of enemy shipping traffic across the Channel.

In addition, in central and southeastern France -- and these missions must be added to the area of endeavor of the Third Air Fleet -- attacks had been carried out on industrial plants in St. Etienne, Epinal, and Reims. It is possible, of course, that these may have been alternate targets (bombarded because the airfields originally designated as targets could not be located) rather than primary targets -- this question

cannot be answered. The author is inclined to believe that this was the case.

The air landing operations on the northern sector of the front were an unqualified success.

The antiaircraft artillery forces, together with the German fighter units, had succeeded in eliminating enemy interference from the air and, consequently, in providing adequate cover for the advance on the ground. These forces had also played a significant part in the support of Army forces.

The aerial reconnaissance units had secured the information needed to plan the next day's operations.

The Situation Reports issued by the office of the Commander in Chief, Luftwaffe, provide the following figures in connection with the first day's activity against the enemy air forces:

Destroyed in the hangars:	200, perhaps even as many as 450 aircraft
Destroyed on the ground:	approximately 250 aircraft (40 French and British, 50 Dutch, 60 Belgian)
Shot down during aerial combat or by German antiaircraft artillery:	approximately 50 aircraft (3 British, 25 French, 12 Dutch, 10 Belgian).

During the same period and according to the same source, German aircraft losses were as follows:

9 Ju-88's

24 He-111's

14 Do-17's

2 Do-215's

5 He-115's

2 Ju-87's

25 Me-109's

~~2 Fi-156's~~

83 aircraft

The above figure does not include the high losses represented by the Ju-52's shot down during the air landing action in Holland or the number of Fi-156's lost as a result of crash landings.

IV. Introduction to the Following Chapters

The mass employment of the Luftwaffe on the first day of the offensive created the prerequisites for the continuation of the operations of both Luftwaffe and Army. Despite the fact that the map picture of the ground situation (see Appendix 40) is not really detailed enough to permit clear recognition of those areas of the front at which concentrated actions were to take place, nevertheless the overall picture of air activity gives a clear indication of two definite areas of concentration. In each of these, decision-seeking actions by the Luftwaffe, in advance of Army operations in point of both space and time, were already in progress before the results of the ground operations were even clearly substantiated.

The first area of concentration was in western Holland, where the air landing operation in Fortress Holland had already succeeded, far from the ground combat line of the Eighteenth Army, along the northern flank of the Army advance force.

The second area of concentration lay in eastern Belgium, where the close-support operations of the VIII Air Corps had achieved decisive tactical gains which were to have strategic significance not only for the advance of the Sixth Army but also for the scheduled course of subsequent operations in the area of concentration further south.

The first Luftwaffe action had descended upon the entire enemy front from north to south in a surprise attack from the third dimension. Its second action had torn the

first hole in the enemy defense front. Thus these actions were closely coordinated, not only to supplement one another but also to complement the operations going on on the ground. Both actions involved methods of air force employment which were new for the West; both contained an element of surprise, tactically and strategically; without a doubt, both represented points of main effort in Luftwaffe employment, not so much in terms of the strength of the forces committed as in terms of the missions assigned them and the tangible effects of the accomplishment of these missions on both sides of the front. In other words, there can be no doubt that the main emphasis, in the beginning at least, lay with the Second Air Force.

For the reasons implied in the summary above, it is obvious that the two primary areas of Luftwaffe employment require separate and detailed treatment from the most varied standpoints. There would seem to be little point in attempting to integrate the progress and course of these two operational phases into the framework of the overall operation and its subsequent development. For the operations themselves, as well as the method of employment illustrated by them, represent actions which are completely independent of other air operations. Their internal consistency and their organic development would be destroyed if one should try to integrate them into chronological phases of the overall operation as chronologically and locally limited parts of the whole.

The air landing operation in Holland represents a strategic, tactical, and chronological entity, restricted to the first four days of the offensive in the West. For this reason, its description has been

undertaken distinct from the overall developments and brought in detail in the following Chapter (dealing with the air landing action as a part of Operation YELLOW). Chapter IV deals not only with the actual details of the action but also with the planning and development leading up to it; thus the reader is given an accurate and well-rounded picture.

For the same reason, the employment of the VIII Air Corps must also be accorded separate treatment. Precisely because the degree of coordination between it and the Army, from the beginning to the end of the offensive, was so much more intense than that existing between the Army and the rest of the Air Corps, which were employed principally as long-range air units, it had a special role to play, and this role is deserving of more careful study.

In contrast to the air landing operation in Holland, the missions of the VIII Air Corps cannot be limited in point of time. Limiting them to the first day of the offensive, for example, which was to be followed by numerous instances of systematic employment towards the same end by the entire Luftwaffe, would be both inaccurate and misleading. We have no choice but to follow the commitment of the VIII Air Corps throughout the entire offensive.

Thus Chapter IV is followed by Chapter V, which represents an independent treatment of the "Employment of the Close-Support Units of the VIII Air Corps".

In keeping with the convictions expressed above, Chapter V first discusses the Sixth Army's struggle to advance after the events of the first day of the offensive, and then describes in detail the role played by the Luftwaffe in its decisive support of the ground advance on the main sector of the front up to the breakthrough to the sea, and its intervention in the battle of Flanders and Artois.

Chapter IV as well as Chapter V have been prepared as separate entities, so that each is entirely independent of the remainder of the study. With a view to helping the reader who may wish to devote more intensive study to either one of these two specialized areas, Chapters IV and V have been reduced to basic strategic and tactical frames of reference, so that a knowledge of the foregoing chapters is not a prerequisite for understanding these two.

CHAPTER IV

The Air Landing Actions within the Framework of Operation YELLOW

The first day of the long-anticipated -- or long-feared -- offensive in the West brought an equally unexpected -- or perhaps even feared -- surprise, the employment of a strong Luftwaffe force in missions of strategic significance[1].

The operational area selected was the second source of surprise. The German air landing force was not committed in coordination with the Army at its main point of concentration (the breakthrough area on the middle sector of the front), but on the extreme right flank of the overall attacking force, in other words apparently on the periphery of the operation, opposing the extreme left flank of the anticipated enemy advance, opposing Holland, which had been neutral until 10 May 1940.

This assignment, which at first glance may seem to have no more than peripheral significance, reflects in reality both military

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1 - The term "air landing force" is to be interpreted as including:
a) genuine "air landing forces", for whom the aircraft were a simple means of transport to bring them to their area of operations.
b) the "paratroopers", who leaped from the transport aircraft into their area of operation.

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and political purposefulness -- namely the attempt to neutralize the left-hand pillar of the presumable front along the borders of France, Belgium, and Holland before the Allies should have a chance to exploit it for their own purposes, as German leaders were certain that they would do if given the opportunity. In addition to this negative purpose, Germany's leaders were also motivated by the positive goals of covering from the north the right flank of the German breakthrough force, scheduled to advance from the center of the front towards the Channel, and, at the same time, of securing a basis for aerial warfare against England as soon as possible.

Since the end of September 1939, this purely military necessity had been the guiding principle of all Germany's plans in connection with the West, and it was certainly the dominating factor in Hitler's decision to switch from defensive to offensive tactics in the West[2].

Examined from this point of view, the idea of committing the surprise weapon of the war on the northernmost sector of the front gains entirely new significance -- its commitment against Fortress Holland was an integral part of the overall plan and thus was intimately connected with the ultimate strategic goal, the breakthrough in the center all the way to the Channel.

The Channel, then, was the goal of both the main penetration actions into enemy territory beyond the front; there remained only the questions of

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2 - See Section I, Chapter V, Study on the West (Studie West).

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how and when the advance of the armored forces from the area of main concentration to the sea would take place, how and when the seizure of Fortress Holland from the "third dimension" could be expected to expand into a broader base for further operations against England. And the latter, of course, was the most important as well as the longest-range objective.

From the vantage point of history, the delineation of this strategic objective seems logical and clear.

But the path leading to this logic and clarity of intention was confused and beset by variations of opinion and hesitations.

The above statement does not imply any reproach against the activity of Germany's military leaders during the years 1939/1940. The entire field of large-scale air landing operations was still an unknown quantity, not only for German leaders but, to an even greater degree, for the Allies. The German leaders, however, were the first to occupy themselves with the problems inherent in the employment of air landing forces and the first to find a solution to them. In this connection the German leaders, too, were forced to adjust their thinking from purely tactical to strategic planning, and the result was the first instance of the strategic employment of the air landing corps against Fortress Holland on 10 May 1940.

Thus it would seem to be not only justified but also imperative that we begin, not with a purely objective description of the events which took place between 10 and 14 May 1940, but rather with a very brief report on the main aspects of the development of the air landing idea during World War II.

And, to make the preceding remark even clearer, let it be understood that it refers exclusively to the clarification of the interrelationship in the field of strategy, and that this clarification is undertaken in order to help the reader integrate the strategic aspects into overall Luftwaffe planning as well as into the planning of individual Luftwaffe actions during the offensive in the West.

If the reader is to understand this Chapter in all its implications, he should be well acquainted with a comprehensive study which (at the suggestion and under the guidance of the author) was prepared during 1954 and 1955. This special study, entitled "Der Einsatz der Luftlandetruppe im Westen 1940" (The Employment of the Air Landing Corps in the West during 1940), was intended as a part of the present study, inasmuch as it supplements the latter by presenting more detailed information on developments in the fields of planning and employment[3].

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3 - The special study mentioned above is available in the Karlsruhe Document Collection.

I. Operational Planning since the Beginning of the War

Even during the campaign in Poland in 1939, the Luftwaffe's only air landing division, the 7th Air Division under the command of General Student, was held in readiness for potential employment, during which it would have utilized Silesia as a base of operations.

There was no lack of planning for the commitment of an air landing force, but somehow actual employment of the force never came about. The plans themselves, as well as the reasons why they were never realized, have been discussed in detail in the author's study dealing with operations in the East[4]. Those units of the air landing corps which actually saw active duty were employed in detached groups in ground combat, a type of activity which was clearly at variance with the commitment for which they had been trained. They were never given a chance to demonstrate the effectiveness of the new weapon they represented.

During the next phase of the war, the Weser Maneuver (i.e. the operation carried out in April 1940 to occupy Denmark and Norway), elements of the 7th Air Division were utilized in their proper function for the first time. The secret of the new weapon, hitherto carefully guarded, was revealed to the world. The commitment of the air landing force, however, as well as the degree of success achieved by it,

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4 - See the author's study "The Campaign in Poland, 1939", Volume 3; Karlsruhe Document Collection.

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can be evaluated only in terms of tactics, inasmuch as it represented primarily the employment of small paratrooper units to carry out locally limited actions. The remainder of the air actions must be classified as pure air transport missions, by means of which Army units were delivered to a previously determined tactical area; in other words, these missions had nothing to do with the actual tactical employment of air landing forces.

Once again, there had been no opportunity to carry out a strategic mission involving the employment of the air landing force as an integrated entity.

II. Operational Planning for the Offensive in the West

Yet, from the very beginning, plans had been made for commitment in a strategic mission of decisive importance.

These plans had been subject to at least as many alterations as those drawn up for the overall offensive. The planners were feeling their way towards possible solutions. The requirements deemed necessary by the Army were confronted by the performance deemed possible by the Luftwaffe, and in this connection the principle of the Commander in Chief, Luftwaffe, i.e. that "his" air landing forces were to be used primarily to further the interests of the Luftwaffe, was clearly predominant; the strategic interests of the Army were to be subordinated to this principle.

The following three plans emerge as seriously considered possibilities:

1) The only planning area which remained constant and, as a matter of fact, the only plan which was actually carried out in accordance with the original concept, was the one involving the commitment of limited forces from the 7th Air Division against targets near the border at the beginning of the offensive. The objective of this mission was to facilitate the breakthrough through the border fortifications and across the canals south of the Maastricht area (the southernmost corner of Holland) for the Sixth Army by means of a coup de main designed to seize the Belgian fort of Eben Emael (this was to involve the first employment of freight gliders with the air landing units) and by the capture of three bridges over the Albert Canal west of Maastricht by paratrooper units.

At first glance this plan seems to involve no more than a locally limited tactical objective; in the long run, however, it was an integral part of the overall strategic planning.

2) The first master plans envisioned the commitment of the entire 7th Air Division as an integral entity in the area around Ghent, with the goal of seizing the nucleus of the Belgian defense area. For the first time, this represented purely strategic planning, involving commitment far inside enemy territory, commitment which was closely connected with the operations of the Army in Belgium.

It was to be the task of the paratrooper and air landing units of the 7th Air Division to engage as many enemy forces as possible in order to keep them tied down and to draw them away from what at that time was planned to be the main route of advance for the German armies. In addition, they were to harass the enemy far behind the front by means of highly mobile warfare and to disrupt his communications system.

The risks entailed by an undertaking such as this were great, since the air landing force might well find itself in the midst of an assembly area for the Western reserve forces. And even assuming that the initial air landing should succeed according to plan, the landing force, isolated in enemy territory, would be left to its own devices for from five to eight days, until such time as a relief action on the part of the Army could begin to take effect[5].

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5 - Ghent is located approximately 100 air miles from the German border.

The views of the leading Army and Luftwaffe officers were quite divergent, those of the Army men reserved to the point of skepticism.

The "Ghent Plan" was finally abandoned for a number of reasons, the most important of which were the following:

a) In view of the shortness of daylight hours -- the operation had been scheduled for the period between November 1939 and January 1940 -- steady and effective support of the air landing operation by Luftwaffe units in strategic commitment was possible only to a very limited degree.

b) Number-wise, the air transport units were too few to guarantee the success of a sudden mass air landing of the scope originally planned. The factor of surprise would lose its value if the transport units had to operate in waves, with the aircraft landing at intervals over a long period. Moreover, the winter days were too short to permit effective accomplishment of such operations.

c) One of the Army's chief objections, and a well-justified one, was the fact that the Army division slated for air landing operations (the 22d) was inadequately equipped, especially with regard to heavy weapons.

d) And, finally, the number of available paratrooper units seemed inadequate in view of the extent of the area to be occupied and the intensity of the anticipated enemy resistance.

In any case, the "Ghent Plan" was given up.

3) The second master plan involved the employment of the air landing force to capture the Meuse bridges in the Namur-Dinant sector

and to hold them open for the advance of the German armies.

In short, Germany's leaders had renounced a long-range, truly strategic plan (the Ghent Plan) in favor of a solution which could at best be termed barely strategic in character, although in reality it came far closer to the concept of tactics[6].

The new plan, too, failed to gain the unqualified approval of Army leaders, since it was undeniably questionable whether an air landing in the middle of the Namur-Dinant-Givet defense area could succeed, and especially whether the landing force would be able to hold out on its own until relieved by the Army.

As a result, the "Dinant Plan", too, was abandoned.

4) A third plan, which had originated with Hitler himself, envisioned an air landing near Sedan, just ahead of the wedge being driven by the breakthrough armies. Their action strategically coordinated with that of the ground forces, the air units were to attack from the third dimension and thus help to speed up the advance towards the coast[7].

But this plan, too, which beyond any doubt could have been developed into an action of strategic significance, was abandoned. This time, however, its fate was due to the influence of the Luftwaffe, whose experts declared the wooded region around Sedan (which was really extremely difficult terrain) to be absolutely unsuitable for air landing operations.

In the end, this plan was given up as well.

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6 - The distance from the German border to the Meuse sector between Namur and Dinant was no more than fifty air miles.

7 - The distance between the German border and Sedan was forty-five air miles.

But, in any event, all of these plans would have had to be abandoned after 10 January, when a paratrooper officer carrying full documentation of the planned employment of the Second Air Fleet in general and of the air landing forces in particular found it necessary to make a forced landing in Belgium (the Reinberger case). This meant that the most closely guarded intentions and plans of Germany's military leaders were now in the enemy's hands.

It remains unclear whether the Allies accepted the captured German documents as valid or whether they considered the whole affair to be a deliberate attempt at deception; and the other, closely allied question of whether the Reinberger affair was really the reason for the complete change in the German operational plans[8] must also remain open. Nevertheless, the fact remains that all previous plans for an air landing operation had become invalid; a completely new operation had to be devised.

5) The last and final plan for an air landing operation was based on the new operational plan of 10 January 1940, which -- following the so-called Manstein Plan -- revolved around the central principle of a breakthrough on the middle sector rather than on the heretofore eagerly advocated strong right wing.

Within the framework of this new allocation of areas of main concentration, however, there was no provision for the employment of the air landing force. Instead,

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8 - In the personal opinion of the author of the present study, this is not accurate. The new deployment of forces in accordance with the Manstein Plan had already been incorporated into the planning, and preparations were already under way for it.

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a large-scale air landing action of strategic significance, to be carried out by the 7th Air Fivision, was planned to take place far out in front of the extreme right wing of the main overall front.

Once Germany's top-level leaders had made up their minds to violate not only the neutrality of Belgium but that of Holland as well, it was clear that the fortified center of Holland, the so-called Fortress Holland, was bound to acquire decisive importance for the overall planning of the German operation.

Moving forward along the right wing of Army Group B, the Eighteenth Army was to overrun Holland as rapidly as possible along either side of the Waal River and then to push through towards the coast, so that Holland could be exploited at the earliest possible moment as a base from which to threaten, by means of attacks on the ground and above all from the air, the flank of the Allied armies which were bound to be deployed in Belgium.

To the south of the Eighteenth Army, the Sixth Army was to invade enemy territory and, after breaking through the border fortifications, to tie down as many enemy forces as possible by means of frontal attack.

A glance at the map makes it clear that there were formidable topographical obstacles to be overcome in any advance -- broad rivers, canals, flood areas. And these obstacles would be effectively supplemented, as German leaders well knew, by the expansion of the fortification area known as Fortress Holland[9].

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9 - In the beginning, Fortress Holland comprised the central core of the actual fortifications, which was bounded on the east by the so-called "new water-line", stretching from the Zuyder Zee southeast of Amsterdam towards the south as far as the Meuse. Its southern boundary was

~~Footnote 9~~ [~~cont~~]

formed by the confluence of the Meuse and the Waal. There were two lines of field fortifications extending towards the east; these followed the topographical features of the terrain (rivers, for example) and were known as the Grebbe and Peel positions. Finally there was the Ijssel Line, which ran close along the border and joined the Meuse position as far as Maastricht.

A rapid success for the advance of the Eighteenth Army could be guaranteed only on the condition that the following objectives could be achieved as soon as possible:

a) The capture of the most important crossing-points over the river-like bodies of water near Rotterdam, Dordrecht, and Moerdijk. Further operations -- either towards the north or, later on, towards the south -- would be impossible until these crossing-points were firmly in German hands.

b) The Dutch Army would have to be prevented from grouping itself for the systematic defense of the various fortifications lines making up Fortress Holland. These fortifications would have to be invaded and taken from the rear.

c) The Dutch Army, and especially its reserves, would have to be eliminated completely as a combat factor.

d) The Dutch government would have to be captured, thus eliminating any possibility of its organizing a resistance movement in the country; this was a purely political secondary mission of the undertaking.

These objectives were to be accomplished by means of a coup de main carried out by the air landing forces far in advance of the front of the Eighteenth Army.

On 10 January, as noted above, the previous plan of operation had fallen into Allied hands.

On 15 January, the Commander in Chief, Luftwaffe, turned over the new air landing plan to General Student, Commander of the 7th Air Division, and placed him in charge of preparing and executing the action.

General Student had the following forces at his disposal:

a) the 7th Air Division of the Luftwaffe, comprised primarily of paratrooper units; and

b) the 22d Infantry Division of the Army, which was already -- at least a part of it -- trained in air landing operations.

These two divisions were to be formed into an air landing corps under General Student's command.

General Student was given a secondary task, which, however, was no less important and strategically vital than the main operation against Fortress Holland; utilizing limited elements of the Air Landing Corps, Student was to prepare the way for the Sixth Army advance across the Meuse and the Albert Canal. This was the only phase of the final plan which had survived all the previous alterations in the role of the air landing forces (see Section III, 2), a) of this Chapter, below). The Belgian border fort of Eben Emael was to be captured as well as the bridges over the Canal.

Before we move on to examine and evaluate the realization of the final plan for the employment of the air landing forces, it seems advisable -- for reasons of historical completeness -- to at least mention another air landing action which was organized and carried out outside the framework of the Air Landing Corps and without General Student's knowledge, much less participation. This action had nothing to do with strategic planning, but was a purely tactical episode which took place in the area assigned to the Third Air Fleet.

Along the front of the Panzer Corps Guderian, which was standing ready for a breakthrough through Luxemburg and the northern tip of Belgium into the direction of Sedan,

an infantry battalion was loaded into Fieseler-Storks, at Goering's order. As the German advance began, these forces were to be landed behind the Belgian border fortifications line west of Martelange (east of Neufchateau) in order to foment unrest behind the enemy front, to evoke the appearance of an attack by much stronger forces, and to tie down enemy units.

This action was actually carried out, but apparently the forces involved were so widely dissipated that no tangible success could be achieved. For this reason, there seems to be no point in our describing it in greater detail at this juncture[10].

All the various plans for air landing actions described in the foregoing pages can be found in the "Schematic Summary of the Air Landing Actions in the Western Offensive"[11].

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10 - Detailed descriptions may be found in the following works:
a) Generaloberst Guderian, Memoirs of a Soldier (Erinnerungen eines Soldaten), K. Vohwinkel, Publishers, Heidelberg, 1951, page 88.
b) A. von Hove, Watch Out, Paratroopers (Achtung, Fallschirmjäger), Druffel, Publishers, 1954, pages 70 and 93-95.

11 - See Appendix 41.

III. ~~The Air Landing in Fortress Holland~~

1) Chain of Command and Organization of Forces

On the morning of 10 May 1940, the Air Landing Corps was ready for action; its organizational structure and line of command were as shown in the Appendix[12].

The chain of command merits critical attention. It was a compromise resulting from a long series of developments and could not be viewed as entirely satisfactory. Its defects inevitably made themselves felt in the operations carried out by the Corps. It would take us too far afield to examine the causes of the resulting mis-construction; suffice it to say that they were primarily the result of selfish interest on the part of individual personages.

The most serious defects were the following:

a) The Air Landing Corps and the 7th Air Division were commanded by the same person. The Corps did not even have an operations staff of its own. The Commanding General naturally felt himself to be primarily commander of his old division; and, as a matter of fact, he personally led his division in battle. The Corps hardly appeared in the picture at all. From the point of view of effective command, the most logical solution would have been the subordination of the commanders of the two divisions concerned to a Corps having a full command hierarchy.

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12 - See Appendix 42.

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b) The already unclear chain of command was confused even further by the fact that the commanding general also seemed determined to extend his direct command to individual units of the air transport forces. This implied, to be sure, that a "Commander of the Air Transport Forces" (Führer der Lufttransportverbände) ought to have been subordinate to him. In reality, however, the two air transport wings were directly under his command. The most practical solution would have been to place the two air landing divisions directly in charge of the air transport facilities they required.

c) Strangely enough, the Special Duty General, as commander of the strategic air units whose air attack and close-support forces were standing by to support the air landing operation, was directly subordinate to the Second Air Fleet, with instructions to coordinate his operations with those of the Air Landing Corps. In view of the circumstances obtaining at the time, this compromise solution (all too typical of the era in question), which assiduously avoided actual "subordination" for reasons which were more often purely personal than objective, seems completely incomprehensible. Precisely as a result of the novelty of the mission and the uncertainty of further developments (in view of the predictably unpredictable deployment of the units in terms of tactical and geographical assignment during the battle), a more firmly delineated leadership of the air attack and close support units under the Air Landing Corps should have been accepted as an urgent necessity.

This, of course, would have presupposed that the Corps was really in a position to provide such leadership (operations

staff, communications facilities, freedom of choice in selecting its command headquarters site). A chain of command via the Air Fleet could be nothing but a detour in the long run.

Assuming that the Air Fleet regarded the Special Duty General and his units as a part of the "strategic Luftwaffe" placed under its command, and that it might require all or a part of these forces for other missions as well, depending upon developments in the overall situation, the Air Fleet should have been accorded the right to detach or assign troop elements at will. This cannot be construed as a grounds for protest against the subordination of the Special Duty General to the Air Landing Corps.

There is still a fourth point which must be mentioned, a point which cannot be clearly evaluated on the basis or organizational structure, but which nonetheless is certainly responsible -- at least in part -- for the deficiencies in that organization. During the period devoted to the planning and preparation of the air landing action -- a period which lasted for several months -- both Hitler and the Commander in Chief, Luftwaffe, as well as the Luftwaffe Operations Staff had intervened to an ever greater degree in the details of the planning, often without bothering to keep the nominally responsible Second Air Fleet informed of what they were doing, so that the latter was confronted with faits accomplis in the form of decisions already made.

As a result, the overall organizational hierarchy finally turned out to be a compromise solution based on a number of divergent decisions and opinions. Those aspects based purely on military necessity, which should have been championed by the Second Air Fleet,

now more than ever, were increasingly relegated to the background[13].

2) ~~Detailed Summary of the Missions Assigned to the Air Landing Corps~~

The fourth and last plan for the employment of the air landing forces[14] envisioned the following steps:

The 7th Air Division was to be employed to drop paratroopers and to deliver air landing forces in the Moerdijk-Dordrecht-Rotterdam area so that they could seize the delta arms of the Meuse and the Rhine and keep them open for the Army's mobile troops fighting their way forward south of the Waal in the Tilburg area.

The 22d Infantry Division (Air Landing) was to be set down at three airfields around The Hague. Its mission was to seize the capital and, at one blow, to eliminate the danger of resistance on the part of Holland's royal family, government, and armed forces headquarters[15].

The point of main effort lay with the 7th Air Division.

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13 - The author's view, as expressed here, is substantiated to a certain extent by Generalfeldmarschall Kesselring, former Commander in Chief of the Second Air Fleet, who brings the following rather cautious comments in his book: "As far as the Air Landing Corps was concerned, Hitler himself had determined the detailed strategic and tactical aspects of the air landing action." (pages 70/71); and "The command function was rendered even more difficult by the fact that Hitler and Goering personally intervened in the preparations for the air landing operation; as a result, General Student was degraded to the status of an intermediary, to which -- as a matter of fact -- he was not at all averse." (page 72).
Actually, it was the responsibility of the Commander in Chief, Second Air Fleet, to prevent any developments of this sort. His effectiveness in this particular respect must remain an open question.

14 - See Appendix 1, Paragraph 5.

15 - See Appendix 42; this special mission was assigned to a paratrooper bat/allion of the 7th Air Division which was to land in and around The Hague.

The map included as an Appendex shows the following[16]:

the planned areas of operation of the 7th Air Division and the 22d Infantry Division; the landing areas of the two divisions east of the Rhine and their joint approach course for the air landing operation; and the tentative advance routes of the Eighteenth and Sixth Armies, as well as -- of even greater importance -- that of the 9th Panzer Division, which was to be the first to reach and relieve the Air Landing Corps.

Even at first glance, this plan evokes the following critical comments:

1) The fact that the 7th Air Division was assigned to the point of main effort was clearly in keeping with the fundamental strategy responsible for the employment of the Air Landing Corps in Fortress Holland; as a preliminary step, it was necessary to take the bridges leading into Fortress Holland in order that the "fortress" might be seized from within; the next step, necessary to permit the Army operations towards the south (i.e. into Belgium), planned to follow the capture of Fortress Holland, was to occupy the most important Dutch river crossings and to keep them firmly in German hands.

In other words, the delineation of the missions assigned to the 7th Air Division had been based on purely military deliberations.

2) In contrast, the employment of the 22d Infantry Division originated from the desire to attain a purely political goal ordered by Hitler -- the seizure of a government which, after the morning of 10 May 1940, had every right to consider itself

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16 - See Appendix 43.

"hostile", and the elimination of any and all factors conducive to effective leadership by the state, the population, and the armed forces.

Quite apart from the fact that this political goal could not be achieved, since it was doomed to failure from the standpoint of its military feasibility, the commitment of an entire division -- and a particularly valuable division, at that -- right at the beginning represented a waste of forces which could have been utilized to far better effect under the circumstances prevailing elsewhere on the offensive front. If Fortress Holland was eliminated as a factor of strategic significance, then it was irrelevant what happened to Dutch political leadership, which, in any case, would have been neutralized by the military success of the enemy.

3) From the vantage point of the overall situation, as reflected by Appendix 43, the air landing action, which was to be developed parallel to the front line of the Belgian Army, entailed a decided risk. It could succeed only if the following anticipated factors should turn out as planned:

a) the successful outcome of the Eighteenth Army's breakthrough and advance through the Dutch fortifications line

b) the prompt advance (within three days) of the 9th Panzer Division to relieve the Air Landing Corps

c) the failure to act on the part of the Belgian forces facing the Sixth Army

d) the lack of any enemy support in northern France

e) the inactivity of the Allied air forces.

Realization of every single one of the above conditions was imperative.

III. Accomplishment of the Air Landing Action

The offensive in the West began at 0535 on 10 May 1940 along the entire front.

The air landing operation against Fortress Holland, planned with exemplary care and admirable imagination by General Student, ran with clock-like precision -- as long as it remained in the air.

The attack units under the command of the Special Duty General, or at least those elements which were fully capable of instrument flight, flew in from the sea and took Fortress Holland completely by surprise. By means of intensive bombardment they succeeded in eliminating the Dutch security forces and other antiaircraft defense forces from the airfields selected as landing bases for the Luftwaffe[17]. They also bombed known Dutch fighter bases in order to eliminate the danger of enemy defensive operations in the air, and were highly successful in utilizing their dive-bombers to attack the enemy bunkers at the Moerdjik bridgehead in order to pin down the forces holding it.

The units assigned to the Second Fighter Commander (Jafü 2) were given the sole mission of providing air cover for the air transport action and the air landing itself. A carefully calculated schedule guaranteed an uninterrupted air umbrella over the transport units while they were in flight. In reality, however, owing to the vast extent of the

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17 - These were Waalhaven, near Rotterdam, for the 7th Air Division, and Valkenburg, Ypenburg, and Ockenburg, surrounding The Hague, for the 22d Infantry Division.

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enemy territory involved, the number of transport aircraft to be protected and their distribution among several waves, and the numerical inadequacy of the available single-engine and twin-engine fighter units, this "umbrella" could be no more than a rather thin veil.

The air transport action, carried out under cover provided by the above-mentioned fighter veil, went off according to plan. Because of the shortage of air transport space, the maneuver had to be repeated in a number of waves. The approach route lay just about equidistant from Nymwegen and Arnheim, and followed the course of the Waal towards the west; east of Rotterdam it split off towards the two planned landing areas[18].

The air transport undertaking as such was accomplished exactly as planned; not a single enemy fighter put in an appearance; favorable weather conditions made it possible for the aircraft to maintain the course and altitudes assigned; and the enemy antiaircraft artillery fire, in any case sporadic, was completely without effect. The landing areas were reached without any losses whatsoever.

The real troubles did not begin until the landing force was dropped or set down, as the case might be, at its designated landing points -- to find itself in the midst of an enemy who had been warned of what was coming and was prepared to defend himself.

Nevertheless, the 7th Air Division succeeded in carrying out its mission in the southern operational area in almost all respects, albeit with losses.

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18 - See the map in Appendix 43.

The action of the 22d Infantry Division in The Hague was a failure, with even heavier losses.

The general outlines of the two operations were as follows:

A. The Operational Area of the 7th Air Division

1. The only air landing action to succeed 100% in Holland was the coup de main-like capture of the two bridges at Moerdijk. In part because the Dutch bridge sentries had been psychologically deeply shaken by a German dive-bomber attack which had just taken place, the paratroopers succeeded in preventing the enemy from blowing up the bridges and in establishing and holding bridgeheads on both sides of the river.

For two reasons, this victory was of great significance for the further course of operations:

a) advance elements of the German Army, coming up from the south, were to penetrate into Fortress Holland via these bridges in order to relieve the Air Landing Corps[19]

b) these bridges were to serve as links in the Army supply line towards the south, once Holland had been completely occupied and the planned operations in Belgium and northern France brought to a successful conclusion.

2. The second operational area assigned to the 7th Air Division was the region around Dordrecht. Here, too, the bridges were taken successfully. As for the rest, however,

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19 - The railway bridge was 5,900 ft. long and the highway bridge 4,600 ft.

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the relatively weak German element was barely able to hold its own against strong enemy forces. For the time being, at any rate, coordinated operations with the German units in the Rotterdam area were out of the question.

3. The point of main effort for the 7th Air Division lay in the area of Rotterdam.

To begin with, both the paratrooper jump and the air landing on the heavily protected and stubbornly defended airfield at Waalhaven succeeded -- a failure at this point would have placed the entire operation in jeopardy, since Waalhaven was the only available airfield far and wide which was capable of accomodating the subsequent air transport waves as well as the later supply flights.

After heavy fighting and at the cost of serious losses, the German invaders also managed to capture the bridge over the Meuse at Rotterdam itself, the actual goal of the operation. There were only a few German forces available, however, to take over the establishment of this northern bridgehead, since the majority were pinned down by enemy fire south of the bridgehead. The bridge itself acquired the status of a kind of no man's land, since it was useless to both sides.

B. ~~The Operational Area of the 22d Infantry Division (Air Landing)~~

There were difficulties here from the very beginning. For example, the paratroopers[20] failed to land at their assigned target areas, and the air landings on the airfields located around The Hague were failures to a greater or lesser degree.

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20 - The Division had been strengthened by the assignment of one paratrooper battalion from the 7th Air Division.

The 22d Infantry Division, too, had encountered an enemy prepared to offer resistance. The difficulties already inherent in the situation were augmented by the fact that the three airfields were far less well-equipped than anticipated, being totally unsuited to accomodate heavily laden machines.

The result was that the advance elements of the 22d Infantry Division (parachute as well as air landing forces) were tied down immediately in heavy fighting on the ground. A good many of the transport aircraft crashed and blocked the landing fields with their wreckage, so that the planned subsequent waves of aircraft had to be cancelled.

By the evening of 10 May, only about one-fourth of the total landing force had actually been landed, at fourteen different points. The Division was hopelessly dissipated, unified leadership was impossible, and there was no channel of communication to the Air Landing Corps.

By noon of the first day of operations, it was clear that the undertaking of the 22d Infantry Division was a tactical failure, and a failure which had cost the German forces heavy losses.

At the same time, however, it must be accounted a success from the point of view of strategy. For the 22d Infantry Division had landed right in the middle of the Dutch Army reserves (the Dutch I Army Corps, standing by on alert) and was thus containing three enemy divisions.

The hard-pressed infantry troops fighting around The Hague, however, knew nothing of these developments.

IV. The Situation on the Evening of 10 May

The mission assigned to the 7th Air Division had been fulfilled to a large extent, the most important bridges were in German hands. The three assault groups had still not made contact with one another; the command post, utilized by both the Commanding General and the Commander of the Division, was just south of Rotterdam. There was no communication at all with the 22d Infantry Division. Dutch counterattacks were in progress on all sides.

The single airfield at Waalhaven had been so badly damaged by ground artillery fire and a raid by British bombers that it could hardly be used. As a result the problem of bringing in supplies and reinforcements was highly acute, and rendered even more so by the fact that the loss in transport capacity was a good deal greater and more serious than had been anticipated.

Thus -- in spite of the successes achieved -- the situation was critical. Its solution depended upon whether and how soon the advance Army elements would be able to contact the landing force on the ground. Even under the most favorable conditions, this could not be expected to happen for at least two days. On the other hand, there was a very real danger that the Anglo-French forces advancing towards Belgium might dispatch an assault element to relieve the bridgehead position from the south. It was also a matter of grave concern just when the Dutch Army, organized for its counter-attack in the meantime, would launch its operations from the south.

The mission assigned to the 22d Infantry Division was a complete failure.

The three airfields at which the first troops had been landed had already been recaptured by the Dutch in a series of counterattacks. The task forces which had been landed along the coast, now widely dissipated and without unified leadership, were fighting for their very lives.

The division commander had gathered the scattered elements of his division and was engaged in combat south of The Hague. Here he received a radio order -- the only possible kind of order under the circumstances -- from the Second Air Fleet to abandon the mission against The Hague and to fight his way south in order to cut off Rotterdam from the north, thus coordinating his efforts with those of the 7th Air Division.

The overall situation was extremely critical as of the late evening of the first day of the attack:

from the south -- assaults by enemy motorized forces against the bridges of Moerdijk were expected momentarily;

from the north -- the numerically superior enemy was pressing hard on the heels of the 22d Infantry Division forces withdrawing towards Rotterdam;

from the east -- Dutch divisions, after having given up the Ijessel position under pressure exerted by the Eighteenth Army and probably in part under the influence of the German air landing, were now advancing along the Waal towards Fortress Holland;

in the west -- was the sea.

The German forces could no longer count on reinforcements of any great strength,

inasmuch as all the airfields were in enemy hands and so much transport capacity had been lost. Only a few troops could still be landed on the Dordrecht-Rotterdam autobahn.

There was little hope of support from the air, i.e. from the forces of the Special Duty General, since the front line running through the northern as well as the southern battlefield was so unpredictably irregular and so subject to sudden changes that it was extremely difficult, if not impossible, to carry out attacks from the air without endangering the German troops.

A number of individual, highly effective attacks ordered by General Student succeeded in bringing some relief by dint of destroying more remote enemy targets such as active artillery batteries, assembly areas used by reserve troops, etc.

The command of the Air Landing Corps had been more or less eliminated. The corps and division commander (a single individual), who had moved his headquarters during the night from Rotterdam to Dordrecht, could no longer exercise direct command over any but the groups fighting in his immediate vicinity. He had no influence over the 22d Infantry Division.

V. ~~The Development of the Situation up to 14 May~~

During the course of 11 May, the situation was building up to a crisis. During the night, the airfield at Waalhaven had been under continuous attack by British bombers, and German aircraft could

take off and land only one at a time.

Enemy pressure on the bridges in Rotterdam grew so heavy that General Student even considered giving them up.

Dutch forces had broken through in the vicinity of Dordrecht and were trying to recapture the bridges, so that the last German reserves had to be thrown into action at this point. They were all tied down in the town of Dordrecht in heavy street fighting, which lasted until the capitulation on 13 May.

The paratrooper battalion which had landed near the bridges at Moerdijk was encircled from all sides by enemy troops.

The situation in the northern area of operations was no better than in the south. The combat force under General Graf Sponneck, fighting northwest of Rotterdam, was also surrounded by the enemy. A number of air attacks were undertaken, but failed to bring any noticeable relief.

While the tactical situation of the Air Landing Corps in Fortress Holland grew steadily worse, the strategic status of the air landing operation was also rapidly approaching a grave crisis.

As had been anticipated, a strong motorized force of the French Army was under way via Antwerp in the direction of Breda, representing a serious threat to the entire air landing operation from the south.

Although the air units of the Special Duty General had so far been unable to contribute any effective tactical support to the hard-pressed troops on the ground or to provide any noticeable relief for them, they now found their "strategic mission" cut out for them. German reconnaissance had discovered the threat approaching from the south in good time, and all the groups of the 4th Bomber Wing, as well as elements from the fighter wings, concentrated on low and high-altitude attacks which succeeded completely in frustrating the enemy attempt to combat the air landing operation from the rear. The attempt was not repeated.

Thus the race between the fast German troops advancing from the east and the French motorized units hurrying up from the southwest was decided. The air landing operation had been saved strategically -- now all it had to do was to succeed tactically.

On 12 May the crisis subsided. The reconnaissance battalion of the 9th Panzer Division, which had advanced along the left wing of the Eighteenth Army, managed to make contact in the early afternoon with the paratroopers at the Moerdijk bridges.

On 13 May the majority of the 9th Panzer Division arrived at the bridges, secured them against the south, and moved on towards Dordrecht. The Division reached the area south of Rotterdam sometime during the night of 13/14 May.

The situation was saved.

By dint of joint Army-Luftwaffe operations, the tactical situation around Dordrecht and south of Rotterdam was restored.

Quite properly, the 7th Air Division -- the "Air Landing Corps" had ceased to exist some days ago for all practical purposes -- was made subordinate to the 9th Panzer Division for the following joint ground operations.

VI. ~~Rotterdam is Bombed~~

The mission assigned to the 9th Panzer Division, to which not only the 7th Air Division but also the newly arrived "SS-Leibstandarte Adolf Hitler" had been made subordinate, was to push on through Rotterdam on 14 May and then to continue its main advance towards Utrecht, while diverting a smaller force to The Hague.

The first step in the accomplishment of this mission was to take the city of Rotterdam, which was defended by infantry troops posted in the houses along the northern bank of the Nieu Maas and by a numerically superior and heavily armed Dutch Army force, by storm. The majority of Rotterdam's citizens had been evacuated, and the center of the city had been declared a fortress.

The attack was to begin on 14 May, at 1530. The Army, in the person of the newly arrived commanding general of the XXXIX Corps, General-

leutnant Schmidt, was in charge of the operation. After conferring with him, General Student transmitted from his command post a radio message to the Second Air Fleet headquarters, requesting support and fire preparation for the contemplated assault from the units of the Special Duty General. The air attack was slated to begin at 1445.

Before this time, one more attempt was made by an intermediary to persuade the Rotterdam garrison to surrender the city peaceably. Negotiations were delayed for a number of different reasons.

During the interim, the 54th Bomber Wing (approximately 100 aircraft), which had been assigned to carry out the softening attack and which had been made subordinate to the Special Duty General for the duration of this mission, was getting ready to take off from its airfields in the Bremen-Münster area. Before the take-off, the Wing staff was given detailed instructions to the effect that capitulation negotiations were still in progress and that therefore the Wing must be able to be reached by radio until the very last minute. As an added precaution, the pilots were to watch for red signal flares as they approached the city, for these would mean that Rotterdam was not to be bombarded. These precautions seemed adequate to ensure the avoidance of a no longer necessary attack even at the last minute.

Following its orders to the letter, the Wing took off on schedule for Rotterdam.

What was happening on the ground in the meantime, the course of the surrender negotiations, the deploying of ground forces for the attack, the desperate attempts to reach the 54th Bomber Wing in time once the city had capitulated, and the partial accomplishment of the bomber mission -- all of this has been described in such great detail by competent authorities that there is no need of our repeating it here[21].

The actual result of the air attack on Rotterdam was not the capitulation of the city -- for this had already been achieved by negotiation -- but rather the capitulation of the Dutch Army which followed on its heels.

The superfluous air attack on Rotterdam interjected a false note into the victorious, and hitherto fairly conducted battles for Fortress Holland. The destruction of the center of Rotterdam was a tragedy, because it was not necessary.

It was inevitable that the destruction of the core of Rotterdam should provide the enemy with a motivation for hate-filled accusations of Germany's barbaric love of destruction. First "Warsaw"*

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21 - There are two sources which are considered authoritative in their detailed description of these events: 1) Kesselring's book, and 2) the study by Pissin (see footnote 3). The author of the present study has questioned carefully the individuals concerned in the incident, above all the former commander of the 54th Bomber Wing, the Special Duty General, and his chief. The results are contained in Pissin's study, to which the reader is referred for further details.

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and then "Rotterdam"!? Such accusations were to be expected in view of the psychological atmosphere provoked by the war as well as for reasons of war propaganda. To a certain extent, they are even alive today[22].

For this reason, within the framework of this study it seems necessary to underline those aspects of international law which must be considered by any military man in his evaluation of the "Rotterdam affair".

However, before we begin this discussion, there is a question which must be asked: why did the Allies never bring forward a legally-founded accusation because of Rotterdam after the war? Why was no one penalized on the strength of his participation in this affair? Rotterdam figured neither in the war criminal proceedings against Feldmarschall Kesselring nor in those against Goering; nor was any accusation brought forward against General Student, the Luftwaffe representative responsible for operations in Holland. All three of these men might well have been accused of being "responsible" for what happened.

The answer to these questions is provided by the names of countless German cities which were bombed by the Allies without any military justification whatsoever in attacks which resulted in terrifically high losses

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22 - This statement is substantiated by the "Kommentaren der USAF zur Studie 152" (Commentary on Study No. 152 by the USAF), dated July 1956 (Karlsruhe Document Collection), in which it is requested that this study delve into such aspects as "the reasons behind the decision for mass destruction (specifically in the case of Rotterdam)."

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among the civilian population, attacks which can be described by no other term than mass destruction. Let one name suffice for the rest -- Dresden!

As regards the "Rotterdam affair", the situation was clearly as follows: The center of the city was defended by military forces -- completely pointlessly under the prevailing circumstances. In other words, the Dutch Army had turned an open city into a defended fortress[23].

Up to that point it was perfectly clear under international law that a defended city had to accept the consequences of such defense, in other words it had to expect that it would be subjected to softening artillery attacks designed to prepare it to be taken by storm. A glance at the map of Rotterdam north and south of the Maas, however, makes it clear that artillery forces could not possibly achieve the requisite degree of effectiveness. In the air age, it was obvious that in a situation of this kind the vertical artillery, i.e. the bombers, were bound to be employed.

That this vertical artillery was not employed in order to destroy the city's civilian population, but in accordance with purely tactical requirements in an attempt to eliminate the Dutch ground defenses, is substantiated in full by the target maps contained in the two sources mentioned[24]. As a matter of fact, the aircraft of the 54th Bomber Wing turned in a very exact performance. The fact that the effects of the attack spread over

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23 - See Dr. Spetzler's monograph, prepared from the point of view of military law, in Appendix 44.

24 - Kesselring, op. cit., page 76. The target map is included in this study as Appendix 45.

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large sections of the city was due not to the poor aim of the German bomber pilots but to the inability of the Dutch garrison and the civil authorities to limit the fires caused by the bombardment.

There remains the reproach that the air attack was carried out while capitulation negotiations were in progress and even after they had been concluded. In this case it is not "evil human intentions" which are to blame, but rather "technological deficiency". The descriptions contained in the two sources, as well as the information obtained by the author of the present study during interviews with the persons concerned, prove beyond any doubt that German leaders did everything in their power to stop the air attack after the aircraft had already taken off. That their efforts failed must be attributed to chronological factors, technological deficiency, and poor visibility at the target area[25].

The fate of Rotterdam was subject to the unpredictable vagaries of any war. The attempt to assign the "responsibility" for it to any individual or group of individuals can be based only on lack of knowledge of the prevailing circumstances.

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25 - The "Rotterdam affair" is a thoroughly typical example of the effects of these factors. In its target approach on Rotterdam, the 54th Bomber Wing had ordered its aircraft to retract their trailing antennas -- in accordance with standard procedure. As a result, the first squadrons were not in contact with the ground radio and -- released their bombs. The following squadrons still had their antennas in action and were thus able to catch the countermand of the original order and to change their course in time. It was a matter of a fraction of a second. Visibility for the two waves was quite different; the first squadrons were prevented by smoke and dust from spotting the signal flares, while the second wave was able to make them out.

Perhaps it would have been propitious if the Germans themselves had instituted "court martial" proceedings against the allegedly "guilty parties" in May 1940 once they recognized the furor, fanned by propaganda, which was spreading abroad! However, at that time the findings of such a court would have convinced neither the enemy nor the world public. For the world was at war!

It is to be hoped that some future historian may weigh justly the problems of guilt and fate, unhampered by anger or resentment, in order to arrive at the truth.

VII. Command

The success or failure of a tactical undertaking such as a large-scale operation can make or break the reputation of the military commander in charge. And this is quite as it should be. The transition from "hurrah" to "lynch him" often hangs by a single thread.

Success alone is decisive. And it was natural that the tangible strategic success of the air landing operation should far outshine the tactical failures which marked the course of the operation. For three whole days, the success of the action hung by a thread -- and a very thin thread at that.

It is the mission of historical evaluation to describe mistakes frankly, in order to prevent their recurrence -- insofar as the present world

is willing to learn from history.

In this particular case, however, our criticism does not affect the commander of the overall undertaking, Generaloberst Student, personally; in view of the conditions under which he had to operate, Student prepared and accomplished the air landing operation as best he could. Our criticism is directed rather at the system of command in effect at that time, a system born of a number of different currents of thought and influence.

In Section 3, I, of this Chapter, the examination of the "chain of command and organization of forces"[26] has already given rise to critical remarks which -- at that point -- were based only on the theoretical structure of the command organization.

But the practical execution of the air landing operation exceeded by far the reservations expressed in that criticism.

It cannot be denied that, in the actual accomplishment of the operation, neither genuine tactical thinking nor strategic planning played any real part.

It is true that the body of experience gained from the employment of paratrooper and air landing units during the previous course of the war was relatively small; nevertheless, this employment had brought a certain amount of theoretical knowledge. Above all it should have led to clear recognition of the fact that a tight concentration of all the elements participating in an air landing operation under a single, unified command was a sine qua non for its success.

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26 - See Appendix 42.

However, as is indicated by the chain of command in effect on 10 May 1940, this requirement was not given requisite consideration.

The identification of commanding general and division commander in one person -- and this in a situation in which neither command post was adequately equipped with signal communications facilities for the transmission of orders -- resulted in the elimination of the commanding general as such on the very first day. Consequently, in his remaining capacity as division commander, his influence was limited to the tactical units operating in the area whose activity he could follow personally, in other words in an area in which he himself might be commanding a number of battalions. But this was not really his mission.

Ideally the commanding general should have had his command post in the rear, so that he could direct the operations of his two air landing divisions at long range, while directing the employment of his flying units, both "air assault" and "air cover" units, at short range, depending upon the developments in the air and ground situation.

Once the ground situation in the enemy territory had been clarified, then would have been the time to move the command post responsible for overall operational orders forward into the operational area.

But in any event, one prerequisite for effective command both at long and at short range is adequate communications facilities (in this case, radio and aircraft), not only for the command element (the corps) but also for the fighting

troops (divisions). The obvious lack of a communications system capable of functioning smoothly under all conditions meant that the air landing operation had to get along without a unified and tightly-knit command from the very beginning.

If the commanding general was to be responsible for directing the early stages of the operation from the rear, then it was all the more important that the 7th Air Division, out in front, should have had its own commander and operations staff.

If, however, the commanding general should decide to direct operations from the advance position -- as was the case in Holland -- then an energetic deputy, armed with adequate authority, was urgently needed in the rear in order to regulate the employment of the air assault units and air cover units in accordance with the plans and directions of the commanding general and, above all, to schedule the commitment of the air transport units in bringing up troops and supplies.

Not a single one of these requirements was met by the command system actually used. Nor was there any way in which their lack could be compensated for by improvisation.

It is easily understandable from both the human and military points of view that General Student should have wished to take over the tactical command at the "front" -- which he carried out with exemplary personal initiative. But the result was that, by so doing, he eliminated himself as strategic commander of the operation[27].

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27 - The author's views in this connection are substantiated, though somewhat more cautiously, by Feldmarschall Kesselring (op. cit., page 72), at that time commander in chief of the Second Air Fleet.

A further inevitable result was that the Second Air Fleet, as superior headquarters, was forced to intervene more and more in the detailed conduct of the air landing operation, without being adequately oriented on the detailed developments at the scene of action and without always being in a position to intervene effectively. By the time the Second Air Fleet intervened in the "Rotterdam affair", it was already too late.

Reviewing the situation critically, one comes to the conclusion that the command system broke down in the case of the air landing in Holland, not because of personal inadequacy but because of the obvious defects in the command organization itself.

It has proved to be one of the prerequisites for the proper conduct of an air landing operation that the officer in charge be familiar with the methods of employment of both the armed forces branches involved. This prerequisite was fully met in the case of General Student.

In the lower echelons, however, this was not always the case! The 7th Air Division (including the Army's 16th Infantry Regiment) had become accustomed to working with the active air transport units of the Luftwaffe, and the coordination between these two elements functioned smoothly.

In the case of the Army's 22d Infantry Division (Air Landing), the situation was considerably less favorable; the regiments of this Division had not been given adequate training or practice to fit them for their role as an air landing force. And the 2d Special Duty Bomber Wing, assigned to provide air transport services for the 22d Infantry Division, had

had just as little training and practice. The Special Duty Wing was made up of aircraft and crews recruited at the last minute from the pilot training schools and the Lufthansa. It had had no practice whatsoever designed to fit it for its mission, and was entirely without any point of contact with its "passengers". No matter how efficient and experienced the commanders and the pilots of the Wing were, and how ready for action and well-prepared for tactical ground operations the Army's air landing units were, the difference between the results achieved by the 7th Air Division and those achieved by the 22d Infantry Division (Air Landing) was undoubtedly due in great part to the fact that the two divisions were fundamentally different in respect to their previous training and experience.

And this in turn implies the requirement that the air transport units and the ground operation units to be transported must represent a single entity, an entity which can develop only as a result of long coordination. Moreover, experience has shown that the air transport units must be made subordinate to the tactical commander of the ground operation for the duration of their joint action.

This presupposes that the tactical commanders of the ground operation must be so well trained in "air force matters" that they are thoroughly familiar with the conditions governing the employment of flying units, even when the latter are participating in an air transport action only.

As we have indicated, these prerequisites were met in the case of General Student; in the case of the commander of the 22d Infantry Division -- through no fault of his own, they were not.

Our criticism so far has been directed against the command system and has been restricted to the organizational and functional defects which influenced the preparation and accomplishment of the air landing operation. Any attempt to investigate tactical errors would go far beyond the bounds of this study.

Nevertheless, as has already been stated -- success is decisive. And in spite of all the defects in tactical leadership, a strategic success was achieved. This was due less to effective leadership than to the fighting troops themselves, who demonstrated a high degree of courage and indomitable ingenuity in on-the-spot improvisation. Their behavior is all the more admirable in view of the fact that only a fraction of the force originally slated for employment actually arrived in the area of operation.

But apart from this, the basic premise of all effective leadership is the ~~eff~~ smooth functioning of the technical, i.e. signal communications, channels of command. In this respect, too, as we have mentioned before, the difference in the equipment and training of the two divisions resulted in a situation in which the 22d Infantry Division was at a disadvantage.

It is one last prerequisite for effective conduct of the operation that the preliminary reconnsissance of potential air landing areas must be so accurate that flight mishaps due to purely technical factors are -- to all intents and purposes -- eliminated entirely. The 7th Air Division had at its disposal a thoroughly suitable landing area (Waalhaven), despite the fact that enemy interference had to be anticipated. The 22d Infantry Division, on the other hand, was distributed over three separate landing points, all of which were to prove totally unsuitable as landing fields for large and heavily laden aircraft.

In this case, however, the blame cannot be placed upon the troop-level commanders, but must be assigned to the top-level command responsible for the long-range preparation of an operation on such large scale. There can be no doubt that the top-level command was guilty of sins of both omission as well as commission. On the other hand, sins of this type can never be omitted entirely since so many of the factors determining the selection of a landing field are subject to variation -- ease of approach, which often varies depending upon the season of the year; the vegetation surrounding the area; weather conditions; and -- last but not least -- the activity of local enemy forces.

VIII. ~~The Significance of the Initial Success for the Overall Operation~~

The factors leading to the decision to capture Holland have already been discussed elsewhere. In summary: either Holland would become an advance Continental base for Great Britian's conduct of operations, in which case it would represent a grave threat to the highly vulnerable Ruhr District, Germany's vital nerve; or Holland would be integrated into the German operational camp, in which case it would provide not only a shield for the Ruhr District but also a base from which Germany could carry the air offensive to the British Isles and, attacking from the northern flank, to France.

Germany's military leaders chose the second of these two alternatives. The only problem which remained to be solved was just how the Dutch fortress could and should be taken most rapidly and held most firmly.

A purely Army operation designed to capture and occupy Holland, whose terrain was particularly favorable for defensive operations, would have required a great deal of time and considerably stronger forces than were at the disposal of the relatively weak German Eighteenth Army. A frontal attack against a numerically superior enemy could not have been avoided. The gain in time would have favored the other side; a unified air and ground front stretching from the Zuyder Zee to the Maginot Line would have been comparatively easy to stabilize and hold.

The air landing operation, on the other hand, succeeded within three decisive days in capturing Fortress Holland from within, in tying down a very strong enemy force inside Holland, and in drawing off additional enemy forces from the French-Belgian assembly and operations area. Moreover, the surprise and shock which it caused had a decisively detrimental effect on the fighting morale of all the Western powers. Lastly, it brought the vitally important north-south communications lines firmly into German hands. In summary, the air landing action achieved the following results:

1) It was the air landing operation which made it possible for the German right offensive wing, the Eighteenth Army, to emerge victorious in ground operations against a numerically superior enemy force in an unexpectedly short time.

2) The shock to enemy morale, coupled with the military success of the air landing operation, paralyzed the will to resist of the Dutch Army. Its capitulation, which meant the elimination of a strong fighting force from the Allied camp, was a direct result of the German landing. An entire German army was freed for operations elsewhere.

3) The air landing action created the prerequisites for further Army operations, in that it made possible the planning and execution of the large-scale encirclement maneuver which led to the battles of Flanders and Artois.

4) The capture of the decisive north-south communications routes (the bridges at Moerdijk, Dordrecht, and Rotterdam) not only made

these operations possible, but also secured a route for the vitally important transport of supplies via Holland to the front lines in Belgium and northern France.

5) As a result of the air landing action, Holland's well-equipped network of airfields (it was only within Fortress Holland itself that this network was rather thin) was at the disposal of the German Luftwaffe. This was important not only for the later air offensive against England, which had been planned from the very beginning, but also for the more immediate air support of the decision-seeking offensive against France, soon to be launched.

Without doubt, success of such far-reaching strategic scope as this justified the employment of a valuable and unique "surprise weapon". The results achieved even justified the heavy losses in personnel and materiel. It must not be forgotten, however, that the loss in air transport capacity made itself felt for years afterwards.

4. ~~The Air Landing Operation Against Fort Eben Emael and the Bridges over the Albert Canal Facing the Position of the German Sixth Army~~[28]

This special operation had no tactical connection whatsoever with the air landing in Fortress Holland. Nevertheless, the two undertakings supplemented one another in the achievement of a common strategic goal[29].

If the German Sixth Army should be unable to force a rapid breakthrough through the Belgian border fortifications line between Maastricht and Fort Eben Emael, a terrain which was extremely difficult to take due to the fact that it was so well suited to defensive operations, then it would be unable to penetrate quickly enough into the depths of the Belgian operational area to contain the strong Belgian force already deployed there.

In turn, if the Sixth Army failed to achieve this first mission -- or managed to achieve it only after some delay, then the advance of the Eighteenth Army into Fortress Holland would be placed in jeopardy. This would mean the isolation of the air landing operation, since there would be no possibility of its being relieved in time. In other words, it would have to be completely abandoned. And the Belgian Army, reinforced in the meantime by the Anglo-French armies from the Allied left wing, would have gained the freedom to operate. The potential effects of a development of this kind

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28 - In order to understand the material in this section, the reader should have a map of the Maastricht-Liege area at hand. No special map has been included in this study. For further details, the reader is referred to the maps contained in the special study by Pissin.

29 - See the map in Appendix 43.

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on the course of the German breakthrough operation in the middle defied contemplation.

It was to be the mission of the air landing operation, which was launched directly opposite the front of the Sixth Army, to smooth the way, in other words to enable the Sixth Army to bring a strong force to bear in a rapid breakthrough through the natural and man-made border fortifications.

As we have seen in Section 2 of this Chapter, this subordinate plan had been a part of the overall planning for an air landing operation from the very beginning, and it was not affected by the many subsequent changes made in the overall plan. As a result, detailed preparation of the Eben Emael action could be carried out on a long-range basis. The initial success of this operation, too, was based on the surprise factor, coupled with the employment of a completely new combat instrument -- the freight gliders as a transport fleet, and the "hollow charge" as an offensive weapon.

Here, again, we must refer to the special study on the employment of air landing forces[30] for an evaluation of the preparation, execution, and success of the operation. The special study contains detailed information on the tactical and technological aspects of the action, and there is no need to repeat this information within the framework of the present study. Our task here will be to present a brief summary of its effects.

Utilizing a force made up of fourteen infantry and two Panzer divisions, the Sixth Army was to break through on both sides of Maastricht in order to create the impression

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30 - See the introduction to this study, footnote 3.

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that a point of main effort on the Western front was being developed. Everything depended upon the achievement of a rapid success.

The most serious obstacle to such rapid success was Fort Eben Emaal, which flanked the entire assembly area of the Belgian forces and which represented the most modern point along the whole Belgian border fortifications line. The Fort lay only a few miles south of the Dutch city of Maastricht, high above the Albert Canal, which -- both at this point and further north -- flowed through a deep-cut channel and thus represented a difficult man-made obstacle.

It was the task of the air landing operation to eliminate both of these obstacles in one surprise blow.

This surprise blow was to be accomplished by the Luftwaffe. The text of its mission was short and clear: "Capture of the bridges over the Albert Canal at Veldewezelt, Vroenhofen, and Canne, and the elimination of Fort Eben Emael as a combat factor."

The commander of the Air Landing Corps, General Student, who had been placed in charge of the preparation and coordination of both air landing operations, was able to spare only 500 troops from his paratrooper units for the Eben Emael undertaking. Given the designation Assault Detachment Koch (Sturmabteilung Koch), this group was tactically, i.e. operationally subordinate to General von Richthofen's VIII Air Corps, whose task it was to support the operations of the Sixth Army.

If the traditional system of transporting paratroopers to their target, i.e. by means of engine-propelled aircraft, were used, there would be the

danger that the Belgian bridge sentries near the border might be alarmed in time to blow up the bridges and that the garrison at Fort Eben Emael might have time to prepare its defenses and thus be in a position to intervene in the operation. For this reason, Luftwaffe leaders had decided to utilize noiseless freight gliders as the means of transport. After being towed for a short distance, they could be released just before the border, to continue their gliding flight to the target area, noiselessly and -- under cover of darkness or dusk -- also invisibly.

Thanks to the months of careful work in which the action was rehearsed in all its details, it succeeded in nearly all respects.

The bridges at Veldewezelt and Vroenhofen fell into the hands of the paratrooper force completely undamaged; during the course of the battle to capture those at Canne, however, the Belgians managed to blow them up.

Fort Eben Emael was seized from the air by the assault group Witzig (Sturmgruppe Witzig), which consisted of only eighty-three men, and by dint of heavy fighting, the assault group was able to hold the surface installations of the Fort. The new hollow charge explosive ammunition succeeded in eliminating the gun towers and observation posts of the Fort from without. Early in the morning on 11 May, the paratroopers were relieved -- in a situation which had become critical in the meantime -- by advance Army elements. The 1,200 troops which made up the garrison of the Fort, after having been held at bay for twenty-four hours by eighty German paratroopers, surrendered.

By means of almost ideally coordinated operations by the Army and the Luftwaffe -- the attacks carried out by the VIII Air Corps made a valuable contribution to the success of the undertaking -- Fort Eben Emael, hewn out of natural rock and hitherto considered unassailable, had been taken; it no longer represented a threat to the advance of the Sixth Army over the two captured bridges lying to the north of it.

The divisions of the Sixth Army were able to penetrate into the depths of the Belgian operational area, and the southern flank of the Eighteenth Army was secured, so that the 9th Panzer Division could advance to relieve the Air Landing Corps. In addition, the northern flank of Army Group A was secured against attack from the north, so that it could proceed with its decision-seeking operations.

The conditions required for the success of the air landing operation in Fortress Holland and of the operation as a whole had been created.