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By authority A. C. of S., G-2

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Initials

REPORT FROM CAPTURED PERSONNEL AND MATERIAL BRANCH ISSUED BY THE MILITARY INTELLIGENCE DIVISION, U.S. WAR DEPARTMENT, BY COMBINED PERSONNEL OF U.S. AND BRITISH SERVICES FOR USE OF ALLIED FORCES.

DECLASSIFIED JCS Memo

Information on the effectiveness of Allied air raids and various GAF problems obtained from a German Field Marshal captured 4 May. British Source. Received in Britain 23 May 1945.

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The effect of the Allied bombing offensive was devastating. One cannot estimate the results of day and night, or British and American, attacks separately in this connection. You can only judge the combined effect of the American and the British offensives. In my opinion the war was decided by the air offensive. The decisive moment was relatively late; it came when you started large-scale attacks on our synthetic oil plants simultaneously with attacks on our communications, and not before. The attacks on towns didn't make the German people collapse; nor did they affect production so very much. Production got going again very quickly. The workers carried on under circumstances and conditions we ourselves would have thought impossible, for instance, they worked for ten hours a day during the winter, without a roof over their heads and amidst crumbled walls. Your attacks held us up, hindered our production, but they never caused it to sink below a certain level.

I can supply details as regards aircraft production as I was formerly connected with it, until June of last year. In July 1943 we put out 1000 fighters in spite of keeping up and increasing the output of bombers and transport aircraft. That was in increase from the 200 fighters we produced in 1941. I took over an output of about 200. I had increased this output to 1000 by July 1943 and it was to increase to 3000. We intended reaching 2000 in February 1944 as well as increasing the number of bombers, training- and transport aircraft. Your offensive kept us at about 1100 fighters. We couldn't reach a greater number and after July we kept the same level of production but stagnated and dispersed even more and were just recuperating despite your attacks. That is only one of the examples I could give you where a stoppage occurred, just as in 1940 through our raids, your production sank a little and gradually recuperated. The increase in output that you were hoping for was suddenly cut off. It was the same in our case. As the brunt of the attacks throughout July, August, September and October 1943 was borne by the aircraft industry, naturally that suffered most. Fortunately you didn't do one thing: you didn't attack our engine-production, on a large scale - a much more vulnerable branch - instead you went for the airframe-plants. The minute you attacked our synthetic oil plants and railway stations and lines on a large scale, things became very difficult.

As between attacks on stations, marshalling yards etc. and bridges, those on the latter, of course, caused the greatest damage. However, those heavy attacks on Hamm, for instance, were extremely paralysing.

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It always took three days to repair a single track. We could no longer shunt. We changed our methods and drove full trains which means that people needing goods etc. had to wait until we could send a whole train load. We couldn't form trains at will on the sidings as we used to do. We became far less mobile but by sending whole trains we managed more or less. This method was introduced about the summer of 1944. I can't give the exact date. Funnily enough, it was my job latterly to organize the repair of railways. Last year the aircraft industry was handed over to the Speer Ministry. Naval construction had been transferred to it before, and we joined on 21 July.

There were several reasons for the step. Relations between the Fuehrer and Goering were strained. The Fuehrer wasn't satisfied with Goering's efforts. Whenever anyone came and said: "We must take a load off their shoulders and take the matter into our own hands", Goering, who formerly always wanted to do everything himself, was pleased to be rid of something in order to get rid of one possible point of friction with the Fuehrer. For instance, he handed over the entire GAF construction industry, the whole of the civilian ARP and also all his industrial side. As representative of the GAF I was to help supervise this business under Speer. However, I gave up very soon as in the autumn I had a serious car accident which confined me to bed for several months. When I started to recuperate in the Spring I was instructed to reorganize the German railway system. Thus I gained some experience in the transport side which otherwise I shouldn't have had. In March we released one million workers from the armament industry.

I am no more an expert on RR than I was an armament expert. However, it was merely a question of organization in my department. I could say: "A million armament workers must be transferred to clearing the railways, as what is the good of armaments if one can't transport them?" I could arrange that building experts etc. from various organizations were put at my disposal. I could secure a certain uniformity between the Armed Forces chief of transport and the railway officials, as well as with the technical emergency people and such organizations. Above all we could throw in our valuable railway troops, our railway-building 'Kompanien' and the Army bridge building 'Kompanien'. Speer and I could prevent all bridges from being demolished. Both of us agreed that the blowing up of bridges has no military value but, on the other hand, destroys our communication system for ages. For instance they intended blowing up 5000 bridges in the Berlin area. We simply took away the explosive charges to prevent them from blowing them up. After that they blew them up with aircraft bombs which could no longer be used as we had no bombers left. We requisitioned all the bombs for the armament industry and had the explosives transferred to shells for the Army - that's what we told them! Thus we hoped to prevent any senseless demolition. A soldier is always in favour of blowing things up, so were the leaders. After a long fight we succeeded in preventing everything from being destroyed. Naturally important bridges of strategical significance should be blown up - we couldn't prevent that. But apart from strategically important bridges there are thousands of others which are wholly unimportant.

All I want to explain is that all these things paralyzed us a lot, and if it hadn't been for your rapid advance from the West, our transport system would have collapsed completely. As it was it collapsed because you captured it.

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The two main points were synthetic oil plants and railway communications, including river communications. Your large scale attacks on the Dortmund-Ems Canal and also on the point where the Mittelland Canal crosses the Weser had devastating effects on our traffic system. Your intelligence service must have been very efficient because, no sooner was a synthetic oil plant in working order again than you appeared two days later and destroyed it once more. Those were the things which were bound to bring us to our knees.

This serious dislocation of our waterways did not extend to the river traffic. We still had a considerable river traffic. But the Oder soon fell out. The Russians had crossed in the South and had bridge-heads in the North. Despite that we were able to carry on evacuation on a large scale from Berlin to Stettin until the Russians started their offensive in that area, we also transported food supplies from Stettin to Berlin, because stocks were very scanty in Berlin and Stettin had large supplies, especially of sugar and flour. We were able to supply quite a lot of other things as well.

- The ball-bearing industry was in a bad way. Quite wrongly it was for a long time always rebuilt at the same place, and destroyed anew. After that it was transferred to sheltered caves, tunnels etc. in order to carry on. However, a peculiar fact came to light, as happens in many cases in wartime: when industry was told: "You will receive no more ball-bearings; produce something else", suddenly 60% of all the ball-bearings were no longer necessary! We had used an infinite number of ball-bearings in aircraft construction. I'm not talking of engines, as they were necessary for those, but a great number of the bearings in our airframes were ball-bearings. Of course they ensured the ease of operation of rudders etc., but as soon as they went, an alternative was immediately found which worked quite well without them. Ball-bearing factories had done a lot of propaganda in peace time and it had become the fashion to use ball-bearings everywhere. Afterwards they were found not always to be essential. If that hadn't been so we couldn't have managed. The ball-bearing question caused us no worries. It would not be true to say that, for example, your attacks on Schweinfurt went for nothing. Of course we had to make changes, but production didn't sink, either on the tank or on the air side. Besides which, Germany had immense stores of ball-bearings. The Army, even more so than the GAF, had hoarded them; they had laid up terrific stores and stocks which, naturally, made it possible to bridge over that period.

Comparing daylight with night attacks: The former caused more damage to industry, railway stations and communications. Of course the night raids harmed the population and economic life as a whole more. Night raids were feared more, as they hit the population much harder. Populations which were constantly being attacked, like that of Berlin, were completely calm and didn't suffer from shock. On the other hand, a town like Dresden, which hadn't been attacked at all during the war and was then extremely heavily attacked at the end, suffered a terrible shock. Admittedly casualties were very heavy there, too, as very many refugees from Silesia had gone there. It was said that more than a million refugees were in the town. The population of Dresden firmly believed they'd never be bombed, just as the Viennese thought that, being Austrians, they wouldn't be attacked.

Air attacks on the French RR caused tremendous difficulties in France before D-day. From Paris northward and westward everything had been destroyed. Fighter-bomber attacks and those carried out by heavy bombers supplemented each other. But your fighter-bombers couldn't have the effect on towns and industry that the heavy bombers had.

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Against troops, and on the communications system, they were, to be sure, very damaging. The communications system was greatly hampered night and day by constant attacks from aircraft armament, in spite of the fact that the troops gradually grew used to them. At first they found it most unpleasant. Of course a great number of vehicles was destroyed but, compared to the number on the road, it was not terribly great, as far as I could see. I didn't see what it was like in the West. I should estimate less than 1% as the proportion of damage inflicted in this way at home, where I was latterly, but it must have been more at the front. We produced more than 1,000 fighters a month at the end. We scrapped bombers and reduced the number of transport aircraft. Thus we reached an output of 2600 to 2700 fighters a month, roughly from July or August of last year onwards. The scandal from our point of view is that you hardly seem to have noticed the difference. We used them in a completely mistaken manner. In my opinion they were never used where they were most necessary.

The GAF command is to blame; though, whatever lessons they might otherwise have drawn from all their experience, higher authorities always interfered in GAF matters. I suggested we should have a very strong fighter force at home. To my mind what happened at the front was a secondary matter from the point of view of fighters. The Supreme Command thought differently; they said: "Not a single fighter must remain at home; all must go to the front." We kept blessing about until your fighters were able to accompany your bombers all over Germany. Then all the long-range fighters we had built became useless as inferior aircraft. We hadn't enough fighters at home then, as we should have needed two or three thousand fighters to oppose American formations of 400, 800, or 1000 aircraft which came over in daylight. We had the requisite number but they had been dispersed all over the fronts; they were operating in small units and thus unable to achieve any success in face of your superior fighting cover. We had nothing at home. The Fuehrer personally thought 'Flak' more effective than fighters.

That was always one of his fixed ideas. I never had any personal difference of opinion with the Fuehrer except on five occasions when he maintained I was the enemy of the 'Flak'. In fact I had built up the 'Flak' in 1933. Then the following happened too: 'Flak' ammunition needed a tremendous lot of aluminum. We had a shortage of aluminum and I put in a demand saying: "It is better, if I have a ton of aluminum -" which would be just about enough to construct a fighter - "to build a fighter with it than to make so and so many thousand rounds of ammunition with it." At the time we were producing 1.2 millions of 'Flak' shells and using up between 400,000 and 500,000 a month. We had a stock of 8 millions besides a stock of 4 millions of unfilled shells. I said: "We can afford to reduce our 'Flak' ammunition output to 800,000 rounds. We shall then still have nearly double the amount we are using now." That was about 2½ or 3 years ago. "The amount saved will be enough to build 1200 extra fighters." I added: "My Fuehrer, I can switch over 'Flak' ammunition production, and use zinc instead of aluminum; for some parts we might even use sheet iron etc. On my orders my engineers have already been working on the problem for a long time. Things have advanced so far, that, if we go a bit slow for three or four months, we shall have things in swing again and be able to produce more ammunition once more." The Fuehrer didn't quite catch on and thought I wanted to reduce the output of guns. Then the first heavy raid on Cologne took place. It represented a milestone in your air-raids. When it was reported to the Fuehrer, he shouted that it was my fault as I was the man who didn't "want to have any 'Flak'." We built as many 'Flak' guns as we possibly could. Besides,

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The Army, the Speer Ministry - at the time it was still Todt - were responsible for building the guns. The Fuehrer had also had a row with Todt on this account. Todt had said: "No, it wasn't my fault. I want to do it but the Inspector General is against it; he considers it superfluous." The Fuehrer had the fixed idea that I didn't want to have any 'Flak'. I went to see him and said: "My Fuehrer, I have been informed that you said so and so. I should like to tell you at once that there is some mistake. We want to build every 'Flak' gun we possibly can, as they don't contain any aluminum, neither do they contain any copper worth mentioning, but it's 'Flak' ammunition that contains such a lot of aluminum etc." He said: "I see, it's all right." Another raid took place shortly afterwards. The next time he sent for me, I tackled him again: "My Fuehrer, I wish to state you have abused me again at the situation conference. I wasn't present but I've heard about it. I wish to repeat that it has nothing to do with it; it is only a question of ammunition and that only a temporary one." He said: "Well, I was in a bad temper. I was cursing but didn't mean it against you in particular." However, right to the end he thought I was against it.

On still another occasion when he was raising hell, I said: "My Fuehrer, I wish to say the following -" for instance he also wanted 5000 or 10000 rocket launchers installed in the Ruhr district, to guard Essen, Krupp's - we hadn't a chance of dissuading him as there were always some people who said: "Yes, my Fuehrer, that's a marvellous idea." - I told him: "I've had the following calculations made: a stream of English bombers is about three times 60 km. long; after each 60 km. there is a gap and then another stream; always three waves. The stream is from 10 to 15 km. wide and perhaps 500 to 1000 m in depth. If you take out of the whole a section 3 km. long, only 2 km. wide and 1 km. deep, and want to attack successfully every aircraft in this space, and you have sufficient numbers of '8.8s', then the points of burst must be within 25 m of each other so that an aircraft between two points of burst can still be effectively attacked at 12½ m. range, as these heavy aircraft can stand a lot. Then suppose, my Fuehrer, that this is to be done in one fell swoop, that is to say with one salvo; how many guns would have to fire simultaneously to cover this cube of 3 by 2 by 1 km.? Seven and a half million guns would have to fire at once in order to destroy the aircraft in this one cube." He gaped at me and I added: "My Fuehrer, this proves two points: first, that great numbers of bombers like those the English are sending over cannot be shot down by 'Flak'; they can be shot at but not shot down; and secondly that the 'Flak' isn't doing badly in shooting down as many as it does. It also proves, however, that this problem can be tackled in a different manner, by having an adequate number of fighters; but if the enemy come over with 1000 bombers" - at that time still without fighter-protection - "you must get at least 2000 or 3000 fighters into the air if you wish to deal with them effectively. If we were to succeed twice or three times, say, in bringing a whole daylight stream of bombers down, the English would have to give it up as a bad job. At present, however, their losses are very small, usually less than 4%. We can never overcome them in that way; we'll have to concentrate all our fighters at home. If we can succeed in freeing our homeland from attacks, we can then send our fighters to the various fronts again to fight there. This bomber plague has now penetrated right into the heart of Germany. If that heart is destroyed her limbs are no more good to you." He didn't take it to heart; and nothing was done about it. I told the Reichsmarschall about it without mincing my words. I had the impression

that he agreed with me at the end, very late, but could no longer force my plans through. It was then too late in the day in any case.

There was actually never an official end to the German bomber units. They never wanted to admit that it was finished. The last attempts were those ridiculous attacks which Pelz made on England in the Spring of 1944. It was a final flare-up indicating the belief held by the Fuehrer and also by Goering that bombers could still achieve something against England. That opinion was no longer shared by anyone else in the bomber arm.

The Wagner remote-controlled bombs were very much ready for operations quite early in the war. They were really first-class, but some people of the flying arm who were sent into operation with them - and they were, as a matter of fact, the Reichsmarschall's favorites - turned them down. You see, they had thought that if there were remote-controlled bombs there was no longer any need for the air crews to expose themselves. But if you send a remote-controlled bomb into action, then you have to make contact at an absolutely definite distance and must also stay in contact; you have to control the bomb. As of course that led to heavy losses these officers said: "There's no point in this after all; you could just drop the other bombs with far less losses." Thereupon the Reichsmarschall once told me: "All this you've been doing with these remote-controlled bombs is ridiculous; it's all nonsense; I don't want to see any more of them." I continued to make them, because COs of individual units, who, however, had not the ear of the Reichsmarschall, came to me and said: "They are miraculous, the best weapon there is." They got good results with them too; a great deal was in fact achieved with them.

They were completed in 1942. They were ready for action about the middle of 1942, but then they weren't put into operation for a long time because the people simply didn't want to use them. Moreover, the airframe of the aircraft had to be specially fitted for the purpose, with all the VT equipment etc. Then suddenly a whole 'Geschwader' (Wing) which we had equipped with it was simply sent into operation for another purpose! The fellows simply tore out all the equipment we had fitted and threw it away somewhere, we never saw it again, and dropped bombs by another method! Another thing: in Italy a whole 'Geschwader' was transferred to Cagliari. The CO rightly said: "I'm not going to Cagliari, that's bombed every day." He was ordered to go, but said: "I'm not going there", so they court-martialled him. His deputy went there. He was there one night and on the following morning there was nothing left. That was purely a fault of the command. I wept; that meant that all the work of years past was in vain.

Another matter about which I should like to say something here is the business of the '177'. Until 1937 I had everything under my control and the Reichsmarschall had so many other tasks that he didn't bother about what we were doing. I was very glad to have a free hand. In the Winter of 1937/38 things were split up: the General Staff was taken away from me, the Personnel Directorate was taken away from me, three months later the technical administration was taken from me, and I had what was left. I was forbidden to have anything further to do with technical matters. At that time Udet was appointed by Goering as successor to General Wimmer. At that time, I think even before the war, this Heinkel 177 was started, and as the powerful engine was not available they adopted two engines with a single counter-shaft, driving one propeller. Unfortunately, in 1937 to 1938, after I had ceased to have anything to do with these matters, they killed our four-engined Junkers and Dornier

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bombers. We had at that time experimental types which were rather better than your four-engined bombers, in speed, carrying capacity and everything. They were good aircraft. The General Staff of the time killed the idea, in co-operation with Goering, because they said there was no point at all in having such heavy types; we should not get corresponding benefit from them; we could make better use of the material by building from it a greater number of two-engined Ju.88s or something like that. I didn't consider these measures a good idea. It was done when I was on leave. When I returned it was too late. The aircraft had already been dismantled. Then suddenly the idea cropped up again that heavy aircraft should be constructed, and so the '177' was built. These aircraft were built individually by Heinkel, and there were several crashes with the first aircraft.

As far as I remember this must have been after 1940. Then nothing more was done about it. 1941: the aircraft were standing about, were not flown, and nothing was done to them. The Heinkel firm had a bad conscience, they knew there was something wrong with the aircraft, but they didn't know the cause of the crashes and accidents and when I then took the affair over at the end of 1941 - Udet died in November and I was appointed in his place - I immediately fetched the aircraft out again in January 1942 and sent it to Rechlin to be flown there. We immediately had accidents: engines catching fire, then the wings simply burned away behind the engines, the wings broke off and the people crashed. Usually they couldn't get out of the aircraft. Then the engines were taken in hand; I immediately stated that a new design would be made of the same aircraft, but with four single engines. The Fuehrer sent for me and asked why we had those two engines at all. "I gave the orders long ago that the aircraft were to have four engines." He said he was of the opinion that what Goering always called the 'welded-together engines' were no use. I said: "I am of the same opinion." According to my technical knowledge - I was once technical director of the Deutsche Lufthansa, and I had a very great deal to do with technicalities there - I still knew too little about the vibrations which might arise in it, and of course the fires were another question.

But as that took longer we took the engines in hand at once, the whole power unit, and saw to its cleanliness. It was designed in such a way that all the leaking petrol and oil dripped into a space below the engine and on exactly the same side as the sparking plugs, without any ventilation. The Daimler-Benz engines were not clean: they always dripped a lot of oil and had a whole lot of other leaks as well. If ever an injection valve broke, the stream of fuel would pour straight down there, and that caused the fires. We got rid of that difficulty very quickly, that could be done by ventilation; the engines were fitted slightly further forward - the centre of gravity etc. also allowed that to be done. We got that in order. The flying was continued; suddenly the wing of another aircraft broke, but without there having been any fire. Nobody knew what was the cause of that. There were continual investigations and then I demanded that several wings were to be subjected to breaking-tests. These showed that the wing was wrongly calculated. It was too weak. Then the spaces were reinforced with spars (Latten), with stays, that's to say T-pieces (Krücken) were made. This proved satisfactory, and so that question was settled. Then suddenly crashes occurred again - I lost 100 men killed in the experiments at that time - and then it turned out that at a certain speed the wing profile was wrong. In the ordinary way one would have said: "Scrap the whole aircraft. Build another!" But this was war and we had to tackle the problem, and did actually get rid of it, so that in the end the aircraft with these twin power units could fly perfectly.

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