WING TIPS

ENGINE RESEARCH

Issued weekly in the interests of the personnel of AERL, NACA

Vol. III *Cleveland, Ohio, November 22, 1944* *No. 3*

Dr. Lewis welcomes General Arnold at NACA's Cleveland Laboratory

A.A.F. CHIEF TELLS STAFF OF DUAL TASK

Commanding General Henry H. Arnold Outlines Background Of Air Power In Talk To Employees

"Ahead of the world in the air" is the goal visioned for the United States by General Henry H. Arnold, Commanding General of the Army Air Force.

In a talk to AERL employees assembled in the Hangar on Thursday, November 9, he challenged: "You've got a dual task. You've got a job ahead of you to keep the Army and the Navy Air Forces

Turn to page 5.

SAVE

HEADQUARTERS, ARMY AIR FORCES
WASHINGTON

11 November 1944

Mr. Edward R. Sharp,
Manager,
NACA Engine Research Laboratory
Cleveland Airport
Cleveland, Ohio

Dear Mr. Sharp:

The interesting hours I spent with you last Thursday taught me that I had been absent far too long from your research and development activities. Nevertheless, it was reassuring to note that in all fields of engine research, you are making successful efforts, not only to overcome our present day problems, but to anticipate future requirements. I am hopeful that many of the devices I saw will be able to take their place very soon on the fighting fronts where they are most needed and I know that you are doing everything to expedite such action.

I appreciate, not only the hospitality you extended to me and my party during our visit, but also the excellent planning behind our tour of your installations. For the few hours I had available the arrangements were splendid.

Please express my appreciation to all those who participated in the various demonstrations.

With kindest personal regards,

Sincerely,

H. H. ARNOLD
General, U. S. Army
Commanding General, Army Air Forces

THANKSGIVING MENU STARS ANOTHER WAR-WORK HOLIDAY

With the staff voting to work from 7:00 a.m. to 3:30 p.m. on Thanksgiving Day - mayhap with one eye on the clock and thoughts on dinner - the Cafeteria comes along with a menu guaranteed to still those thoughts during working hours.

From 10:30 on it is offering a full course turkey dinner.

Yes! TURKEY! - roast young turkey with dressing and giblet gravy. Building up the menu to the full course role are such delectable items as cranberry sauce, candied sweet potatoes, early June peas, garden salad, celery hearts and pickle slices, cloverleaf roll and beverage, and, of course, the traditional pumpkin pie, made by "Mom."

That menu is offered on the main line only. Supplementing the table d'hote service, the other line will offer a selection of salads, desserts, and other light foods cafeteria style. That's for those who are dining later, and who doubt their capacity for two dinners.

A.A.F. CHIEF AT LAB

- From page 1.

equipped with the finest equipment that you can get for this war. You also have a job of looking forward into the future and starting now those developments and those experiments that are going to keep us in our present situation - ahead of the world in the air.

"And that," he said, "is quite a large order, and I leave it right in your laps."

The words summed up a talk by the man introduced by Dr. George W. Lewis as "a member of the NACA who has had constructive influence in shaping the policies of the NACA."

Preceding the talk, the General was taken on a tour of the reservation, beginning at the Jet-Propulsion Laboratory. In the Wind Tunnel a jet-propulsion unit was being tested, permitting a demonstration of the test procedure used for the unit.

A B-24 airplane research demonstration was conducted in the Hangar, the party then going to the Engine Research Building where test cells devoted to research on preignition, and combustion apparatus were visited.

Other cells were inspected following lunch, demonstrations of lean-mixture operation of a single-cylinder engine, and of the carburetor bar for the B-29 being given.

A visit to the Icing Research Building, and a brief conference concluded the tour, and General Arnold then talked to the employees.

Limited time necessitated some omissions in the schedule as originally planned.

On Thursday, November 9, 1944, General Henry H. Arnold, Commanding General of the Army Air Force, addressed Laboratory employees in the Hangar. Manager Sharp introduced Dr. George W. Lewis, Director of Research, who in turn introduced the General.

I think that you people here are entitled to a little bit of background on this thing that we call air power. I think it will better enable you to do your mission here at the Laboratory. I am not a stranger to the NACA activities, in spite of the fact that this is my first visit to the Cleveland Laboratory. I have been following the work of the NACA for a long time; I watched them ever since the last war. I have been instrumental in giving you various problems that confronted us in the operating side of the Air Force. We in the Air Force are duly appreciative of what you have done for us, how you have made it possible for us to use to greatest advantage and with more efficiency our airplanes, the engines, and the component parts which make up those airplanes and engines. When we get stuck in a development problem; when we look forward into the future and try to anticipate the activities of some other nation, or to be ready for developments of the future, we normally go to the NACA and ask you people to do that work for us. And we are very grateful for your whole-hearted efforts and your cooperation with us.

If you think back to the last World War, you will see that the air arm at that time didn't play a very important role. Nobody knew exactly how they were going to use it. We dropped a few bombs, shot down a few enemy planes, we did a little observation work. But what air power really was, no one knew. General Billy Mitchell had more advanced ideas on the subject in this country than anybody else. Trenchard over in England had his ideas, and they came very close to those of Mitchell. But during the years that passed between 1919 and 1944, the airplane developed. It grew up. It wasn't a device in 1940 that was tied to the ground because there was too much wind or because the weather was bad. The airplane became an honest-to-God weapon of war.

But how to use that weapon - that was something else again. The Germans started out with their Luftwaffe with the impression that they could take that Luftwaffe, operating with their army, Hitler's strategic objectives in back of the opposing army, deprive that opposing army of its communications, of its supplies, and make it immobile; and as soon as that other army became immobile, then the German army could chew it up in piecemeal. And that is what they did with their blitz forces when they went through Czechoslovakia, Poland, Belgium, France, Holland, and tried the same thing against the Russians, with this difference - in between they tried to conquer Britain from the air.

They didn't realize that numbers of planes alone do not give you air power. They didn't realize that in order to have that air power, you must maintain a constant strength so that when the other fellow loses planes, loses crews, your air force is just as strong as it was when you started. So that after the Battle of Britain, when the German air force looked over their missions and they found that they had not licked the Royal Air Force.

They had greatly decreased the strength of the Royal Air Force, but at the same time they had lost a great many more airplanes themselves than they could replace.

And then, for some reason or other, they changed their whole policy with regard to the employment of their air arm, and they tied it to their Army. They made it a component part of the Army, practically, to all intents and purposes. They forgot that the reason they had been able to move so swiftly through the other countries they conquered was because they had used their strategic air arm in the destruction of those objectives far beyond the reach of the army - objectives so essential to the movements of the other fellow's army.

And then Germany went against Russia with their air arm still tied to their army. In my opinion, that was the turning point in the conquest of Germany. No longer could they carry the war beyond the frontiers of the other fellow's country. The Royal Air Force, through necessity, was built around the defense of the British Isles. The Japanese air force started out with the idea of having a strategic air force, as they quite well demonstrated in their attack on Pearl Harbor. They also used the same principles when they moved with that relentless army and navy and air arm of theirs, down through the Philippines, through the Celebes Borneo, through Burma, Java - until they had us worried whether or not they were not going to go down and take Australia, too.

We in the United States had doctrines, principles, and we had a technique for the employment of our very small air force. We had planes that were as good as any in the world, but because we were denied the information as to the equipment of those airplanes, we weren't ready to put them in combat. Once we got that information, our airplanes were just as good - and in many cases better than - any other nation had. In spite of that fact, you all remember that period we went through when the columnists and the radio commentators were all taking a pot-shot at us and asking, "Why doesn't the Army Air Force build airplanes as good as the Japanese Zeros, as good as the Messerschmidts, or the Focke-Wulf 190?" You people here at the Laboratory know as well as our people that once we got our hands on those airplanes, we found that they were really, some of them, very mediocre planes. As one of my pilots said after he had flown the Jap Zero for the first time: "It's a fine Sunday afternoon airplane, but I feel awfully sorry for anyone who has to use it in combat."

So all we had to do then was to get the numbers and apply the normal improvements to our own airplanes, to get in the combat, and attain superiority in the air. We knew that with our bomb sight we could do precision bombing. We also knew that we were a match for any air force in the world when it came to fighting in the air. We knew that we had the youth of America - outstanding young men, who are head and shoulders above any other air men in the world. So we had no fear of that. It was just a question of applying the principles that we had been teaching, determining, finding out during that long period when we were sort of starved for lack of funds and could not build up an air force.

The first time we met the Japs on equal terms, we found out this, that the Jap is a creature of habit. If he comes in over this particular hill and down this particular route on Monday, you could expect him to dome down that

same route on Tuesday, Wednesday, and Thursday. And all you have to do is to make your arrangements accordingly, and you can knock down every airplane that he has on Tuesday, but if he has any left at all back there, he will still come back the same way on Wednesday. We also found that the Jap is not a very versatile flier, he hasn't initiative. He has determination; he is fearless, and he will fight to the death. But fearlessness and determination aren't sufficient when you meet the very versatile young men of the United States with all their initiative and imagination. So today you find the Japanese air force turning out large numbers of airplanes, sending them down for many months along their supply lines to the various isles in the Pacific. And each one of their airdromes in turn completely bombed out, airplanes destroyed, and then probably by-passed, when the Japanese put up a new line, and we go through the same thing as before. Their losses were terrific; they have lost their best group commanders and squadron commanders, and flight leaders. And when we by-passed their airdromes, they lost their maintenance personnel, until today the story of Halsey's raid over Luzon gives better than I can what has happened to the Japanese air force. They have the desire; they have the number of airplanes; but they haven't the "know it." And they lose airplanes by the hundreds.

Now let's go to the German air force. They are much more imaginative. They are smarter than the Japs. We were told that we couldn't take our day bombers into the interior of Germany. We were told that if we did take them in there, the Germans would fight us. And our answer to that was that if they "don't fight us, we will go in and bomb Berlin every day until they have to fight us, because we can put into the air an air force in numbers, and maintain those numbers, than the Germans can."

We have a system for training our pilots which enables us to turn out pilots in ever increasing numbers. We have industry in the United States that enables us to turn out airplanes at least five times as fast as the Germans can. And we have the theoretical knowledge in the United States to enable us to turn out better airplanes than the Germans can.

Now, how does this work out? We set about destroying those things in Germany which would do the most harm to the German fighting machine - ball bearings. When we hit the first ball-bearing plant, the Germans didn't readt very strongly; but when we hit it the second time and cut their ball-bearing production down to 30 per cent below normal, they became worried. So when we went in after it the next time, we had the whole might of the German air force waiting for us, and our losses were very heavy. But the German ball-bearing works was no more. We hit the other ball-bearing works in Berlin, and in Paris, etc. We did the same thing with their synthetic rubber. We did the same thing with their transportation; we did the same thing with their oil. We hit Poesti in Roumania many times until finally there was nothing left of the refineries at Poesti, and Germany was denied practically all of its natural oil supply.

Then we began hitting the synthetic plants one after the other. We found they needed power, so the R.A.F. and the A.A.F. went after their dams from which they got their power, until today Germany's only got 25 per cent of its normal power in the Ruhr. We found out that for transportation, when we had destroyed their railroads, and they didn't have the gasoline for the trucks, they were using the canals, so we picked out critical points or aqueducts and blew out the sides of those canals, until as a result you find

barges by the score lying in the mud, unable to move.

All of those things affected the German air force, and then when we blasted the factories that produced them, it had its effect upon their fighting ability. So as time went by, there were many occasions when our fliers went into Germany and came back without being attacked by a single German airplane. When we landed on the beaches of Normandy, that was a wonderful opportunity for the German air force, if it had the wherewithal, to do what a normal air force would do to demonstrate its might - over 5,000 ships of one kind or another in the harbors in Southern England - and not a single German airplane came over there. That wasn't by happen-chance. It wasn't luck. And when the actual movement over the Channel took place - 4,000 boats a day without a single German airplane attacking - a bomber's dream - and not a single bomber! It wasn't accident that all the bridges were out over the Seine and over the Louvre at the time Patton made his break-through. It wasn't accident that there hadn't been a train or a motor convoy move into that section of northwestern France for many days prior to Patton's break-through.

What happened to the German air force? Today, paradoxical as it may seem, they have more airplanes than they have ever had in their history, and yet time and time again we go in there without a single German airplane coming up to stop us. I'll tell you what happened to them. When we hit their oil, they began to cut down on the use of oil. And when they cut down on the use of oil, they had to cut down on the flying hours of their airplanes, they had to cut down the movements of their trucks so they couldn't get the supplies. And it wasn't long before they were in such straitened circumstances that the number of pilots that they could train was not equal to their attrition. So today you find the German air force so short of pilots, and so short of oil, that they can't fly the planes they have sprinkled all over Germany. I give you these facts so that you have the background of what our air force has been doing.

We had, when we hit the swarms of fighters, to increase the range of our fighters, increase them to such an extent that they could go all the way into Germany with their bombs. That meant a re-design of these airplanes. The Germans weren't asleep. Their minds were still working. So you find them coming out with the buzz-bomb, and the rocket, and the jet-propelled airplane. As you all know, we have been working on the buzz-bomb, working on the jet-propelled airplane - and we've done pretty well with them. But they were in a position where they can use them.

The Germans are going to fight - the same as the Japs - as long as they have a man left to fight, just so long as their fanatic leaders have the bluff on them they have now. When the time comes that they fear our bombers, when they fear what's going to happen to them as a result of our constant hammering on the ground and in the air more than they do their fanatical leaders, that is when the Germans are going to break up internally.

And that is our job - to carry our bombing missions into Germany in ever increasing numbers, until they are so scared of what's going to happen to them from the air that they are willing to throw up the sponge and say "We quit."

Now just one word about your work here. You've got a dual task. You've got a job ahead of you to keep the Army and the Navy air forces equipped with the finest equipment that you can get for this war. You also have a job of looking forward into the future and starting now those developments and those experiments that're going to keep us in our present situation - ahead of the world in the air.

And that is quite a large order, and I leave it right in your laps.

Transcript of General H.H. Arnold's Speech to AERL

November 9, 1944

General Henry H. Arnold, Commanding General of the Army Air Forces, addressed employees of the AERL at the Hangar on Thursday, November 9, 1944, at 4:00PM. After a few introductory remarks by E.R. Sharp, Manager of the Cleveland Laboratory, and Dr. George W. Lewis, Director of Aeronautical Research, NACA, and General Arnold spoke as follows:

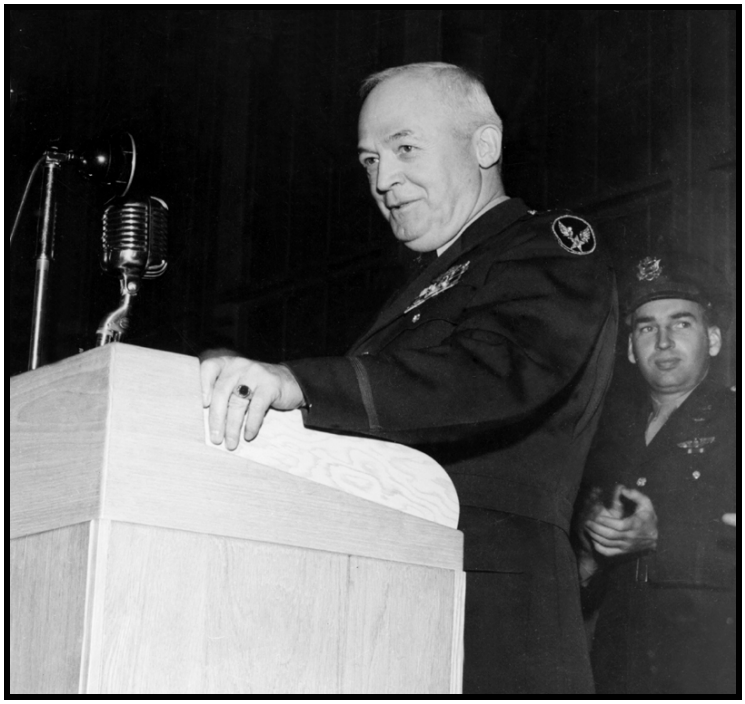


Image: C1944-07496

You know, Doctor, after looking over my audience, I'm going to give my prepared speech back to Captain Sheffield, and if you want it for your record, you can ask Captain Sheffield for it and I am sure he will be glad to give it to you. Now, on with the show!

I think that you people here are entitled to a little bit of background on this thing that we call air power. I think it will better enable you to do your mission here at the laboratory. I am not a stranger to the NACA activities, in spite of the fact that this is my first visit to the Cleveland laboratory. I have been following the work of NACA for a long time; I have watched them ever since the last war. I have been instrumental in giving you various problems that confronted us in the operating side of the air forces. We in the air forces are duly appreciative of what you have done for us; how you have made it possible for us to use the greater advantage and with more efficiency our airplanes, the engines, and the component parts that make up those airplanes and engines. When we get stuck in a development problem; when we look forward into the future and try to anticipate the activities of some other nation, or to be ready for the developments of the future, we

normally go to the NACA and ask you people to do that work for us. And we are very grateful for your whole-hearted efforts and your cooperation with us.

If you think back to the last world war, you will see that the air arm at that time did not play a very important role. Nobody knew exactly how they were going to use it. We dropped a few bombs, shot down a few enemy planes, and did a little observation work. But what air power really was, no one knew. General Billy Mitchell had more advanced ideas on the subject in this country than anybody else. Trenchard over in England had his ideas, and came very close to those of Mitchell. But during the years that have passed between 1919 and 1944, the airplane developed; it grew up. It was not a device in 1940 that was tied to the ground because there was too much wind or because the weather was bad. The airplane became an honest to God weapon of war.

But, how to use that weapon—that was something else again. The Germans started out with their Luftwaffe with the impression that they could take that Luftwaffe, operating with their army, hit the strategic objectives in back of the opposing army, deprive that opposing army of its communications, of its supplies, and make it immobile; and an soon as that other army became immobile, then the German army could chew it up in piecemeal. And that is what they did with their blitz forces when they went through Czechoslovakia, Poland, Belgium, France, Holland, and tried the same thing against the Russians, with this difference—in between they tried to conquer Britain from the air. They did not realize that in order to have that air power, you must maintain a constant strength, so that when the other fellow loses planes, loses crews, your air force is just as strong as it was when you started. So that after the Battle of Britain, when the German air force looked over their missions, they found that they had not licked the Royal Air Force. They had greatly decreased the strength of the Royal Air Force. They had a greatly decreased the strength of the Royal Air Force, but at the same time they had lost a great many more airplanes themselves than they could replace.

And then, for some reason or other, they changed their whole policy with regard to the employment of their air arm, and they tied it to their army; they made it a component part of the army, practically—certainly, for all intents and purposes. They forgot that the reason they had been able to move so swiftly through the other countries they conquered was because they had used the strategic air arm in the destruction of those objectives far beyond the reach of the army—objectives so essential to the movements of the other fellow's army.

And then Germany went against Russia with their air arm still tied to their army. In my opinion, that was the turning point in the conquest of Germany. No longer could they carry the war beyond the frontiers of the other fellow's country. The Royal Air Force, through necessity, was built around the defense of the British Islands. The Japanese air forces started out with the idea of having a strategic air force, they quite well demonstrated in their attack on Pearl Harbor. They also used the same principles when they moved with that relentless army and navy and air arm of theirs, down through the Philippines, the Celebes, Sumatra, Borneo, Java—until they had us worried whether or not they were not going down and take Australia, too.

We in the United States had doctrines, principles, and we had a technique for the employment of our very small air force. We had planes that were as good as any in the world, but because we were edited the information as to the equipment of those airplanes, we were not ready to put them in combat. Once we got that information our airplanes were just as good as – and in many cases better than any that any other nation had. In spited of the fact, you all remember that period we went through when the columnists and radio commentators were all taking a pot-shot at us and asking, "Why doesn't the Army Air Force build airplanes as good as the Japanese Zeros, as good as the Messerschmitts, or the Focke-Wulf 190?" You people here at the laboratory know as well as our people that once we got our hands on those airplanes, we found they were really—some of them—very mediocre planes. As one of my pilots said after he had flown the Jap Zero for the first time---"It's a fine Sunday afternoon airplane, but I feel awfully sorry for any one who has to use it in combat." So all we had to do then was to get the numbers and apply the normal improvements to our own airplanes, to get in the fight in a big way, and attain superiority in the air. We knew that with our bomb sight, we could do precision bombing; we also knew that we were a match for any air force in the world when it came to fighting in the air; we knew we had the youth of America—outstanding your men, who were head and shoulders above any other air men in the world. So we had no fear of that. It was just a question of applying the principles that we had been teaching, determining, finding out during that long period when we were sort of starved for funds and could not build up an air force.

The first time we met the Japs on equal terms, we found this—that the Jap is a creature of Habit. If he comes in over this particular hill and down this particular route on Monday, you can expect him to come down that same route on Tuesday, Wednesday, and Thursday. And all you have to do is to make your arrangements accordingly. And you can knock down every airplane he has on Tuesday, and if he has any left at all back there, he will still come back the same way on Wednesday. We also found that the Jap is not a versatile flier; he hasn't initiative. He has the determination; he is fearless; and he will the fight to death. But fearlessness and determination are not sufficient when you meet the very versatile young men of the United States, with all their initiative and imagination. So today you find the Japanese air force turning out large numbers of airplanes, sending them down along their supply lines to the various islands in the Pacific; and each one of their airdromes in turn completely bombed out, airplanes destroyed, and then probably bypassed. When the Japanese put up a new line, we would go through the same thing as before. Their losses were terrific; they lost their best group commanders, squadron commanders, and flight leaders. And when we bypassed their airdromes, they lost their maintenance personnel, I possibly can picture of what has happened to the Japanese air force. They have the desire; they have the number of airplanes; but they haven't the "know." And they lose airplanes by the hundreds.

Now, let's go to the German air force. They are much more imaginative; they are smarter than the Japs. We were told that if we did take them in there, the Germans would not fight us; and our answer to that was that if they don't fight us we will go in and bomb Berlin everyday until they do fight us, because we can put into the air on air force in

greater numbers, and maintain those numbers, than the German can. We have a system for training our pilots which enables us to turn out pilots in ever increasing numbers. We have an industry in the United States that enables us to turn out airplanes at leas five times as fast as the Germans can. And to have the theoretical knowledge in the United States to enable us to turn out better airplanes than the Germans can.

Now, how does this work out? We set about destroying those things in Germany which would do the most harm to the German fighting machine—ball bearings. We hit the first ball bearing plant, the Germans cut their ball bearing production down to 30 percent below normal, they began to worry. So when we went in the next time, we had the whole might of the German air force waiting for us, and our losses were heavy; but the German ball bearing factory at Schweinfurt was no more. Then we hit the other ball bearing factories in Berlin, in Paris. We did the same thing with synthetic rubber; we did the same thing with their transportation; we did the same thing with their oil. We hit Plossti in Romania many times until finally there was nothing left of the refineries at Plossti, and Germany was denied practically all of its natural oil supply. Then we began hitting the synthetic plants one after the other. We found they needed power, so the RAF and the AAF went after their dams from which they got the power, until today Germany is only getting 25 percent of its normal power in the Ruhr. We found out that their transportation, when we destroyed their railroads and they did not have the gasoline for their trucks, was by using canals. So we picked out critical points on aqueducts and blew the side down on the canal, with the result that you find barges by the score, lying in the mud, unable to move.

When we landed on the beaches of Normandy, that was a wonderful time for the German air force, if it had the wherewithal, to do what a normal air force would do to demonstrate its might—over 5000 ships of one kind or another in the harbors in Southern England—and not a single German airplane came over there. That wasn't by happenchance—it wasn't luck. And when the actual movement over the channel took place—4000 boats a day, without a single German airplane attacking; a bomber's dream—and not a single bomber. It wasn't accident that all the bridges were out over the Seine and the Louvro at the time Patton made his breakthrough. It wasn't accident that there hadn't been a train or a convoy move into that section of northwestern France for many days prior to Patton's breakthrough.

What happened to the German air force? Today, paradoxical as it is seen, they have more airplanes than they have ever had in their history; and yet time and time again we go in there without a single German airplane coming up to stop us. I will tell you what happened to them. When we hit their oil, they began to cut down on the use of oil; and when they cut down on the use of oil, they had to cut down on the flying hours of their airplanes; they had to cut down the movements of their trucks, so they could not get the supplies; and it wasn't long before they were in such straitened circumstances that the number of pilots they could train was not equal to their attrition.

So today you find the German air force so short of pilots, and so short of oil, that they cannot fly the airplanes they have sprinkled all over Germany. I give you the facts so that you will have the background of what our air force has been doing.

We had, when we hit these warms of fighters, to increase the range of our fighters, to increase them to such an extent that they could go all the way into Germany with the bombers. That meant a redesign of these airplanes. The Germans were not asleep; their minds were still working; so you find them coming out with the buzz-bomb, the rocket, and the jet-propelled airplane. As you all know, we have been working on the buzz-bomb and the jet-propelled airplane—and we've done pretty well on them. But they are in a position where they can use them.

The Germans are going to fight—the same as the Japs are—as long as they have a man left to fight—just so long as their fanatic leaders have the bluff on them they have now. When the time comes that they fear our bombers—when they fear what is going to happen to them as a result of our constant hammering on the ground and in the air—more than they do their fanatic leaders—that is when the Germans are going to break up internally.

And that is our job—to carry our bombing missions into the Germans in ever increasing bombers, until they are so scared of what is going to happen to them from the air that they are willing to throw up the sponge and say, "We quit."

Just one word about your work here. You've got a dual task. You've got a job ahead of you to keep the army and the navy air forces equipped with the finest equipment that you can for this war. You also have the job of looking forward into the future and starting now those developments, those experiments, that are going to keep us in our present situation—ahead of the world in the air. And that is quite a large order, and I leave it right in your laps.

File from NASA Headquarters History files: "NASA Lewis—General—1941-59", File No. 4859.

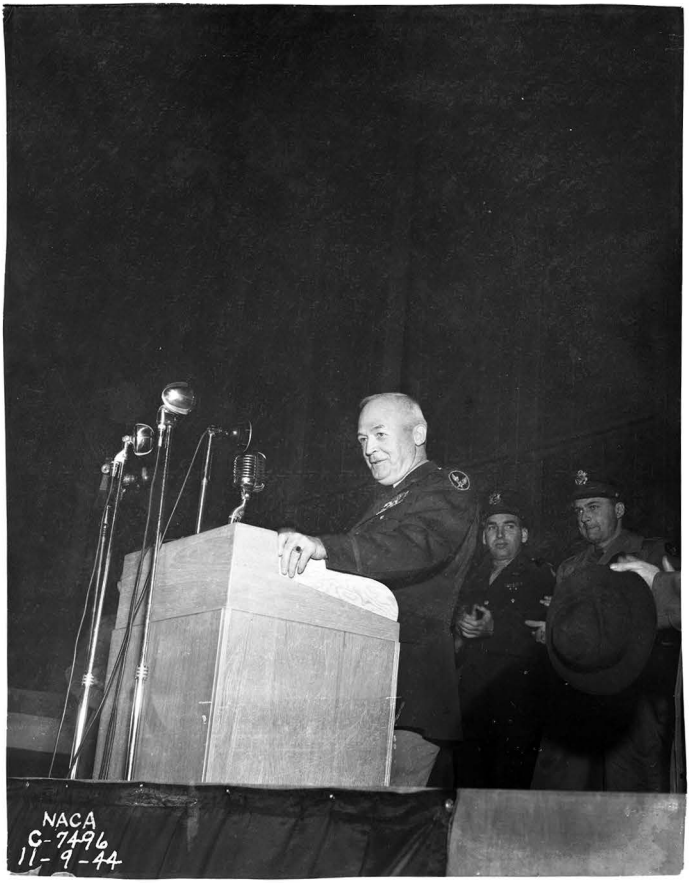

NACA
C-7491
11-9-44


NACA
C-7402
11-9-44


NACA
C-7493
11-9-44


NACA
C-7494
11-9-44

Visit of General H. H. Arnold to the Aircraft Engine Research Laboratory, National Advisory Committee for Aeronautics, Cleveland, Ohio, November 9, 1944. Dr. Lewis welcomes the General.

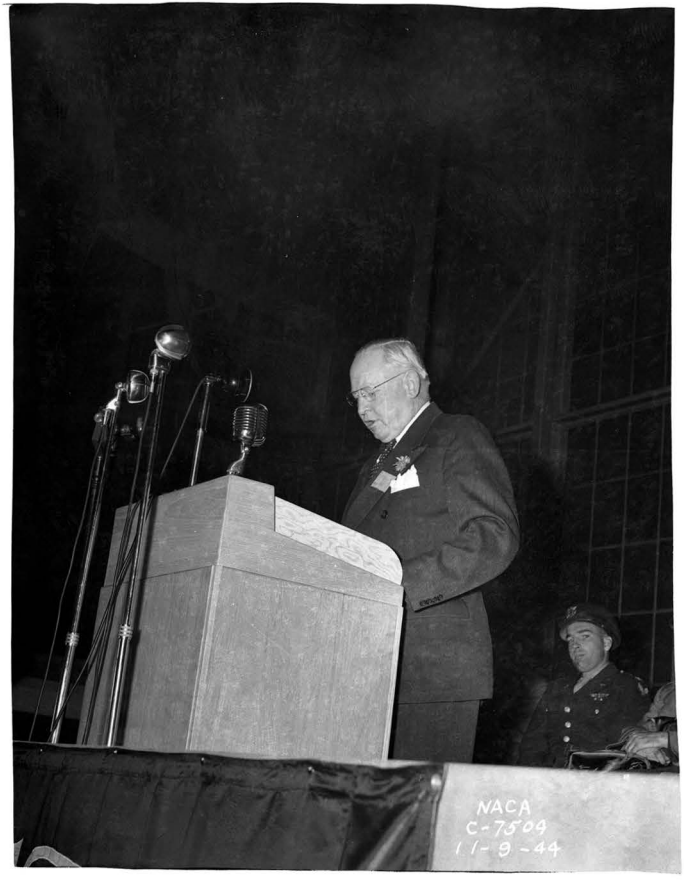


Visit of General H. H. Arnold to the Aircraft Engine Research Laboratory, National Advisory Committee for Aeronautics, Cleveland, Ohio, November 9, 1944. The General addressing the laboratory staff.

Visit of General H. H. Arnold to the Aircraft Engine Research Laboratory, National Advisory Committee for Aeronautics, Cleveland, Ohio, November 9, 1944. The General discusses jet propulsion engines with one of the laboratory engineers.


NACA
C-7502
11-9-44

Visit of General H. H. Arnold to the Aircraft Engine Research Laboratory, National Advisory Committee for Aeronautics, Cleveland, Ohio, November 9, 1944. The laboratory staff assembled to hear the General's address.



Visit of General H. H. Arnold to the Aircraft Engine Research Laboratory, National Advisory Committee for Aeronautics, Cleveland, Ohio, November 9, 1944. Dr. Lewis introducing the General to the laboratory staff.

S HIS ALMLY

Reads His ceding

sday, Nov. 8
on his face,
early today
ctory in his
for the pres-

nen, photog-
s of the Re-
mittee clus-
he ballroom
as the gov-
of micro-
typewritten

ad made no
ce a dinner
ening, came
by aids and
m.

as she came
her husband
background
rnor went to

ment
e his short
o, Dewey re-
nefit of the
rs and re-
obtain the

from those
the couple,
ed and after
the re-read-
Some em-
l committee
the interim,

SPEAKER. The commanding general of the army air forces, Gen. H. H. (Hap) Arnold, will speak here tomorrow night at a banquet marking the 25th anniversary of the Cleveland Aviation Club.

MRS. BOLTON TO SPEAK

Cancels Washington Trip to Address Methodist Group Today

Congressman Frances P. Bolton, scheduled to return to Washington by air last night, canceled her plane reservations and stayed over in order to address the Wegonus Class of the Methodist Church of South Euclid at noon today.

The even is an annual one and is to be a luncheon, according to Mrs. Helen Moore, club secretary. Mrs. Florence MacLaglan is president of the women's class.

ARNOLD TO SPEAK TO AVIATION CLUB

Banquet Tomorrow Marks 25th Anniversary

Gen. H. H. (Hap) Arnold, commanding general of the army air forces, will be the principal speaker at the 25th anniversary banquet of the Cleveland Aviation Club in Hotel Carter tomorrow night.

"Air Power in Europe" will be the topic of Gen. Arnold's address. He will be welcomed by Mayor Frank J. Lausche.

The Cleveland Aviation Club, one of the oldest and largest groups of its kind in the nation, was formed after the close of World War I by returning fliers.

Frederick C. Crawford, president of Thompson Products, Inc., and Thompson Aircraft Products Co., will be toastmaster at the banquet.

Others at the speakers' table will include Brig. Gen. Frank Purdy Lahm, United States Army, retired; Dr. George W. Lewis, director of aeronautical research, N. A. C. A.; John F. Victory, executive secretary, N. A. C. A.; Edward R. Sharp, head of the Aeronautical Engine Research Laboratory of N. A. C. A. in Cleveland; Essington Lewis, director of munitions and aircraft for Australia; James F. Lincoln, president of the Lincoln Electric Co.; Albert J. Weatherhead, jr., president of the Weatherhead Co.; R. J. Minshall, head of Pesco Products; N. R. Howard, editor of the Cleveland News; Louis B. Seltzer, editor of the Cleveland Press, and Paul Bellamy, editor of the Plain Dealer.

Officers of the aviation club are Lee H. Peck, president; Leo J. Conway, vice-president; Martin F. McQuilkin, vice-president, and John R. Bloss, secretary-treasurer.

Scottish to Con

Going into
fall reunion a
3615 Euclid A
Rite Masons
tory, Valley o
fer on their
northern Ohi
Philosophical
(Knight of Ro
work will be
lowing busine

Robert Guil
gree Mason,
Ariel Chapter
in charge of t

Scheduled
sessions starti
Traditional an
grees will be
Erie Consistor
the Royal Se
will include t
tiff), 21st (Pat
(Chief of the
(Commander
charge of this
Ben B. Wick
Rogers, 33d; J
and Louis H.

Participating
sonae this w
band and ch
Temple of Sl
Percy, organis
Congregational
director.

Sessions wil
further degree
(Sublime Pri
Secret), will b

ARNOLD TELLS OF MIGHT OF B-29S

Aviation Club Hears How Superforts Fight Japs

(Photo on Picture Page)

BY JAMES D. HARTSHORNE

So effective is the protective armament of the B-29 Superfortresses that less than five have been lost in actual aerial combat, Gen. H. H. (Hap) Arnold, commander of the army air forces, told an audience of 1,400 attending the 25th anniversary banquet of the Cleveland Aviation Club in Hotel Carter last night.

One group of B-29s was beset by 76 Jap fighters and not only lost no planes to the Japs but suffered only 13 bullet hits in the engagement, Gen. Arnold said.

Central station control for bringing gun turrets on the Superforts to bear on enemy pursuit planes is credited for a good share of the defensive showing of the B-29s, members of the general's staff told reporters.

The staff members said the ability of the Superforts to fly at altitudes above the reach of Jap fighters was another important factor.

Japs to Feel Might

As for the offensive qualities of the B-29s, Japan will feel the same destructive effect from aerial bombs as has Germany, if we continue to bomb Japan with the Superforts, Gen. Arnold said.

"It may take a little longer than for Germany," he warned. "Personally I don't believe the Japs can take it, and when we begin to pour it on them with hundreds of B-29s, I think they will be tempted to fold up."

A main requisite for bombing Japan is land bases sufficiently close to the Japanese homeland, the general reminded his audience.

Meanwhile strategic bombing of Germany will rise in intensity until that nation finally collapses, he said. And that, he emphasized, is a major task in itself.

"Let me say here without quibbling or equivocation that, contrary to popular belief, we still have many bitter, bloody battles ahead of us before we finally defeat Germany," Gen. Arnold said.

Luftwaffe Not Dead

"The Luftwaffe has been crippled, but it is not dead. Our attrition rates are still heavy. They are fighting like fanatics to save the facilities they need to continue their very existence.

"For our part, we have no intention of letting them save those things."

The capacity audience had the unusual privilege of submitting questions to a four-star general and made the most of it at the conclusion of Gen. Arnold's prepared address. The ruddy, silver-haired boss of America's far-flung aerial fleets answered with refreshing directness.

Staff officers later approved for publication all but a few of the general's replies.

(Continued on Page 3, Column 4)

WHERE TO FIND—

ARNOLD TELLS OF MIGHT OF B-29s

(Continued From First Page)

German jet propulsion planes did not come as a surprise, he said, but the balance of his remarks on this subject were off the record.

No pilots or other plane crew members leave this country for overseas duty with less than 500 hours of flying time, Gen. Arnold said. No nation gives its flying personnel more thorough training, he added.

Foresees Aviation Boom

As for postwar aviation, every large city will require as many as four airports to handle "the tremendous development" of commercial flying, Gen. Arnold said.

An incident of the general's arrival at Cleveland Airport yesterday noon in which his plane was kept aloft circling the field for some time because of poor landing weather drew the remark from him that "certain of our methods of bringing in planes in bum weather must be improved."

"If we had to do that in England we'd never get any bombers over Germany," he added.

The air forces' commander set the American people a task—to understand warning—to realize that the war is far from over.

Our national existence depends on our understanding air power in all its implications, Gen. Arnold said in his address. When von Clausewitz, the great German military theorist, asserted there could be nothing new in warfare, he did not foresee air power, Arnold added.

Air Power "Decisive"

"Air power, as it stands today, is new indeed," Gen. Arnold said. "It's new and it's decisive, and its implications are so far-reaching that they must be grasped not only by professional airmen but by the American people as a whole."

As an "inkling—a faint conception" of what air power means in Europe today, Gen. Arnold told of the air forces' dual job of carrying on strategic bombing of Axis-held Europe and of "establishing the necessary air situation" prior to the invasion of Normandy.

The bombing schedule, he said, whittled down the Luftwaffe in the air, on the ground and on the assembly lines. Germany's oil supply was reduced until her transportation was stalled and her air force became almost immobile. The Reich's transportation was crippled by strafing of locomotives and railroad cars and her war industry disrupted to a point approaching chaos.

Gen. Arnold quoted Gen Dwight D. Eisenhower as acknowledging that, except for the aerial preparation for the invasion carried on with the strategic bombing campaign, the invasion could not have logically been undertaken.

Describing the prolonged campaign against the transportation system of northwest Europe specifically mentioned by Gen Eisenhower, Gen. Arnold told his audience that this was part of a process which military men call "interdiction."

Gen. Arnold accompanied his warning against expecting any but a tough job still ahead in the Pacific and in Europe by a statement that our enemies "bank heavily on the American people's losing interest in this war."

"The Japanese, in particular, feel that they will be able to salvage the greater part of their empire simply by prolonging hostilities—working for a draw," he said.

"There is already much evidence that many misguided people here have succumbed to the false idea that the war is over—that we don't need the all-out effort of our people to bring the war to a close.

Every Effort Needed

"These people read newspaper stories about cutbacks in production, cutbacks in training, and they fall easy prey to the Japanese brand of psychological warfare.

"The air war against the Japanese is still in its earliest phases. It's going to take a gigantic combined effort of all our arms to knock these people out. They are tough babies. It will require months, perhaps years, to finish the job."

Brig Gen. Frank P. Lahm, United States Army, retired, one of the two first army pilots, was introduced to the audience by Gen. Arnold.

"Gen. Lahm has done as much as any man toward bringing aviation into its own as a war weapon, with the result that we were able to build up an air force and have real air power," Arnold said.

LECTURES ON ISLAMIC ART

LOBBY LINES

By Mary Louise Gosney

General Henry A. Arnold, chief of the Army Air Forces, honoring Cleveland and our Laboratory with a visit . . . and the NACA represented by a large group at the Cleveland Aviation Club banquet at which General Arnold was the principal speaker.

James W. Pugsley, Librarian of Baldwin Wallace College, Berea, calling at the AERL library . . . *Judith* and *Mark Wright* (Ad) leaving for Chicago for the weekend to visit their sailor son at Great Lakes.

Byron Hunsicker (Architect) arbitrarily setting up his Thanksgiving dinner to October for his daughter and son-in-law leaving for California.

Michael Sipko (Supercharger) marrying a Cleveland girl . . . *Melvin Plum* (Eng Com) announcing the birth of a baby boy on November 6.

William G. Gibbons (Selective Service) elated over the arrival of his son, Lieutenant, J/G, U.S.N., who flew 11,000 miles in four days.

R. L. Johnson (Eng Res) leaving for the West Coast on an official trip . . . and *James R. Braig* (Procurement) for Langley Field.

Ed Mecutchen (Ad) returning from a vacation in Philadelphia with his folks.

And among the Army Air Force newsreel men at the Laboratory this week, *Lt. Robert H. Sterling* of the movies, husband of Anne Sothern.

SERVICE STARS

By Kay Hovanec

In a letter addressed to Mr. Sharp, George W. Lewis, Jr., enclosed a check for $5 for the postage "kitty." Quoting him in part: "I noticed an article in the local paper the other day about the fuels that I worked on at one time at the Lab. It brought back memories of hours spent there with the boys. When I return to the states, I would like to visit the Lab and see all the fellows again."

And we sincerely hope your wish will come true real soon, George. Thanks for the check.

* * *

The Electrical personnel will be interested in knowing that their former coworker, Lee Didion, now of the Seabees, is stationed at Camp Parks, California, "a jumping-off place for battalions going overseas.

"Enclosed is a small contribution towards the postage "kitty." I get a bang out of the contact that each issue of Wing Tips brings . . .

"I wish to extend my regards to all my friends and fellow workers at AERL, and to thank them all for their efforts and kindness."

Thank you, Lee, for those kind words and that concrete evidence of your appreciation of our paper. Your friends in Electrical Engineering have come through again with a contribution of $1.25 for the fund. We like their spirit!