

ECONOMIC INTELLIGENCE

3 January 1947

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THE INDUSTRIAL COLLEGE OF THE ARMED FORCES

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GENERAL MCKINLEY:

Gentlemen, we are fortunate this morning in having Dr. Pettee of Amherst College with us. Dr. Pettee is a member of the Department of Political Science at Amherst, the author of "The Future of American Secret Intelligence," a recent book which outlines not only the need for well-grounded and well-evaluated intelligence but the methods by which we can initiate and continue a flow of the intelligence which we need. Dr. Pettee knows whereof he speaks. During the war he was employed in the Stockpile Branch of both the Office of Production Management and the War Production Board, where he dealt with strategic materials. Later Dr. Pettee was Chief of the European Enemy Division of the Foreign Economic Administration. In 1944 and 1945 Dr. Pettee analyzed all aspects of the entire economy of Germany and satellite countries of Europe, which of course brought him into contact with all of the other Intelligence agencies of the Government.

Dr. Pettee will speak to us on Economic Intelligence. I take great pleasure in presenting Dr. George S. Pettee.

DR. PETTEE:

General McKinley and Gentlemen: I came here last year from the bush of Western Massachusetts knowing only from the newspapers the mix-up in general and the slump in morale when we got the boys out of the other continents and brought them home. In general terms, the country was going to the dogs as far as I knew. I came down here to a school that I knew nothing about except its name, and about two of the names on its Staff, and they knew nothing of me; but that was one of the really memorable experiences to me of that year of 1946, because I found that there wasn't another establishment in America that had a higher morale or a higher sense of its assignment and its mission. It would be only fair to say that in that year of 1946, when there was so much rebuilding starting in America, there was nothing done that was better for everything we have to live for in this generation than the work that was done in these service schools.

Now to give a lecture on Economic Intelligence when some of you have already heard one and some others of you have read records of that one has made me feel a little bit awkward, and I wondered just how much to give of the same lecture and how much to give of another one. General McKinley assured me I should give the same one. I am going to compromise and give to some degree the same one and to some degree a different one.

First, obviously, I want to tell you as clearly as I can why there was Economic Intelligence, how it was conceived during the war, and what its job was.

Economic Intelligence was set up under the old BEW--Henry Wallace--called Economic Warfare. That is the best one for me to talk about because it is the only one I know anything about. That covered several assignments, and one of them for BEW--FEA as it was known later--was how to hurt the enemy through blockade. What could we do in Spain, or Africa, or with the Swiss, or the Swedes that would intensify the effect of the blockade on Germany. The FEA advised the State Department and the State Department carried the ball on what to do with many of the neutral countries.

Our second job I should say was to try to find out about the best targets for bombing. On that we certainly didn't carry the ball. We had a Departmental committee arrangement to help the Air Forces, and in Germany we began trying to attack the ball bearings, aircraft, oil, etc., as you all know. Another big problem dealt with the economic effect of ground actions.

Our biggest job I should say was what we called "strategic intelligence." Our Joint Intelligence Committee advised with the Joint Chiefs intermittently and collaborated with the OSS or other agencies in estimates on the capabilities and intentions of the European enemy during the next six months or some period like that, with the FEA submitting judgments on problems involving all aspects of the former enemy economy. Now that is what we were supposed to do.

The organization of intelligence in this country was something that was phenomenal. If you tried to follow lines of command you very soon gave up. You couldn't follow lines of command. There were five agencies represented on the J.I.C. and dozens and dozens in others. There were offices in the Department of the Interior, Department of Commerce and Department of Labor. Every agency of the Government I guess had some finger in the pot. The Interdepartmental arrangements went far beyond that.

In America in 1943 there was no unemployment. Everybody was working and many of them were in Government agencies. In FEA they had been hired to a very large degree on the basis of languages for there was a great need for someone who could speak every language in Europe. We even had to use Finnish. There were Ph. D's from every university from the longitude of Kharkov to the longitude of Greenwich. We also had quite a lot of submarginal PhD's. Some of them did some good work and some of them did nothing.

I am now going to talk about what we did with the German war economy; what we did at the best levels with it and not what we did at the riff-raff levels.

Before June, 1940, the Germans were totalitarian and they were very inefficient. Their tanks broke down on the way to Vienna in November, 1938. The Battle of Poland didn't prove the Germans were wonderful; it

only proved that the Poles had been a stuffed shirt. The Italians were neutral in the war or we could have invaded Germany from the south where there was no West Wall, but nobody ever invaded Germany over those mountains, not even Mark Clark. In other words, Germany was not a stuffed shirt. But after 1940 everybody said "Oh, my! They are efficient, not inefficient." The collapse of France was incredible. When people yell "Incredible!" I submit it is sincere. No politician wants to admit that he was caught completely off base unless he is perfectly confident nobody will blame him. When politicians say a thing is incredible they feel two things: they were not in on the deal and they didn't know what it was about, and it is apparently the opposite of their expectations, but they don't expect anybody to blame them because everybody was in the same boat. That is what the word means when you hear it, and in 1940 everybody said "Incredible!" That was for total war effort. After the fall of France there was no doubt as to what total war effort meant.

After June, 1940, we reversed the signs. The efficiency of German methods was plus and not minus, but it was totalitarian. Totalitarian belief and total mobilization were up to the ceiling, and you were aware of it and it was perfectly plausible to see that it was up to the ceiling. We thought they were as high as they could get. From there on through the war if you read the Intelligence judgments or read the magazines and the press, the professors' judgments and the publicists' judgments, the common trend of American thought was that the Germans were at their peak as early as 1940 or 1941 and that they couldn't go any higher, and in 1942 and 1943 they declined. Well, if they were up to the ceiling and rationalized to the limit of war production as of 1940, then in the summer of 1943 our best estimates were they were down 10 percent because of bombing as against 1942 and down 3 percent on labor and material shortages. I didn't make up those figures.

What was it that happened to Germany in those years after 1940? Few studies have been made as to what happened economically in Germany in those years. I wrote a review of the strategic bombing studies in the American Economic Review. I believe those strategic bombing studies of the German war economy are of first-class importance not only to people like you but to economists generally because economists are not going to learn more about economics until they learn to compare their own ideas of four years ago with the facts of four years ago and see how to straighten out the ideas when they don't correspond. Before Pearl Harbor--that is, up to December, 1941--I would suggest what the German economy was; 30 percent or 40 percent of the war economy. It wasn't 100 percent. It was 30 or 40 percent. Pearl Harbor gave us the kick that sent us off, and in six months after Pearl Harbor we had a better developed war economy than the Germans did, but we didn't know that until after the war. The Germans up to Pearl Harbor had 30 or 40 percent, I would say. As late as September before Pearl Harbor they cut back production because

they didn't know what to do with the stuff. They thought they saw the end of the Battle of Russia in sight. They thought the stuff would be of no use to them, and cut back in September, 1941. Then came Pearl Harbor, and Pearl Harbor is effectively the same date to them as it is to us, because it was within a week of Pearl Harbor that they knew they wouldn't take Moscow, and they knew all of a sudden that instead of twelve months' production for six weeks expenditure they had to produce for twelve months' expenditure. Somebody had pulled the plug in the sink; and from then on they knew it, and they started from then as we did. In many respects we did get a good start and developed a full-scale war effort. The Strategic Bombing Survey criticized them for basing their munitions index on the first months of 1942. I think it was a bad criticism and I think it is a good base period to take January and February, 1942, for Germany's part. It corresponds to ours. We use the last month before Pearl Harbor as our own base period in war production statistics, I think. They didn't start five years, eight years before us. The bombing survey study puts the thing in a nutshell. I have a couple of quotations I would like to give you:

"Germany entered the war with a 'guns and butter' philosophy which was continued well after the initial defeats in Russia."

Until the war was over most of us believed Germany had a guns instead of a butter philosophy very early in the game.

"It must be emphasized that throughout this period the German economy met the limited demands placed upon it, not only without evidence of strain, but also without controls."

There was no war control system in Germany earlier than there was in this country. Our control system in the summer of 1942 was better than they had until the summer of 1944. When we went into German war mobilization in 1942 and 1943 we thought the cartels and everything else were fully coordinated and there wasn't anything left to do. It was late in the summer of 1943 I ran into an order and the Germans had cut out steel thumb tacks and paper clips. The Germans still were cutting civilian items in 1944. We had stopped steel for thumb tacks in the spring of 1942, and we knew when we did that it meant we were talking turkey. We ran M-Orders for them in America, and if we saved 6,000 tons of steel on paper clips we were really beginning to operate. We hadn't noticed that the Germans hadn't done that until later than we did. You can't understand the history of the war if you don't get it clear that in 1940 they went so high it was "incredible," and that in 1943 we and they were again so much higher that it was incredible. We don't understand that and we have to understand it to get an adequate yardstick of what national effort can be, what war production can be, and what national mobilization can mean.

Fritz Todt died in February, 1942. He was a great German economic genius. We knew Frits Todt was more of an economist than Albert Speer, and that he was capable of doing half as much more with German economy as Speer could. Todt died in an aircraft accident in February, 1942. Speer took over on promises made by Hitler that Hitler would back him, and for once such promises were true. He got around to new programs for tanks, locomotives, aircraft and submarines. Speer himself took over the submarine program and got out as many submarines a month as they used to; and cut the time in half, or something like that, in building. That was a tremendous saving in labor and a tremendous increase in efficiency. He cut it from a year and a half down to something like three to six weeks on the ways. These new programs were developed in September, 1942. The OKW, which corresponded as nearly as anything else to the Joint Chiefs in this country, was the over-all General Staff of the Services and became only a claimant agency in 1942. Before that it had been a general operating agency and the Air Forces were an independent claimant agency until May of 1942, and in some degree clear through into 1944. There was no single Requirements Committee in Germany before that. At that time everything came under one single claims agency. There were procurement programs treading on each other's feet almost to the end of the war.

There are certain dates that form a framework, give you a picture or a yardstick that will show how big the thing was. The yardstick is the dates from 1935 on.

In 1935 they really started out. In 1938 they took Austria and the Sudetenland and it came down to the Battle of France, and then Pearl Harbor. Then the Russian Campaign in the summer and fall. Then the landing in North Africa in November, 1942. January, 1943, Stalingrad: This was the first real kick in the teeth that started them off again, the Germans who were trying to get an all-out effort over the politicians who wanted to forget it and didn't think it was necessary to go all out. The Germans who were out for all-out effort were not stopped by their Bureaucratic system after Stalingrad.

In 1943 Hamburg was bombed and in September, 1943, after Hamburg was bombed, Speer got new powers, real totalitarian powers, and took over Funk's old powers over the civilian economy.

February, 1944, was the big week in bombing airplane production in Germany.

In June, 1944, came VE-Day.

August, 1944, was the big month in German munitions production for the war. Having hit their ceiling in 1940 they couldn't go anywhere but down according to us, and August, 1944, was the big month in German munitions production. How did they do it? They used different proportions, different details to make every one of those things in comparison with

the way they did that same thing before. They deskilled jobs. They re-designed. A gun, the 1943 model light machine gun, was re-designed in every respect with a labor saving in the making. They standardized as we did in many respects with standard screw threads and things like that. They also went in for concentration of non-essentials. They took all the factories in one industry and cut them back on labor and materials. The Germans used M and L Orders, and dispersion of target industries to an amazing extent.

The facts as summed up by the Bombing Survey were:

Munitions index tripled from January-February, 1942, to August, 1944. The J.I.C. judgment at the time was that they went down 10 percent because of bombing damage; and 3 percent for labor shortage; and before you can say that because of bombing damage and labor shortage there must be a net reduction, you must have them up to a ceiling. If you must cut your figure 13 percent against what it would have been without those effects, then they were down 13 percent net because they couldn't have gone up anyway. But they actually raised their munitions index 50 percent that year.

I want to turn from that because you have more books here than I have ever seen, and I think you can study German war economy for yourselves. I am here trying to stick pins in your minds not so much in regard to the things that you will learn while you are in this school as to the things that seem important to go on learning about whenever the opportunity arises. One of the best lessons I have ever learned in my life was to simply set up a pigeon hole in my mind and file things in it, about points that I wanted to know, and thus in the course of years I learned something about such a subject. That is what I am driving at in this lecture more than anything else. I don't think you are really going to learn anything about Germany or economic intelligence from me this morning, but I hope you are going to learn that I do put a priority tag on some of the things that are worth learning long after this lecture.

For the first lesson I want to suggest two or three things in connection with this American war economy and what we thought of it as indicated by our thinking in terms of a ten-billion-dollar total war effort, which was just about one place off in the decimal scale. As to the German war economy and just what we thought of it, it is rather clear we can set up what we thought of the German war economy in 1939, what we thought of it in 1940, and what we thought of it in 1941, and we can set up what happened in Germany to the Economic Intelligence, and compare those. I want to tell about those four things production and economic intelligence in the American economy and the German economy, and the lessons I am speaking about center around those four things--not one of them but the four of them, because the basic lesson is how we thought

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about our war economy and other war economies, and what we thought about them affords a marvelous comparative basis for studying the thoughts, the errors and the inadequacies so that we may learn to improve the methods of thinking about war economy.

On a little lower level take things like this: How important are such things as ball bearings? Now the Bombing Survey study shows that the bombing of the ball bearing plants did not have a perceptible effect on the German war economy. This fact, uncovered by the study of the German situation, throws light on the ball bearing industry in our own economy. The problem of what is good judgment in allocations is among the prime factors. We had our problems with steel castings in 1942 for submarine chasers, for the tank program, for the metal program and for the rubber program. The problems were overwhelming and finally we had to centralize the thing and put the Air Forces and the Ground Forces under a single Requirements Committee before we could stop treading on each other's feet. I think you will find that the studies throw a tremendous amount of light on that great problem of war mobilization.

The best yardstick, statistical yardstick, you can get for war production is total production. It is a secret weapon in the hands of the side that has it. It is the secret weapon that won the Battle of France for the Germans in 1940. They had a better yardstick on what war production could mean. They were a lot more realistic than the French at that time. I would say one of the reasons we won the war was because from Pearl Harbor on we had a more realistic yardstick than the Germans. We tried harder and we did better and we hit a higher level quicker after Pearl Harbor than they did. That was the secret weapon. That was in the class of an important secret weapon.

As to the scale of the war I will give you a quotation from the Bombing Survey Studies:

"During the entire French campaign of 1940 the Nazi Army lost about one-seventh as much equipment as during the single month of July, 1944."

We had no real wind on that until after the war was all over. We heard of the wondering about the Luftwaffe in the summer of 1944. The scale of the war had changed so much. We didn't know what had happened. We asked "Where is the Luftwaffe?" when it was right there as big as ever. We didn't know how to get straight on the subject. The ideas had shifted. "Where is the terrible Luftwaffe? Where is the Luftwaffe?" Something happens when we do things like that, and it is very important to look back at the way we did that, when we did it, because if there is another war we ought not to do that while it is on. We have got to find out what happens before it is over.

Finally, the ratio of expenders to production of expendables. From the making of ammunition to the issuing of ammunition. There is where

the Germans probably made a mistake. We laid out our divisions better so that we could expend faster per man. Our front line people were more efficient expenders of expendables per man than the German front line troops. For every man we could make far more. We had more men in the production of expendables back home. A million Americans at the front could unload more ammunition in a week than a million Germans at the front. That is an important thing to think of in war mobilization planning, particularly when fighting goes on at three or four or five thousand mile ranges. It is very, very important, the proportion of expenders to producers.

Those are the lessons I pointed out the last time I was here. This time I will turn to what are really the important lessons on this subject.

First, the necessity for intelligence. If the National Intelligence system is bad the Service Forces are going to pay for it in waste motion and the cost of shifts in planning. This appears in the efficiency on the war production side. For every major failure in strategic intelligence the Service Forces, whether they know it or not, are going to bear the brunt in over-time work and in lower efficiency. Furthermore, if Intelligence and Operations can develop a common doctrine on what the factors in war are, by learning what each can teach the other of the hard facts, both Intelligence and Operations will improve, and I would say that the Service Forces, let's say, have a common interest with Intelligence in developing a doctrine on war economy.

Know-how is the essential item. John Hancock told you that men are the all-important factor. I want to say that men are the all-important factor as they are the carriers of ideas and know-how. Your character doesn't do any good in war unless your character is in a modern brain. The character is important. But men are not important just as brave men, stubborn men, hardworking men, devoted men. They are important for the ideas they carry. A 1916 mind is no good in a 1944 war. I want to add as a qualification to what Hancock said, if not as a substitute for what he said, that ideas are the crux of the whole business. The difference between war production in 1944 and war production in 1916 is the difference in the ideas in the heads of the engineers and everybody else across the board.

Our economics has great weaknesses. What the economists know, and the stuff in the economic journals, has two weaknesses. I want to suggest to you that our economy has three great aspects.

It is an exchange economy. We buy and sell; we own things, we hire and fire; we pay, etc. The economists are very good on that. There is a monumental structure of modern economics that deals with monetary economics, business economics, etc. There is also the material economy, and the War Production Board had that in its lap. We can't make shell cases unless we have so much copper. We can't load them unless we have the nitrates, and the nitrates are in Chile; we can't load them unless

we have these nitrates and the metals. We have made mistakes and the mistakes are right there, material mistakes that are unescapable. And the material economy I want to say is just as important as the exchange economy, but the economists have paid no attention to it yet.

The third economy I want to call the ethical economy, and I am using the word "ethical" in a very limited, strict, and elemental sense, a sense similar to the one in which the word "morale" is used. Some people think General Motors was making too much profit. Some people think they are paying too high wages to others. Those are ethical questions and we haven't got the answers to them and the economists least of all have the answers to them. Pearl Harbor in that sense was an ethical gift from God that settled the ethical questions of our economy in the war, and Americans worked. They didn't ask the reasons to be shown. The economists don't have the answers. They have no set ethical economy any more than they have a set material economy. The poser "How to win the war without a Pearl Harbor" lends support for industrial mobilization. But in calculating how to win without a Pearl Harbor as a gift on the morale side, or how to win a war at all if you do get a Pearl Harbor next time, means you are going to consider the ethical economy essential as a problem. I would say you have got to recognize those three economies in order to use them. You have got to seek advice and line up your own agency to recognize them. You have got to recognize there are those three aspects of an economy, and the economists know about only one, and you have got to somehow in this generation learn the other two as well as the economists know the first one now.

Now what has all this to do with a new war? Are we going to have ten or twenty million workers in war production after initiating another war, or what will it be like. Atomic weapons? Biological weapons? I want to say one thing on that. There are sociological weapons too. You may remember we have had the terms psychological warfare and political warfare. People knew how to use those things. The Germans used them to some limited effect and the Russians knew how to use those things. You read a notebook on Marxism and you will see it is a notebook on political warfare. It is a modern notebook. Although some of the stuff in it is about eighty years old today it is a more modern notebook than anything you have ever known. Yes, that thing is 80 years old. I am not here to say that Russia is our antagonist. I am here to say that if we have a war Russia will be there and the sociological weapons are going to settle what war it is if there is one, or what peace if there is one.

So I say once more I think a study of Economic Intelligence is what we all need, and I hope some of its lessons will be analyzed by the men of this generation, in the Army and the Government, of the professions, the economists, the political scientists and the rest of us, especially now that it is the task of America to see that there won't be another war. In that, you have a role whether there is another war or not. I

think The Industrial College of the Armed Forces is going to have an important place, because if there is another war you will have prepared for it. This is going to be one of the important places if there is another war, and it is going to be one of the important places if there isn't another war, too.

And now that is all for today. Perhaps you want to take over now, too.

GENERAL MCKINLEY:

We are ready for the questions now. Are there any questions?

A STUDENT OFFICER:

I would like to ask how the Board made out on the bombing targets in Germany and what you thought of the bombing targets. You didn't say. Is there anything you can give us on that?

DR. PETTEE:

I had no personal role in the bombing business because nearly all of the bombing target selection work in Washington was done by the end of 1943. I went with the FEA in the spring of 1943 and I was on the other side of the business. I knew some of the people in it. I don't mean to either attack or defend it on that account. I knew the people and I knew the methods perfectly well by which they decided that ball bearings were a prime target and decided power plants were not, and the Bombing Survey agreed our selections were not too good. I think on the electric power question it was the greatest mistake, and was one of the greatest intellectual errors of the economists. It is a perfect illustration again of the way the intellectual faults work in a thing to spoil the Intelligence judgment. And there were faults that came out of the intellectual air and not out of the Intelligence itself.

GENERAL MCKINLEY:

Dr. Pettee, we thank you very much indeed for your very enlightening lecture. I enjoyed it completely.

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