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IMPORTANCE OF PRODUCTION TO ARMY GROUND FORCES

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GENERAL MCKINLEY:

Gentlemen, this morning I know that nobody will be at a loss to know our speaker, because of General Devers' importance and the fact that he has appeared before us before. I merely want to take this opportunity to tell him how happy I am and the school is that he can be with us this morning. As you know, he is the Commanding General of the Army Ground Forces. He will speak to us this morning on the importance of production to the Army Ground Forces. I take extreme pleasure in introducing General Jacob L. Devers.

GENERAL DEVERS:

General McKinley and members of the Industrial College, I am not going to bore you too much with this prepared speech. I will have to follow it a little bit in order to be logical, because when I get going, I am sometimes a little illogical. I am hoping, however, that the questions at the end will straighten out any points I might miss.

Production, particularly the preliminary phase of production, which is the development of new weapons and equipment, is not something which is of mere academic interest to the Army Ground Forces. It is our very life blood. I can't overemphasize that. We have to have new weapons. We have to have the best. We have got to have them in being at the start. And we have got to be ahead of the other fellow.

That is the way we won the war. We won the war because we had better equipment than the other fellow had. When we didn't have better equipment, we were losing the war. The British were losing all the time. Their armies were losing the war, not so much because of their commanders, but because their equipment was greatly inferior to that of the Germans. They were trying to lick the 88 with a 37. They were trying to run tanks that could run for only a few hours against Germans tanks which could run for many hours.

That was really the fundamental reason behind the defeat of the British in the early days of the war in Africa and against Rommel--lack of equipment. When we came in with our equipment, which we did, although we furnished it in small quantities, it changed the whole technique of that campaign; and after that they began to go forward. Montgomery came in at that time and he got full credit for it, but it was the change in techniques that did it. It was because he had more modern equipment, better equipment, not only on the ground, but in the air.

We must have a team. We have to have air support. So we are interested in all production having to do with the air. At this point I want to make a strong statement on that.

Most of the airplanes that we will use in a future war will be for the Ground Forces, not for the Air Forces. The Air Forces will operate them, but they will be for us. Practically all the light plane production and practically all the transports will be used for carrying our men and supplies. Practically all the light bombers will be for close support of the ground troops.

The fighters, of course, will be mostly for strategic work with the ground forces, because they must keep the enemy air off us, so our infantry doesn't have to dig in, and at the same time force the enemy infantry to go underground. When you get guided missiles and all the new developments, which you must be thoroughly interested in because some day they will be in production, and these free rockets and all the other things that people are dreaming about, some of which will come through, you will find that the planes that do the strategic work will be very few in number indeed. It will be the transport planes with infantry aboard and supported by other planes that do the work. So we are interested in all research and development that go on with the Air Forces. I would say that about fifty percent of all other research and development we are interested in.

In order to tell you just exactly how we work in the Ground Forces, I thought I would read our set-up to you, because I think I can do that a little more quickly. Then I will elaborate on some of the points.

In order to show you how closely our interest is linked with production, I will describe the steps by which new weapons and equipment for the Ground Forces are developed.

First, there must be an idea. Generally speaking, for the Ground Forces the ideas of those who have actually been in operations are most practical. If anything, they are apt to be too practical and limited in scope. They ask for simple things, like less weight to carry yet greater fire power, greater accuracy of weapons, protection against shell fragments, simple and quick means of detecting and immobilizing mines, aids in crossing streams, proper clothing for all climates, and palatable food.

To get practical ideas to meet problems which were incapable of solution in the field, the War Department sent a board of officers to each theater before the end of the war. They said, in effect: "You have had experience in this war, and have had to solve many and varied problems with the equipment at hand. Tell us what new types of equipment would have helped you, and how often you would have used it. You needn't go into detail, or even be sure such a thing can be developed. If you will tell us what you want it to do, it will give us ideas on which to work. The sky is the limit."

The ideas furnished in this way were turned over to the technical services concerned. They already had quite a number of projects they were working on, but these new ideas furnished many more. The new suggestions were studied, and any which showed possibility of being developed were set us as definite projects. These projects were either studied by the experts in the

technical services themselves, or were allotted to various commercial concerns, on contract, for study and development.

I might say in that connection that we fought the war in Italy, which was our proving ground, with obsolete equipment. We didn't have a modern tank in Italy. When I went there, I was astounded at what I saw. Also there was a question of a big gun. We got in the mountains and got worried, and everybody was hollering for bigger and better guns.

Then they started shooting more ammunition. So we had a build-up which the production people felt at once back here. Of course, they accused the commanders in the field of not making proper plans. I went to North Africa and Italy from England in January, 1944, inherited most of the staff and the Angio Beachhead and the Rapido, both of which were none too good, as you know. We never did have enough ammunition for the big guns.

Then, when we finally got the big guns-I am an artillery-man - we were wearing out the tubes very fast and we couldn't get new ones. I have always questioned the idea of big guns. If we are going to have them, let us get enough tubes so you don't have to change so often. But without the ammunition to shoot, all these guns are no good. We have to have the production facilities behind, and the ammunition has to follow us to the front. If it doesn't, it just doesn't make sense to me.

But they wanted to have that big gun go over. I remember well when I went into the Anzio Beachhead, they were all talking about the big guns and the big shells that the Germans had. They started with 120 and went up to 500. So I said, "Show me one of these things. I still think they are shooting 88's at you." Every now and then they would find a piece of a shell and have it ready for me to see to show they were at least 170.

But the psychology behind that is something that the Staff has to think about. Clark stepped up his ammunition requirements, almost doubled them overnight. I went to Italy to find out what the trouble was. They were collecting these shells and just plugging them into guns and shooting. When I got in command of the French army, we couldn't get them enough ammunition. We couldn't keep them in ammunition.

Those things are something that you have to watch. You just can't run out of ammunition. I claim that the only time a man ought to become a prisoner is when he has no more ammunition. I don't expect him to fight with his hands. But as long as he has any ammunition left, he ought to keep on fighting. When he has no more balls to throw back, then he can quit. If he will stick with it as long as he has ammunition, he will lick the other fellow.

Our big problem there was the time element. The people in the field must realize that you just can't step up your ammunition require-

ments overnight and expect the procurement people to purchase something and get results.

I read in the paper the other day about some society wanting to restore the horse to the Army. That rather amused me, because no horse will ever fight on any battlefield the United States Army has to do with in the future. I am a horseman myself. I love horses. I want to keep horses in the Army for recreational purposes. But I saw the ditches full of dead horses on the battlefields, German horses.

Why? It is very simple. When the airplanes came over, they sprayed with their machine guns. A horse can't jump in a ditch like a man can. A man jumps in a ditch and gets some protection. So you don't kill many of them. But they hit every one of the horses. Or if a tank goes down a road streaming those machine gun bullets out in front, swinging the gun right and left, it is the horses that block the road, and the trucks behind them can't even get by. Along comes a bulldozer and shoves them off into the ditch and away we go.

I saw thousands of dead horses. There were a lot of them on the Alsace-Lorraine plain. When we crossed the Rhine and before we got to the mountains, I don't believe that more than a very few horses ever got back into Bavaria. I think nearly all died before they got back even as far as the hills along the Mainz River.

We want ideas, but we have got to be careful that the people who give you the ideas realize that it is going to take at least a year before you get the results of your ideas, provided the research and development has already begun.

Well, that is what we are up against. The interest and participation of Ground Forces in the development and production of new equipment do not stop with the turning over of ideas to the technical services. I have in my headquarters, on the general staff level, a section known as the Development Section. This section directs and supervises the work of four Ground Forces boards. Each of these boards is responsible for the following problems with respect to equipment over which they are given jurisdiction;

a. The evaluation of all recommendations for the development of new equipment, or improvement of existing equipment, which may be submitted to them.

b. Review and study of foreign equipment.

c. Preparadtion of military characteristics and recommendations for development.

Military characteristics of items of equipment require, of necessity, a great deal of study. It is necessary to examine the items in detail to avoid improperly written recommendations. Frequently, item

characteristics must be worked out between the design engineers and ourselves to secure a satisfactory solution. Since at times the end idea is not entirely clear at the outset, it is necessary to prepare preliminary estimates of characteristics to provide a working basis for development. That is the important thing, I guess. However, they ought to be subject to review, so we can get the stumbling factor off the board.

d. Assisting Army Ground Forces Headquarters in maintaining contact with development agencies, during all phases of development and engineering tests.

That is important. I could elaborate a little bit on that, because when I was sent down to take command of the Armored Force at Fort Knox, Kentucky, I found a lot of people down there that were thinking only of running around in a tank that ran like a galloping horse, putting a little popgun on top of the turret. That is all they were thinking about. They had no idea that the thing which wins a war is fire power and lots of it.

So the first thing I as an artilleryman did -- I suppose that was the reason I was sent down there, because the Infantry didn't know much about tanks -- was to say, "We must have fire power in these tanks." They said, "How are you going to do it?" Fortunately, I had one boss, General Marshall--I have worked with the General Staff. I am out of it now, so I can talk about it. They are always blocking for some reason. I don't know why. But they certainly take a conservative view. What I had to do was to find out something about this.

The first thing I discovered after I found we didn't have any guns in the tanks was that we didn't have any power plants to drive the tanks. Then, when we got the power plant, we had to do something about that thing in the end that drives the tank, because it was too weak. So we also developed a new reduction gear.

Finally, when I got an engine that gave me 400 horsepower, I was getting only about 200 at the back end. I wanted more. I said, "When I ask for 400, I want to get 400 on the track, on the wheels. I don't want to lose it all the way back."

Well, you might wonder how I got it. I taught mathematics for four years. I know just enough about percentage probabilities to cause the other fellow an awful lot of grief. When they start talking about percentages, I know they are trying to cover up something. When they said they were getting three percent reinlistments, I said, "Three percent of what?" I have never been able to find anybody who can give me the "what." That all goes for horsepower. We didn't have a single engine in being that could give us 400 horsepower.

I will tell you another astounding thing. You all know this, but I didn't. I couldn't get a new engine in less than a year. That is what they said, and it was a fact. We didn't get it within a year.

Then, when we did get it, we were not sure that everything else in the tank would stand up. So you can see what I had to go through. I had to deal with too many agencies. I assume you here at the Industrial College are going to straighten that out. I am worried about unification on the practical side. I hope you can get rid of most of these compartments. I would like to get rid of this word "quartermaster" on this thing and that thing. I would like to go into one institution and draw all my equipment on one requisition. If I can go to Sears Roebuck and get a white shirt and a tractor on one requisition, I don't see why I shouldn't do it in the Army.

So I hope you people will not look back over your shoulders, but will look out ahead and see if you can come up with that cross-section of the services, or come up with something else, that will give us an organization that functions. Right now I think it is very weak.

e. Performing users' tests of equipment when so directed.

f. Recommending modifications in or standardization of items tested.

g. Recommending reclassification of standard items of material.

h. Recommending basis of issue of items to be standardized.

i. Assisting in preparation of basic training literature on the drill and technical care of materiel tested.

j. Continued observation and review of reports of performance of standard items.

k. Recommends maintenance procedure, replacement parts, and equipment for items tested.

That is a lot of words, but what it means is simply this: While we are the users, the operators, of equipment, we also have to be thoroughly interested in research and development and in the production side of this. We must get through the Staff to the actual producer, the manufacturer himself. That is what I did when they gave me the Armored Force.

Now, if you are going to do any other way, you ought to study the history of England and find out why they didn't have a tank, why they didn't have mortars, why they didn't have the best guns. You will find that it was due to the set-up that they had in their ministries. You just have to let the user go and buy some of this stuff, not only to give orders. You must get out and help the engineer and the manufacturer and get help from them, because they can help a lot.

We had a tank where the fellow had to sit on top of an ammunition box. He had to open it up to shoot the gun, and when he did, he cracked

his head on the roof and nearly knocked himself out on a belt that was sticking out there. How do you get rid of those things? You send a practical man to the factory and he sits down with the engineer. They get along to a certain point and he points out the little things that bother. He gets the engineer and the producer informed of what we want and why we want it. Then it seems to be a simple thing to get from there on, because those fellows know how to do it. We know how it ought to be done. So we are the needlers. That is the reason I say the Army Ground Forces are going to be needling the Air Forces, needling everybody, to get better equipment.

But we must be able to tell them what we want. That is the way the Staff beats us. They have what they call "writing the military characteristics" of a piece of new equipment. We haven't found any smart man who can do that satisfactorily. Maybe we will. That is our trouble. However, even after they are written to our staisfaction, we then must follow through and really get what we want.

I remember in the days when I was serving with the pack artillery at Cheyenne, Wyoming. We had a simple little thing for lifting loads on to the backs of mules. We called it a lifting bar. The Ordnance Department wanted to make some of them for us. I was a second lieutenant then. When I needed those lifting bars for my battery, all I did was to cut a piece of pipe, and get some fellow to weld on it a little nut that was bigger than the shaft of the pipe so that the cradle wouldn't slip through. It didn't cost anything. I actually got the pipe out of the dump.

Along came Ordnance and wanted to make these lifting bars. So they wanted to know what kind of lifting bar we wanted. They had a conference of the different officers. I was just a second lieutenant with four months service. I listened in on that conference. The colonel called in all six battery commanders and asked them to try to come up with what kind of lifting bar they wanted.

Well, they couldn't agree. They had six different reasons for six different bars. How can Ordnance go out and design a bar for six people with six different ideas? I was only second lieutenant. All I wanted was to be let alone and give me the one I had, because it was practical. Actually they ended up with what they had. They took the bar that we younsters had worked out.

We have four AGF boards, as follows:.

1. Army Ground Forces Board No. 1 located at Fort Bragg, North Carolina. It is specifically charged with responsibility for the following types of equipment:

a. Heavy weapons (other than man-carried) and fire control and accessory equipment except where it is an integral part of an armored vehicle.

b. Army Ground Forces aircraft.

That is important. I emphasize that because we don't want to have the Air Forces take one of these great, big, heavy strategic bombers that they have and try to make it into a transport plane for us. We know they are going to build only a few of them. They are only going to use them to run around over the world with. They are not suitable to carry troops.

We want to get something that will do our own job. We don't want one where you need to get down with a parachute. We think that the worst possible way to get from the air to the ground is with a parachute. We think they ought to be able to get something else that will let them glide down.

Down at my place I watch all the Navy planes go in and out. They land only two hundred yards away. I have been aboard all of them. I go over to Langley Field, where I work very closely with the Tactical Air Force and with NACA, because they mean a lot to infantrymen. I study closely the research and development there, and I see a lot.

One of the things that impresses me is that we are not going to build airfields two miles long to get those heavy planes off. We are going to build some like the carrier ROOSEVELT. We are going to build planes that can stop in a hundred yards. I am told that it is going to cost something in weight if you are going to strengthen it underneath so that it won't break down. But that is all right. Some way we will find a method to do that. Our energy in getting ready for a new war is certainly going to let us land planes in much shorter distance than we do now and take off. They will learn how to do it somehow.

AGF are interested in all those things. We already have the aircraft industry coming to us at Fort Monroe. We sit and talk over these things. The aircraft industry sees the light.

You can see that I have got to do a lot of fighting, because I am squeezed a little right now. I need supporting services and need them badly. I am in between. We have to have a balanced system, so that the money we spend for production and man hours will be balanced all along the lines. You can't overdo one at the expense of the other.

Now to return to AGF Board #1. They are also charged with:

c. Communications equipment.

d. Electronic equipment.

e. Special airborne equipment.

f. Special air support equipment.

g. Maintenance equipment for the above.

That is all at Fort Bragg, North Carolina. The Board is very close to the laboratories, close to the shops, and close to my headquarters.

The trouble right now is in getting officers educated up to these responsibilities. We are leaning heavily on the civilian industries. We are bringing civilians in to help us out on the basic requirements, not because that is our job, but in order to get the background.

I claim that it is going to take a whole generation to teach these officers. We can't really begin to absorb what we know about atomic energy and electronics. Right now none of us understand them, and I sometimes wonder whether the scientists do. But it is very important that we keep growing. Some day we may be able to absorb it.

Army Ground Forces Board No. 2 is located at Fort Knox, Kentucky, but has a section at Fort Ord, California, for amphibious work. Knox is also the home of the Armored Force School. Board No. 2 is responsible for the following types of equipment:

a. Amphibious equipment

b. Animal equipment.

c. Army Ground Forces automotive equipment (including armor).

d. Ground engineer equipment.

e. Heavy weapons and control equipment integral with armored vehicles.

f. Maintenance equipment for the above.

You can see that that really covers all the wheeled vehicles and the things that go with them. The Board is working with the Armored Force, trying to coordinate. AGF is trying to center everything pertaining to armor and vehicles at one spot. We are trying to do the educating there and the standardizing, to cut down cost and save money, and also improve the efficiency of our plant.

Army Ground Forces Board No. 3 is located at Fort Benning, Georgia, the home of the Infantry and Airborne Schools. It is responsible for:

a. Light weapons (man-carried), with accessory fire-control equipment.

b. Ground Quartermaster equipment.

c. Individual clothing and equipment.

d. Ground Chemical Corps equipment.

AGF Board No. 4 was established on 6 July 1946, some time after the other boards. It is located at Fort Bliss, near the guided missile proving grounds at White Sands. It is responsible for anti-aircraft artillery equipment, including fire-control equipment; guided missile equipment, including launching, guidance, and control equipment; and the maintenance equipment for all these.

In addition to the supervision of the boards, the Development Section has liaison officers with some of the technical services, and with civilian laboratories. A group of officers at Fort Monmouth keeps in touch with Signal Corps developments, and a group at Aberdeen is in constant touch with weapons development by the Ordnance Department. In Detroit, Michigan, I have an officer who is following automotive development. We keep in close touch with the Air Forces and Marine Corps development work through liaison groups at Wright Field, Ohio; the Marine Corps equipment board at Quantico, Virginia; and the Joint Army-Navy Amphibious Equipment Board here in Washington. In addition to those mentioned above, we have groups with Johns Hopkins University Laboratory, General Electric, Bell Telephone Laboratory, and California Institute of Technology.

After an idea on new equipment has been carefully studied and passed as being desirable, and the military characteristics prepared by one of the boards, it is passed on to the technical service responsible for procuring that type of equipment. The technical service may develop a pilot model in its own shops, or, if it appears more desirable, may have this done by a commercial company, on contract. When completed, the pilot model is sent to the proper Ground Force board to be tested, or it may be sent directly to some unit for test. As a result of the tests, the board or testing unit will either report that it is satisfactory and recommend that it be adopted as standard, or that it should be modified, and give the exact modifications desired. If considerable modification is necessary, it would have to be retested by the board.

When an article of equipment has been found satisfactory, the next step is the production of a sufficient quantity to allow a thorough field service test. This is usually done on the scale of a battalion. Here the article is given a thorough test by troops of the type that would normally be equipped with that article. This test is absolutely necessary, and is quite different from a test conducted by a board of experts. It shows whether the article is sufficiently simple to be used by average troops, and whether it is rugged enough to stand field service. The battalion is the minimum size of unit for such tests. We took it out on a road that crossed the continental divide some seven or eight times.

I am reminded of an experience I had years ago with a pack train. There were six hundred pack mules in that train. We went over one of the divides where we thought they had pretty good roads. But they turned out to be nothing but a trail. The first three hundred mules, half of the battalion, got across most of it without trouble. When I came along with my pack mules, we began to break through the crust, weakened by the others, and we sank down in the bogs and the swamps. That is what I mean. The first three hundred of something will get by, but what about the next three hundred? Maybe they won't. That is the important point.

So when we received the first pilot models of a real medium tank, they tried to send me a couple of this and a couple of that. I insisted that I wasn't going to test any number less than ten. That was when they

had developed a Ford engine for tanks that was supposed to run four hundred hours and deliver five hundred horsepower on the tracks. Our tests showed we didn't quite get the five hundred horsepower, but we did have the four-hundred-hour engine.

Before I got through testing those engines I had fifty tanks with five different types of engines in them. I put troops on them and we kept them going twenty-four hours a day in three shifts. There would be three shifts working on the same tank, with one hour out on each shift for maintenance. We rolled them at night down the hard road from Louisville all the way south. There wasn't much traffic at night and we could do it. Then in the daytime we went over the hills and through the mud, over that tough ground that we had at Knox. When it is dry, it is very dusty. We had every condition there. We really gave them a test.

Well, I think the first day one engine went out. The second day two went out. They went out in a pattern. Some of those tanks, the first of the original ten, kept going for three hundred hours before they went out. As soon as a tank went out for any reason, I would not permit anyone to touch it. We just pulled the engine out and sent it back to Detroit.

We soon discovered that we had a great many weaknesses in that tank engine. We found some in the tracks too, but it was the engines that I was mainly interested in, the power plant. In tracing one series of failures they finally got it down to a piece of steel that wasn't strong enough to take the rap. The engineers tried to trace where the steel came from, tried to trace who made it, who the manufacturer was. Why did this break in this engine and not in the other one? Pretty soon we worked all the answers. We couldn't have done it with only one or two or three to test. We had to have ten to get a cross-section. So we insist on a battalion test in each case, to give us a pretty good cross-section of what we really have to study.

I remember before the war, when we were working on a mechanism for the new 75-millimeter gun, I was at Sill in charge of the gunnery department. The Ordnance Department developed a very fine recoil system and sent it down there for a test. It went through all the tests. The board said "It is okay."

They produced four of them. They happened to come to me in January, on a very cold day. We started firing and began stepping up the rate of fire of the guns. They were supposed to fire six rounds per gun per minute. Every one of those cylinders went out before we got to three rounds per gun per minute.

This indicates to me what great ignorance exists in the world. Somebody said, "It is the oil. Maybe the oil got too thick in the cold weather." They had ten thousand reasons. I, being a country boy and knowing nothing about any of that except the thing didn't work, said, "How could it be the oil? How could that be affected by the cold weather? It might be too thick at first, but after the first shot the oil ought to be warmed up enough so it wouldn't be heavy." But no one else could see that. But the noncom that suggested that was right. Out of that experience came all of those winter tests of oil.

Only last week we proved in Alaska that all the winter oils we had were no good. They all froze at forty below. Yet we were told that they took them for test up into Canada and had the thing solved. I am pointing out to you some of the difficulties we are up against. The developing engineers tried to blame the failure on various reasons. There is only one way to test oil and that is to go out with it where there is winter weather and wide changes of temperature.

I remember during the war we were having a great deal of trouble with the G, engines on the 2½-ton trucks. They didn't seem to stand up, and yet a Dodge engine right alongside ran all right. I called General Motors on the phone and they had people over there in twenty-four hours. Believe me, it took them quite a while to discover what was the matter. Finally the engineer drilled a little air hole in the crankcase to let more air in and get a balance.

The reason they did that was that these trucks would run half an hour and then stop immediately. They were worrying whether maybe they froze up. But the Dodge could do the same things right alongside and run all right. We found what the trouble was. To this day I don't understand the technical reason, but all they did was to put a little hole in the crankcase and the engine then was fine. The technical service concerned had gone above my engineers and approved that engine. That is the reason I say we, the users, must keep close to industry.

The field service test may indicate that certain changes are necessary. After an article has been determined to be satisfactory by all these tests, it is adopted as standard for Army Ground Forces, and is included in Tables of Allowances or Tables of Equipment. The boards recommend the basis of issue; and, based on the finally approved basis of issue, a computation is made of the number required to equip the Army. We are now ready for the actual procurement. In many ways this is the toughest phase of all.

I think you have the War Department policies. I would like to read over their policy on procurement.

"a. The General Reserve, as set up in the War Department Troop Program of 1 July 1946, will be kept completely equipped at all times with adopted type standard items of equipment. Substitute standard or limited standard items will not be used to equip this force, except where budgetary or other considerations outside the control of the War Department necessitates such action.

"b. The balance of the active Army will be equipped with adopted type standard items of equipment in so far as funds will permit.

"c. No procurement will be effected to meet equipment requirements of Universal Military Training, Western Hemisphere Defense Program, Chinese Army Program, and Philippine Army Program, without appropriate legislation.

"d. No procurement will be effected to meet equipment requirements of War Department Reserve stocks.

"e. National Guard, Organized Reserve and Reserve Officers Training Corps procurement will be made from appropriations available for these purposes.

"f. Maximum use will, in all cases, be made of existing equipment now available or to become available, for meeting requirements for all forces except the General Reserve.

"g. Where sufficient funds are not available to accomplish the complete equipping of components, other than General Reserve, in their proper turn, with the standard item, sufficient quantities of the standard item will be procured and distributed to effect familiarization training by all components.

"h. Procurement orders, within the availability of funds, will be placed with industrial establishments (civilian or military), to develop and maintain the skills and techniques necessary to provide rapid expansion of production in the event of future emergency.

"i. In order to insure that proper emphasis is placed on modernization of the Army, it will be normal procedure to replace the equipment of the Army on a three to ten year schedule. The replacement cycle for a particular item will be in accord with the life expectancy and rate of obsolescence of the item."

The last one is rather important, because the way we are going nowadays, before we get an item standardized and get the Army equipped with it, we find something better. So we never have anything that is up-to-date. That is literally the way we start a war. The Air Forces didn't like what they had and they kept squabbling among themselves, wanting to change everything and never getting anything standard. I say, get something and let us get into production. Then start your development and keep it going along by the side of the production. Otherwise you will never have anything in being, but just a lot of things in planning.

I know when we were developing the tanks, we developed a new one parallel with the model that we had under construction. It took me one solid week and three letters to get them to stop production and not spend another nickel on the outmoded tank. Thirteen million dollars had already been wasted. They protested, they said, "We can't do that, because that will throw six thousand men out of work." But the Truman Board said, "It is better to stop and not keep on making the old one, because that tank is outmoded today. The things we learned there we already have in the new one that is coming along. Take the six thousand people and send them home and pay them. Let them do something and pay them, but don't spend any more money on an obsolete tank."

That is what happens. That was perfectly normal procedure with other mistakes. We thought we had something there, but when we got along a way, we found we didn't; that someone had gotten ahead of us. We have got to produce the best one. Maybe not in peacetime, but during a war we can afford it, because it saves lives, thousands of lives. That is the reason we have to set up something that will work.

When I went with the Armored Force we were pretty well along in Signal equipment with the crystal sets. Before the war they changed them so fast they didn't know what they had. When I came along and got in the Armored Force, I said, "Let us find out what we want and get into production." They said, "We can't get enough crystals."

Then I got into the crystal game. I came up into this building outside the wall here and went to work with them. They had charts there showing that it was going to take so many million of these crystals and they were getting only so many thousands. They said, "The Field Artillery is coming along with crystal sets."

I said, "I don't care what the Field Artillery is doing or anybody else. You had better do something about it quick, because I understand you are collecting these crystals down in Brazil with the Indians and you are taking only the perfect ones. The Germans are taking what we don't take, and they are way ahead of us." I guess I did a little lying there.

I said, "If you can't get as many as you want, somebody has got to make a machine that won't use as many crystals. You have got to cut down on the number of crystals used." You know what happened. Within a week they got into crystal production in this country, and we got those sets going.

The reason was that there were too many obstacles along the line. Nobody was willing to stop somewhere and go ahead. If I hadn't said, "Stop right there. We will take this one and get it under way," they would have kept pushing along and we never would have received radio sets.

Out on the coast they had an interesting amphibious exercise. They realized one day that the Army seemed to be able to communicate among themselves and with their air forces. The Navy seemed to have fine communications within its units and also used crystal sets. They all had the same number of crystals in the, but for some reason the Army couldn't get into communication with the Navy. So we just took those crystals and reground them and then we had wonderful communication between all units with the same sets.

The fellow who did that is the kind of fellow you want, someone who believes he can make it work and goes out and makes it work.

Now, I have referred to policies. Before I close, there are several things I would like to point out in connection with the procurement phase.

The first is that the Troop Program of 1 July 1946 no longer holds, since there has been, for budgetary reasons, a drastic reduction in troops. You can't do much about that. That phrase, "for budgetary reasons," covers a great many things these days. The cuts in the Army's budget have been so drastic that we cannot procure sufficient numbers of some items which have passed the preliminary tests to make the field service tests. To all practical intents and purposes the procurement of new equipment for the Army is at a standstill at present. However, we will continue so far as possible the processing of new ideas and the development of new equipment to the point where we can see whether it is desirable or not.

Another point I would like to call to your attention is the policy that procurement for the National Guard and Organized Reserve will be made from appropriations available for this purpose. When a new item of equipment is adopted as standard, and the scale of issue approved, the National Guard and Organized Reserve are informed. They must then place in their budgets sufficient funds to procure the items for their own troops.

Actually, before the war that is the only way we got any anti-aircraft equipment. The Regular Army couldn't get any funds for it in their budget. The National Guard got some. We had to put the Coast Artillery troops on duty with the National Guard so they could learn how to use this new equipment. Such a situation was silly.

The Army Ground Forces have a very real and vital interest in this also, since it is one of our responsiblilities to supervise the training of those units. We now must supply them with existing equipment. But, again referring to the War Department policies, we must see to it that, as new equipment is developed, sufficient quantities of it are distributed to the National Guard and Organized Reserve to effect familiarization training.

I have described the close touch the Army Ground Forces keep with the development of our equipment. Its procurement is the responsibility of the various technical services, and depends quite largely on the availability of funds. The proper accomplishment of our mission in Army Ground Forces is very closely bound up with securing the proper equipment with which to train our troops. As you well know, the tactics and technique of operations are largely influenced by the type of weapons and equipment used. If we are to develop the full strength of our Army, we must have the newest type of equipment with which to train. As I said initially, the procurement of this equipment is our very life blood. I think I will close with just that.

GENERAL MCKINLEY:

General Devers has submitted himself for questioning.

A STUDENT:

I am afraid I can't go along with what you said about Anzio. You said Anzio was not so good. I had the misfortune to arrive there on the

first day. I was there when they were firing a lot of 88's. We were restricted by both the generals there to from two to five rounds per gun per day.

You said just now that the thing that wins wars is fire power. I can't tie those two things up at all. If it was a fact that there wasn't enough ammunition in Italy, that is one thing. But it was my impression that it was the opinion of the people sitting back in Naples that at Anzio we were making a mess of things and didn't deserve any more.

You also in your talk said you were amazed at the ignorance of some people. But you and your staff officers were also guilty of that.

I would like to know whether you really think it was because of ammunition not being available that caused that restriction or limitation to be put on both the Americans and the British at Anzio.

GENERAL DEVERS:

I think I can answer your question, because, as you know, I was the senior army commander. I inherited that episode. I got into the planning in the late days. I arrived on the third of January. I was in Anzio the first day, flew up there with five planes; and I was up there frequently thereafter. I must agree with you that those shells that went over my head and landed in the harbor sounded awfully big to me. And they were big.

The British admiral who was in command at that time did a magnificent job. He had wonderful team work. But when we went into Anzio, we argued with him about equipment. He said, "We can only put twenty five hundred tons across the beach a day." I told him he could raise it, but he couldn't see it. So we said that wasn't enough. We just said, "We think we can do better than that." As a matter of fact, we averaged six thousand tons across that beach.

As to the ignorance of General Clark, when he held you down to three rounds per gun per day, he was worried that he couldn't get enough ammunition. As I pointed out, you can't fight if you don't have bullets.

I think we should have gone on into the hills. I know one of my commanders was up there and told me that Kesserling was near collapse; that if we had gone up there behind him, the whole thing would have collapsed. The Germans would have been wiped out. They weren't within ninety miles of us. That was a very wonderful landing, a real surprise. But we stopped on a line, the Germans got their courage up and came back and gave us a pretty tough time.

You remember, when they really attacked us, Kesserlring said they had sixty thousand casualties. He got most of those from artillery. That is the reason you were held down on expending ammunition. The Germans

were attacking us with four divisions, one right behind the other. We either had to stop the Germans or get back into the sea. It was the artillery that stopped the Germans at Anzio. There isn't any doubt about that. It was our artillery fire that really stopped that attack.

As to the staff officers on the lower level at Naples, I don't know how to answer you, because I never got down to that level. I wish sometimes I could. Maybe those men who are working on that level don't appreciate our problems. Sometimes I think they know a little bit more than we fellows at the upper level. So I don't know the answer.

About ten days before you went into Anzio, Clark suddenly wanted to step up the ammunition allowance on the Fifth Army front to something like three times the number of rounds that they were using per day. I went to see Tom Larson, who was my boss. I had too many bosses. He nearly fell over dead. He said, "It is going to take me so many ships. They have got to get here from the United States."

I said, "Tom, what are you going to do about it?"

He said, "I will send a cable over there for the stuff now and pray that I will be able to find a reason for it when it arrives. They think I can anticipate by a matter of hours when I am going to need it. I can't. I have got to start those ships from the United States.

We started to use 25-pounder ammunition, which we had stored away. Finally we got more ammunition and were able to supply the British batteries with more rounds per gun per day. That was just not enough, but somebody got stuck with the mud and didn't have enough vision to order enough rounds per gun per day.

I notice that General Lutes keeps saying it wasn't his fault. I agree with him. I think the planners down there on that level didn't seem to foresee all this.

I inherited Anzio; so I think I can talk objectively, not subjectively. I think maybe those people up there in the Allesandro command should have told us they were going to step up their rate and want a suddenly expanded ammunition supply.

I think, with what I know now, I would have stepped it up. I know the French used twice as much ammunition as we did per gun and as the British did. At least, that was my experienc when I got into southern France. I had a terrible time getting enough ammunition to them.

On the big gun problem I can answer that somewhat, because I looked into that. The people at Anzio had marvelous esprit. We who came from the outside were bolstered up by it. The people back in Washington never needed to worry about Anzio. If Anzio were in trouble, they would never let you know they were down. It was a terrific place. Shells were coming

over all the time, and every one hit somebody or something. If they didn't hit troops, they hit a dump or something else. It was a terrific place. Nobody need belittle that. But the esprit of the troops there was marvelous.

In New York the other day I met an Italian consul and his wife who had been at London. She had been stationed at Bologna, just beyond Cisterna over in that valley on the railroad. I asked her about Kisselring. She and her husband lived there in a cave in the mountains. When I asked her about Kisselring, she said, "He drinks too much."

I think she was right. If he hadn't, he could have made it much tougher for us than he did. Maybe it was our artillery, our Air Forces, or the combined attacks in there that did that job. I suspect it was. But also I think that a smart fellow on the other side could have certainly given us much more than he did.

Then the other question I asked her was why we didn't get the big gun that they had. They had a tunnel and the gun was in the tunnel. I don't know whether you know this or not, but we went after that gun. Our instruments wouldn't work for some reason, wouldn't give us the reaction from the hills. General Baker and all the Air Force division commanders, both British and American, flew over there trying to find it.

We ended up by collecting five air men, who wanted to start dive bombing the walls of the tunnel. The Air Force was taking pictures, trying to locate that gun. This couple told me we did a marvelous piece of bombing one end of the tunnel, but it was the wrong end. So the Germans just got the gun out and went out a few miles and fired and ran it back in the tunnel again. That is a little history, but that is the situation.

A STUDENT:

We have reached the conclusion here that production is affected by requirements. We have reached the conclusion that requirements are sometimes out of line because stuff is sent that is not needed. Is it your experience that the supply system is influenced by that?

GENERAL DEVERS:

Yes, I think so.

Just take Anzio as an example. We stepped it up to six thousand tons across that beach, but I kept complaining about what they were putting across. They had material there that was never going to be used. I never saw such a mess. Who in the world shipped all that in there? As a matter of fact, they found the same thing at the Eighth Army. They had material that nobody wanted. What they wanted was bullets. They were in short supply on them. So we had to lick that thing.

A STUDENT:

Don't you think that is primarily wasteful?

GENERAL DEVERS:

I think it is very wasteful. It wastes ammunition and everything else. I was after the Artillery all the time on that. We wasted a considerable amount of food. I don't think we wasted so much in Italy actually, because I know the inhabitants got it and the children. I know in Italy at any time they could have gone along the line of trucks and opened up boxes and taken out a pound of sugar. Everybody was short of sugar, and sugar helps a lot when you are down. So we really didn't waste a lot of food there.

I think one of the reasons why we need discipline along that line is that climate changes so much. Take clothing. We still don't have anything to wear on our feet. We have the shoe pack, but that is only good for two days a week and no good for the other five days. We must be realistic about these things. Much of our equipment is a lot of bunk.

Just two years ago the Third Infantry had those shoepacks on. They had the coldest weather in the world. Then all of a sudden they would get a thaw and there would be nothing but water and mud. All the roads were full of mud. Those poor boys in the Third Infantry Division were going along carrying their shoes over both shoulders. They were moving up for a night attack. Every attack we made at that time was a night attack. We lit the skies up with our searchlights, and we got away with it. We got few casualties. They were tramping through mud and water with all this equipment. We had to be right behind them to see that they kept on. Their spirit was good; but, believe me, it was a struggle. They were regular pack horses.

You can't fight that way. We knew if we left our packs anywhere, we would never see them again. They would get lost in the mud and water or somebody would take them. So we took the pack with us wherever we went. Then we had to waste more men to guard it.

So we are very wasteful of equipment. We need more discipline. But we have got to simplify our supply system, so that we don't have so many items of equipment. That certainly goes for our mechanical equipment. If we don't do something more about spare parts, we can't turn out experts enough to make those spare parts.

GENERAL MCKINLEY:

Our time has run out. I want to thank you very much for giving us this very stimulating talk.

(3 March 1947-350)E.

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