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**NAVAL WAR COLLEGE  
REVIEW**

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## **POLITICAL FACTORS IN THE FORMULATION OF STRATEGY**

A lecture delivered  
at the Naval War College  
on 7 September 1954 by  
*Professor Dexter Perkins*

Gentlemen :

I am very happy to be here this morning. I am glad to talk on a subject which interests me deeply and on which I have written a good deal.

I am going to define "strategy" in what I have to say as "the accumulation and application of physical power." I want to start by saying something about the first of these two general topics.

Americans, historically, have not on the whole valued as highly as they ought the significance of physical power in international affairs. I am afraid that we are still, in 1954, a relatively naive people so far as physical power is concerned. We have certainly been a naive people, looking at the matter from the historical point of view.

There is a very interesting book which has just been published by Charles Burton Marshall, who is a member of the Policy Committee of the State Department, of which Paul Nitze and George Kennan have been members (people whom I very much admire), on this question of "The Limits of Foreign Policy." Mr. Marshall points out, in retrospect, how attracted the American people have been to gadgets in international affairs and to formulae that really do not cut to the heart of the problem of international relations. One of these gadgets, for example, is arbitration. It is of course useful from time to time to settle disputes by arbitral

means. But when you consider the vast amount of work that has gone into the negotiation of arbitration treaties and then consider how few really significant questions have ever been settled by arbitration treaties, you arrive at a truer estimate of their significance.

The Treaty of 1871, the Geneva arbitration, is perhaps as conspicuous an example as we have. The settlement of the "fisheries" dispute with Great Britain in 1910 is another example. But in general it is difficult to point to international controversies, even of the second rank, which have been settled by the process of arbitration.

Secretary of State Bryan, in 1913-14, attached very great importance to what were called the "cooling-off treaties," those treaties which provided for investigation of a dispute before resort to war. The "cooling-off treaties" have never been invoked, but an immense amount of work went into them.

Secretary Kellogg, in 1928, negotiated that extraordinary instrument, The Kellogg Peace Pact, by which the nations of the world agreed not to resort to war, "as an instrument of national policy." This arrangement, this treaty which was nothing more than "peace by promises," was violated within the year and it was, of course, completely impotent to prevent the events of the thirties and the still more extraordinary and tragic events of the forties.

Another expedient — but one of which I wish to speak a little more respectfully — is the idea of "peace by international organization." I think it would be a mistake as a practical matter to underrate the possible significance of an international organization such as the United Nations. There are many ways in which such a forum can be useful; for example, in the exchange of views, in the maintenance of contacts, in dealing with questions that do not involve peace or war and in dealing with technical questions. I do not wish to be understood as critical of the United Nations

in any fundamental sense. But it seems to me that the idea of collective security, which was written into the Charter of the United Nations and which was the fundamental principle written into the Covenant of the League of Nations in 1918, is not an idea in its general form in which one should put his complete trust.

You will find in the *YALE REVIEW* for July an interesting article by Professor Arnold Wolfers of Yale on "Collective Security," and one of the most thoughtful which I have seen. He comes to conclusions with which I should be happy to associate myself. He comes to the conclusion that the idea of collective security in its total sense is an idea which is unworkable. But he also suggests — which it seems to me is important to remember — that out of collective security as it has been batted about in public discussion in this country for the last thirty years has come the idea of close association with other nations for the maintenance of peace. Out of the idea of the Covenant and the Charter there has come a frame of mind (to me, an important frame of mind) which makes it possible for the United States to associate with other like-minded nations in the maintenance of peace. I do not think there are very many of us today who do not think that is overwhelmingly important. We have long since passed the stage where we would go-it-alone. In this respect the faith of the American people in international mechanism, while exaggerated, has had the important by-product of making us more ready to accept the notion that we must operate with other like-minded nations in the field of international affairs.

Nonetheless, as you can see from this brief historical review, the Americans have often thought of gadgets as the solution of international problems. There is no way out of the proposition that "the ultimate source of authority in international affairs is power and nothing less than the maintenance of power is adequate for the direction of the foreign policy of a nation such as the United States." The question comes, of course, as to what we

mean by "power," how the power is to be accumulated, and how the power is to be applied. But we must be strong and clear (as probably everybody in this room is) as to the fundamental proposition. It is one thing to talk about accumulating power and another thing to accumulate power. The minute you begin to discuss the problem in practical terms, you come up against political factors. You cannot say that the problem is simple. You cannot even say that the problem is technical, for though it is technical it is also a major political problem — and that is true of every nation in the world.

I do not know how many of you happened to have read the very interesting book which I reviewed in the YALE REVIEW — Sir John Slessor's "Strategy for the West," which was published only a short time ago. We find there some of the same preoccupations on the part of a distinguished British airman that we find on the part of our leaders here in the United States: the question of how to gear the problem of power to the realities of our economic and political life. There is a point, for example, beyond which the burden of preparedness becomes politically heavy and produces a possible reaction. You cannot simply say: "We must have all the power that there is." You have to consider the fiscal problem. In a country like the United States, which is devoted to a system of free enterprise in a broad sense of the term, which is still a capitalistic country and a country dependent upon individual initiative, the problem of heavy taxes and of large government expenditures is a problem which is bound to impinge upon the problem of preparedness, as all of us in this room would wish to see "preparedness" defined.

When you come to the question of how large the budget should be, I think there are some general observations which I want to make from a political point of view. Certainly there are limits to what the American people will stand and these limits have to be observed. This means several things, to which I want particularly to call your attention. In the first place, does this

mean that the balancing of the budget is a fundamental consideration as against the necessity for national security? I, personally, would answer that question in the negative, if you will give me leave to expand my thoughts. I think that the elementary principles with regard to this matter are not always clearly understood.

I call your attention particularly, again, to an article by Professor Sumner H. Slichter in July, 1952, issue of the ATLANTIC MONTHLY. He asks whether inflation is bad. Inflation is bad if you apply the term in the fullest sense for there is a point at which inflation is like alcohol: too much of it leads to the intoxication of a body politic and cripples and destroys. But it is a wholly different matter to assume that we must have a balanced budget in the literal sense of the word. There is some political leeway there and the nature of the leeway is defined by the nature of the American economy.

What we have to avoid is a severe rise in prices in the United States, which is inflationary. But, as I think any trained economist will tell you, if you are increasing the rate of your productivity in the country at large and unbalance the budget only a little you will not have inflation. In other words if the production of goods will sop up the creation of money, you will have a relatively stable economy. I do not think that a fetish ought to be made of a balanced budget from that point of view. The budget ought not to be too much unbalanced, but it need not be a matter of complete fiscal orthodoxy.

I want to call your attention to another factor in this regard. After all, the things about which we are talking here are vital to the security of the nation, and we *can* have (I do not say we *do* have) so much preoccupation with finance that we neglect the very elements of national security. This is precisely what happened in the 1930's, of course, in the case of Great Britain. The business-minded governments of Stanley Baldwin and of Neville Chamberlain put so much emphasis on fiscal sanity that they neglected the defense of the nation. I think there is a lesson there

of fundamental significance to the America of the 1950's, and indeed the example of the precedent which I cite is one which I believe ought to be in all of our minds. You cannot buy peace at the expense of national security. You cannot be so preoccupied with the fiscal problems that you do not do what needs to be done from the point of view of national defense. We must bear that in mind.

We have an administration at the present time (and this is not criticism — this is analysis) which is more sensitive to the pressure of the business interests than the administration which preceded it. This may be very well and it may be useful. Certainly, as a historian, I do not make snap judgements of an administration inside of twenty-one months; I begin to tell you what it has done or has not done after I have seen it in retrospect — that is the historian's privilege. But there is always the possibility that there will be too much preoccupation with the fiscal and too little preoccupation with the elementary subject of national defense.

A second question arises with regard to defense. This is connected with the idea of fiscal sanity. I think that we know that those friends who have most been preoccupied with fiscal affairs have again and again laid the emphasis on *defense* as distinguished from *offense* in the construction of the national arms. We have examples of this not only in American history but in European history.

We have, for instance, Jefferson's famous "gunboat policy," which was probably the most cock-eyed idea that has ever been posed by a President of the United States with regard to national security. I have never been able to see how it ever got by the Secretary of the Navy in the period of the Jefferson administration.

We have such an idea as the Maginot Line: the French idea (on land this time) that you could construct a barrier which

could not be breached. You know what happened to the French under those circumstances.

Today, we have, of course, a certain number of people (and they are those who represent the extreme Right Wing on the problem of national defense) who would wish to see defensive air power made the center of our system of armed organization and who assume that by defensive means you can protect yourself. This is the old "isolationism" in a new guise.

It seems to me that if there is any lesson that the Study of War suggests to the historian it is that offensive weapons have to be thought about and have to be created. You cannot fight a war by sitting still and letting somebody fight you. The preoccupation with defense may be, politically, a very dangerous thing. However, I find evidences of it from time to time in the language of some of my contemporaries.

A much more difficult question (and this, of course, is a question on which I do not regard myself as a specialist), a question which will have to be faced, which is bound to cause grave difficulty and which, I think, presents a challenge to the disinterestedness and to the breadth of view of the Armed Services, concerns the relative importance of the various branches of the Services. I think that the political lesson there is fairly obvious. The pressures today — and this is understandable — are toward the building up of air power. They probably should be, in the sense that air power will play a role in the future such as it has never played in the past. I do not see how we can get away from that fact, but it would be a very grave mistake if our preoccupation with air power let us neglect the role that the Army and the Navy can perform in the defense of the nation and in the protection of its security. Here, again, I think that political and fiscal motives operate alongside the question of national security as to the character of the problem. I think that we have got to be careful to recognize that air power is not a solution of the problem of security in a total sense of the word.

There is too much talk about massive retaliation, which means air retaliation, as if it were a solution to the international problem. It is not a solution of the international problem. That fact has been made very clear by some contemporary events, to which I shall want to call your attention a little later in these comments but which, for the moment, I will not attempt to deal with. Let us remember — again politically speaking, however — that we have a difficult problem here because it is so easy for simple-minded people to assume what appears in the newspapers again and again; i.e., that there is some simple method of licking the problem of power, and that massive retaliation is it. I must say quite frankly that I think Secretary Dulles made a very great error, from the standpoint of the political education of the nation, in laying the emphasis on massive retaliation. Massive retaliation by air will not be enough if we are involved in war; indeed, it will not be enough to maintain our position in the world-at-large.

What I have said relates, as you can see, to the fiscal considerations which affect the attitude of Congress when they come to vote funds for the Armed Services. I want to turn next to the question of the *application* of power, as distinguished from the accumulation of power. There are all kinds of technical problems which I am not competent to discuss with regard to the accumulation of power. What I have wanted to do is to suggest the general character of the problem. Beyond the fiscal problem, and lying at the very roots of the psychology of the American nation, is the question of under what circumstances we can fight and will fight.

First, we are not in a position — and will never be in a position — to fight a preventive war. There may be individuals who believe in a preventive war (and there are such). I am not very much disturbed because I just do not think that that is the way Americans are made. I do not believe that the national psychology of the American people, whatever it may be, would make possible a preventive war. I call your attention to a few facts in that regard.

I call your attention to a FORTUNE poll, for example, of a year or so ago in which the question was frankly asked and in which nine out of ten of the pollees returned a negative answer.

Only last night I picked up at the bookstore here the ATLANTIC MONTHLY for September, in which there was a brilliant article (and one which I think Americans should read) by Mr. Thomas Finletter, who, of course, was Secretary of Air in the Truman administration. I remember Mr. Finletter well. As a matter of fact, he was a subordinate officer in my little show at Chaumont in 1918 and I have seen him several times since then. This is an alarmist article in a sense. It is an article calling for a much greater expenditure on national defense. Mr. Finletter says that a preventive war is a practical impossibility for the people of the United States and with his knowledge not only of the strategic problems but of the political problems, I think his point of view is entitled to very great respect. I do not think that we can think in terms of the application of power in that sense.

What you have to have in war is the united moral support of your own nation — this is something much more easily understood by politicians than it is by technicians or by naval and military men. This is a necessity for an effective waging of war. We went into one war where we did not have it and, although there were certainly brilliant actions on the seas and one brilliant action on land in that war, we made a mess of things in general. That, of course, was the War of 1812. Reading the history of the War of 1812 is no fun for most Americans. The trouble was that the Madison administration allowed the country to drift into war when it was not integrated at home, when there was a deep division of opinion, and the war was an inconclusive and, in some ways, an unsuccessful war. Preventive war would violate the sensibilities of such large numbers of Americans — some of them fuzzy-minded, it may be — that it would not be, in my judgment, a practicable proposition.

Indeed, I will go further than that. I think that the soundest strategy in the world was pursued by Woodrow Wilson in 1917, and still more by Franklin Roosevelt in 1941, when they saw to it that the initial blow came from the other side. Indeed, it was the strategy of Abraham Lincoln in 1861. There is an immense political and moral gain in the application of physical power if you can regard yourself as attacked. That was why Lincoln waited for the South to fire on Sumter. That was why, from March 4 to April 14, 1861, the administration seemed to be shuffling, fidgeting and not getting anywhere in particular.

Then, of course, we know the story of 1941. Having just reviewed that in an article in the VIRGINIA QUARTERLY for Summer, 1954, entitled "Was Roosevelt Wrong?" (which I say he was not), I believe what he did was to so maneuver the "situation," if you wish to use that word, so that it was the violent, hateful and shameless attack upon us which unified the nation and made our war-waging capacity very much greater than it would have been in other terms.

From the point of view of American psychology and American politics, it is a good thing to have the other side strike the first blow. Much the same thing applies to the policy of patience pursued by Woodrow Wilson in the years 1915-17. Of course I would not deny that there are risks involved there (we can talk about that later). But I think, on the whole, that when you view the election in 1916 and see the degree to which a large part of the country was not yet reconciled to the fact of international light it was a good thing we waited until the issue became completely clear so far as Germany's submarine warfare was concerned and, therefore, were united when the time came.

There is something, however, far more profound than this involved in the question of international politics and the application of force. That is something which I want to see much more studied than it has been (on which I have written a little essay in my

book, "The American Approach to Foreign Policy") and which deserves a great deal more discussion than it has yet received. It is the question of the public mood in the broad sense of the term, the oscillations in the public mood in the formation of foreign policy, and, therefore, in the application of force.

Let us look at this problem from the historical point of view. If you view the history of the United States over the period of one hundred and sixty-five years, or since 1789, you will find that the American people at times have been ready to fight and at other times have been extremely reluctant to fight. Let me go over the timetable with you in a brief sort of way.

From 1789 down to about 1810, the prevailing American mood was, on the whole, peaceful. There was a little, informal war with France in 1798, but John Adams was truly interpreting American sentiment when he brought it to an end in 1800.

In the Jeffersonian period, as you know, we acted (quite ridiculously, I grant you) on the theory that commercial retaliation was a rational substitute for war and that we could bring other nations to heel by commercial retaliation. This did not prove to be true. I may say that the study of the "Jeffersonian embargo" is something which I think should be very seriously considered and emphasized. This, to me, is a very striking example of the futility of that point of view which assumes that economic pressure is a substitute for war, for I do not think that it is. It was not so in the League dispute of 1935 in the Italian controversy with Ethiopia; neither was it so when the pressure was applied in the freezing of Japanese assets in July of 1941. This will not work. However, the mood of the country was such that it was tried; it was tried, and failed.

Around 1810 there came to be a wave of national sentiment, the existence of which, if we were to analyze it, is perfectly clear, and the country moved toward war. This period of nationalism is exhibited in the War of 1812.

As usually happens after war, this period of nationalistic sentiment extended itself for a little time after the War of 1812, and then the pendulum swung back again. So in 1823 we had the Monroe Doctrine, which is the apex of the nationalistic movement.

From 1823 to roughly 1843, there is a situation where the pacific mood dominates. The country is preoccupied with its internal problems; the country is thinking internally, and not externally. This period is the period (and you can put it in personal terms if you want to) when "Old Hickory" (Andrew Jackson) came to the presidency. Of course my conservative forebears up in New England thought the world had come to an end and that he surely would plunge us into war somewhere. As a matter of fact, of course, this was an administration which was extremely restrained in the field of foreign affairs.

Then, again, we get the swing of the pendulum in the period 1844-48 with a new nationalistic impulse which resulted in the Annexation of Texas and the Mexican War, the pendulum swinging toward a more military foreign policy.

You can extend that sort of thing to the period of the 1850's, a period in which this nationalistic sentiment is declining and in which there is a preoccupation with domestic affairs.

After the terrible and tragic bloodletting of the Civil War (1861-1865), there is again a period when the country does not want to be bothered; when it demobilizes the forces, reducing its armed establishment to an absurd figure. In other words, there is a period there where reaction sets in.

In the 1890's there is again a movement of exuberant nationalism, illustrated by the War of 1898 and by the personality of Theodore Roosevelt.

Again (I will skip some of the steps, but I am sure that I am making my point clear), there is a period of reaction incident to the Depression of 1929 — a period when the country,

again, does not want to be bothered and resorts to measures which in retrospect seem fairly absurd (and which, indeed, seemed absurd to me at the time); that is, resorted to measures to keep out of war by keeping out of trouble in general — the “neutrality” legislation of the period 1935-37. Although I am sure the President did not sympathize with this period of the public mood, he was powerless to check it. It was not until after Munich and the outbreak of the War in Europe that the Americans woke up to their problem again and that another type of sentiment existed.

You will always find that administrations in power must be affected by the public mood. The average citizen probably counts less in foreign affairs than he thinks he does. But when it comes to a given moment, the way in which the country expresses itself will determine whether or not it is possible to apply force vigorously to the solution of an international problem.

In regard to Indochina (here, I am speaking of the present to illustrate my point), the fundamental fact is that this country in the last analysis did not want to do anything about Indochina. There may have been good reasons why we acted in the way we did ( I shall come back to this later on) in divorcing strategy from politics, but the fundamental fact was that President Eisenhower, Vice President Nixon and Senator Knowland, if you will, sent up these trial balloons (*ballons d'essai*, as the French call them), and the country's response was unfavorable. We did not take vigorous action in Indochina very largely because American public opinion was at the present time by no means willing to commit itself to any kind of enterprise in the Far East which would involve the application of power on a grand scale.

When you reach the fact of the application of power, there is another set of problems with which I want to deal: that is, the application of power once the country has gone to war. The last World War had some interesting examples of the manner in which Americans apply power and some interesting questions which I am not going to dogmatize about but which I want to

present to your attention, particularly, because they are so much discussed.

One very clear contrast is made again and again. Of course a most important book on the subject, a brilliantly written book (with which I disagree), is Mr. Chester Wilmot's book, "The Struggle for Europe," in which he states that the Americans wanted to go straight for their objective without thinking of the politics of the problem, but that the British saw further; they saw the political elements of the problem and wished to pursue a strategy that was very different from that of the Americans.

There is not any question, of course (although the matter will be clouded by denials or half-denials), that Winston Churchill and George Marshall did not see the problem of the Invasion of Europe from the same point of view. They did not see it from the same point of view because they had different backgrounds and different memories. Churchill remembered the war of the trenches of 1914-18, and he did not want to get into it again; he had not adjusted himself to the realities of land power under new circumstances. Marshall interpreted and represented well the point of view of the American people: to get the war over with, to strike at the enemy and to demolish him -- no matter if the cost were high. This point of view which General Marshall steadfastly maintained is only one of the many honorable accomplishments of his.

But to go back to the problem, which side was right on this particular issue? I think there is grave misunderstanding and a tendency on the part of naive people to accept the British point of view as against the American point of view: the theory being, of course, that Churchill had his eye on checking Russia and that the Americans were simple-minded individuals who did not understand what was coming at the end of the war. There are several things to be said about that in making the problem more precise. One of these is this: contrary to the widely-held view, Churchill never *did* talk in terms of active and extensive opera-

tions in the Balkans. What he talked about was advancing into the Italian Plain and up through the Semmering Pass toward Vienna.

This little book of Charles Burton Marshall's, to which I have called your attention, makes a very penetrating comment on Churchill. It was Churchill who used the phrase, "the soft underbelly of the Axis." As Marshall says, this is a phrase which a great man ought never to have used. If you have ever been in the Alps, you do not think of it as being very soft. A line of approach from Italy into Austria would have involved the heaviest kind of fighting and a massive mobilization of materiel. While we were fighting our way up through the Semmering Pass, the Russians would have been advancing into the western industrial area in Germany, in all human probability. I want to dissent very, very emphatically (so far as my limited competence goes) from the point of view that a campaign against the enemy from the south would have yielded impressive political results. I think that it would have yielded very unhappy political results in all human probability in that it would have left the Russians in control of more of Germany.

There is another point there, however, that interests me very much as a historian. On this point I think Churchill was right and I think that probably General Eisenhower was wrong. You know that in the summer of 1944 the war-making governments agreed on a zonal arrangement with regard to Germany. This zonal arrangement was, of course, on the basis of what was thought likely to happen so far as the position of the armies was concerned at the end of the war. What happened was, in practice (as you no doubt know) that the Americans advanced beyond the zonal boundary. My boy was then an artillery forward observer in one of the units that actually got in sight of Czechoslovakia; in fact, I think that he stepped over the boundary at one time. We were in a position beyond our zonal lines, as I say. Churchill in this question did not say: "We will not honor our

agreement." What he did say was: "Hold your positions until you have dickered with the Russians; use this for trading purposes." I think that it is true that they perhaps knew we were a little naive, politically. We drew back and gave up territory which we could have held pending an arrangement with the Russians. There was a question where strategy and politics went together but where, it seems to me, that the political implications of our action were very important indeed.

I think that politics entered into World War II (and here, again, I can only touch on these questions) in a very important way in the Pacific in the gross miscalculation which we made of the military power of China. It seems to me that this is a problem which could have been better handled. Of course it is a little difficult to retain an ardent faith in General Chiang Kai-shek, but certainly the Burma Road enterprise and the whole problem of land operations in China was given an exaggerated importance — and it was given an exaggerated importance because the American people felt that way. This was a political decision which, in my judgment, warped and distorted military strategy.

Let us now look at the problems of the relative present and let us talk once more of politics and strategy with regard to Korea. You can see how politics entered into the situation if you go back to Mr. Acheson's speech of January, 1950 — the famous speech in which he defined the defense perimeter of the United States. There was a strong demand and pressures toward economy and that meant defining our objectives in a limited way. So we defined them in a way that led the Russians to believe that we would not trouble much about Korea. I know Mr. Acheson and respect him very much indeed, but I do think that speech of January, 1950, was a mistake. It was based on certain political conceptions which at the time were important but which, it seems to me, gave away the game in part to the other side. However, I do not want to make that point too dogmatically. Mr. Acheson

has said that it did not have anything to do with it — that they would have attacked anyway. Maybe they would have attacked; one can never be absolutely certain about motives. But we had an idea there at the time, dictated by the state of American politics and by the tempo of the public mind, which could not take account of what was about to happen.

When you come to the Korean War itself, the political factors are very, very obvious. The reasons why we, after the fighting in Korea, finally agreed to an armistice are no doubt partly strategic but they are also partly political. We had upset our allies very much indeed — more so, I think, than they needed to be upset. But the unity of the nations of the Free World is a *sine qua non* of the effective military and diplomatic action of the United States. You cannot have unity if you do not unify. You cannot have unity if you take the position that you know all the answers and that nobody else knows any of them. I think that we have come to the stage in our history where we must accept the political implications as well as the strategic implications of association with other Powers. This, indeed, is largely the theme of this very interesting little book by Charles Burton Marshall, which I have mentioned to you, called "The Limits of Foreign Policy."

There were possibly good strategic reasons why we should not go on into North Korea. In my judgment, there is no reason to believe that a new advance on the Yalu would have necessarily ended the war. My own guess is that it would not have brought the Russians into the conflict, but, there is no reason to believe that it would have necessarily ended the whole business. It would have, of course, involved much more heavy sacrifices than we actually had made and probably more Armed Forces than we could dispose of in one theatre at that time. The political element in the problem was a fundamental element — and that is the point which I want to make. You cannot divorce strategy from the public mood — you cannot divorce strategy from the association with our allies.

Much the same thing occurs in connection with Indochina, only I think that the case for not attempting to strike in Indochina was a stronger case than the case would have been for abstention in Korea. The reasons, again, are reasons which have to be taken into account because they are political reasons. If national resistance can be stimulated and embodied, as it has been in Korea in the person of that gallant, but somewhat misguided, Syngman Rhee, if you can get a body of native opinion that is sufficiently strong to provide the nucleus for sustained resistance to communism — that is fine. But if you are dealing with a social and political situation which is practically fluid, and where you condemn yourself to either the passive or active resistance to a large part of the population, you have an entirely different problem. I think it was fairly clear that one of the considerations involved in the case of Indochina was that the native population could not be depended upon in any substantial way to support any operations against the forces of Ho Chi Minh. The political elements there were undoubtedly amongst the reasons why the Eisenhower administration after its initial *ballon d'essai*, which I mentioned a few moments ago, decided in favor of a very conservative course and did surrender a part of Indochina to the communists.

Those are some of the problems which arise—and they will always arise. Before I leave this question, I just want to point out one other irony which is a part of the current opinion. You remember in Mr. Acheson's speech of January, 1950, that he drew a defense perimeter which did not include Formosa. Now, we think Formosa is essential. This is really not a scientific question; this is a subjective question. The public mood has changed and the public attitude toward Formosa has changed with it in a way.

The final question (for which I see I only have a moment or two) with regard to the application of power is as to politics and victory. Does war imply, as has perhaps been stated by

General MacArthur, ultimate complete submission on the part of the vanquished? Does it imply the complete ignoring of political motives in the making of a military effort? Of course, I do not think that any politically-minded person will possibly accept that point of view. These political realities have to be dealt with — and they are of different kinds at different times.

Take, for an example (and a very interesting one), the limitations placed on military power at the end of World War I. What happened? I was a staff officer at Chaumont in 1918. Of course we had just got going in the fall of 1918, from the point of view of military operations. There were a great many individuals at Chaumont who wanted to go on. On the other hand, this point of view was not the point of view of Marshal Foch, who, of course, was the Generalissimo of the Allied Armies; neither was it the point of view of the President of the United States. What the President tried to do was to bring about peace by edging the Germans from one position to another in a series of notes, by leading them to assume that they would be better treated if there were a revolution in Germany, and by assuring them that they would be given a fair adjustment at the end of the war. There are many ways in which that did not exactly work out the way it was planned to work out; but it did abridge the war and it did end the war sooner.

There is certainly a case, although I do not want to make it an "absolute" case, for the assumption that it was wise to end the war at that time and in that way. It is true that the Germans would have been more fully convinced they had been licked if the war had gone on longer and that Hitler would not have been able to talk about the deception of the Peace of Versailles. But I wonder whether the German nationalists of the Führer type would not have found some other lie, if it had not been that one, that would have served them just as well.

On the other hand, let us look objectively for a moment at the Rooseveltian technique. In the case of Wilson there is

something to be said for his point of view. But I am not amongst those who would criticize President Roosevelt for his "unconditional surrender" speech. In many cases this is thought to be in error. Pretty nearly every time I go to England I am told that it was an error on the part of the President; that he laid down an absolute formula. It seems to me that the answer to that one is one thing in the case of Germany and another in the case of Japan. In the case of Germany, the answer to the idea that this was a mistake seems to me to be that there was a revolution against Hitler in July of 1944, and that it nearly succeeded. Maybe you have read the extraordinary story (Mr. Wilmot tells it in "The Struggle for Europe") of Hitler there, holding his meeting with his staff officers outdoors instead of indoors, which was utterly not according to plan. He was standing at that heavy oak table so that when Stauffenberg's bomb exploded against the table it merely lacerated Hitler instead of destroying him. I think the important thing is that Hitler was firmly in power. Yet there was a revolution against him although we had said that surrender must be "unconditional."

The answer to the "unconditional surrender" formula in the case of Japan is something different, of course. There the answer is that we did not extort unconditional surrender, but we eventually agreed. Ambassador Grew (for whom I have very great respect) was one of those who was most influential in the retention of the Emperor of Japan. In other words, we did make some concession. I do not think that the unconditional surrender hurt very much. It may have stirred the national revolution and it may have been valuable from the Nationalist point of view. But you do not need to be bound by it, in the absolute sense, if an opportunity arises to make concessions which abbreviate the war and which do not jeopardize the nation's security or its objectives.

It is all a question of power, as you can see. It is not a military question, but a political question. That is why the debate

goes on, why it will go on at all times, and why it has to be thought out in both strategic and political terms. All we can say to civilians is that they ought to be more fully aware of the necessity of power and that they ought to study the problems of power more than they do. Perhaps what ought to be said to those who are the mechanics of power is that as they view the problem they must somehow or other reconcile it with the democratic process and with the political instincts of a self-governing people.

## BIOGRAPHIC SKETCH

### Professor Dexter Perkins

Professor Perkins was born in Boston, Massachusetts, on 20 June 1889. He holds A.B. and Ph.D. degrees from Harvard University.

His teaching career began at the University of Cincinnati in 1914 as an Instructor in History. In 1915 he joined the faculty of the University of Rochester as an Instructor of History and advanced through the various ranks, attaining full Professorship in 1922 and becoming Head of the Department of History in 1925. In 1954 Professor Perkins accepted the John L. Senior Professorship in American Civilization at Cornell University.

He was the first Professor of American History and Institutions at Cambridge University in 1945-46. Since 1950 he has been President of the Salzburg (Austria) Seminar in American Studies. Professor Perkins has lectured at University College (London), at the University of Uppsala (Sweden), and at the National War College. He was Official Historian for the Overseas Branch of the Office of War Information at the United Nations Conference in San Francisco and is currently an Overseer of Harvard University and Chairman of the Harvard Foundation Council.

Professor Perkins has written widely on American foreign policy and is a specialist on the Monroe Doctrine. He is the author of: "The Monroe Doctrine, 1867-1907"; "Hands Off: The History of the Monroe Doctrine"; "America and Two Wars"; "The U. S. and the Caribbean"; "The Evolution of American Foreign Policy"; "The American Approach to Foreign Policy" (a general philosophical treatment of the American approach to foreign policy which has been translated into German and Japanese).

# **ECONOMIC FACTORS AFFECTING STRATEGY**

A lecture delivered  
at the Naval War College  
on 8 September 1954 by  
*Professor Donald O'Connell*

## *I*

I feel deeply honored to be permitted to participate in this enterprise upon which you are engaged. No student of economics could fail to be intrigued, moreover, by the challenge you have presented to your guests from that field. Economics is one of the social sciences. No more provocative invitation could be extended to an economist than that he attempt to formulate the bearing that the techniques and principles of his discipline might have for men in another discipline daily occupied with preparation for one of the greatest social problems any man must face, that of preserving society's structure and values in a world in which utter destruction of them both is a possibility.

Since you must consider every sphere of knowledge that might contribute to your equipment as strategists, it is not surprising that you have included economics. There is a kinship between economists and military strategists. Economists often describe themselves as being concerned with the study of the most effective means to achieve given ends. They refer to economics as a science of choice. This is because they deal with the conditions of physical existence. Material means are finite. Men's wants do not seem to be. The science of economics attempts to indicate which, among the conceivable means of employing material and human resources to achieve given ends, is the most efficient. Economists are people who read, write, talk and think about alternatives. And so are military strategists.

One of the things that keeps economists interested in their work, and sometimes vexed by it, is that it is always shrouded

in uncertainty and marked by severe limitations in the degree of control that can be exercised over the materials of investigation. Military strategists confront the same difficulty.

There is an especially close kinship between economists and *naval* strategists. Whereas the traditional mission of land armies has long been formulated in terms of seizing or defending territory against armed opposition, the world's naval forces have often been quite as much absorbed in serving as the instruments of economic warfare as in confronting, containing or overpowering hostile naval power. The mere utterance of the words blockade, embargo, contraband, summons up reflection on the economic role of naval forces.

Although the present era, with its formalization of "military government," its "unification of the armed services" and its preoccupation with industrial mobilization, imposes on all strategists — of whatever service attachment — the obligation to include economic consideration in their reckoning, the Navy's historic role in economic warfare and economic defense may inspire special curiosity about the possible usefulness of systematic economic calculation.

## II

The experimental character of the course of study at the Naval War College suggests, of course, that the assimilation of economic analysis into the deliberations of the strategist has not gone as far as you consider might be profitable. On the economists' side, I presume to say, less continuous thought has been given to strategical applications than the importance of strategical ends warrants. Leaving aside such shortcomings as my own, therefore, one can say that the strategist and the economist need to work more closely together than heretofore for quite some time before economics can make a maximum contribution to strategy. The terms of the partnership have yet to be worked out. The value of the economist's potential contribution has still to be appraised.

The problems on which the strategist might legitimately expect information and reasoned judgment have, to a large extent, still to be defined. Only frankness concerning the limitations on each side can clear the way for the development of an applied economics in the field of strategy.

I shall attempt to observe that rule of frankness immediately by telling you what I conceive strategy to be. You will understand that my only aim in doing this is to save you the trouble, later on, of appraising the judgments or explanations that I shall later offer on the bearing of economics on strategy. By knowing my frame of reference, you will be able to make your own adaption of what I say about economics.

### III

I conceive strategy, then, to be the art of designing a policy that will govern the action to be followed in the pursuit of a contested objective. The objective *may* be military; but the art of which I am thinking might quite as well be applied to economic, political, even cultural, objectives.

A strategy, on this line of thought, would be some one among the different policies adopted in pursuit of a chosen goal. In the pursuit of a national goal of durable security, for example, alternative strategies might include those of (a) all-out preparation for a test of strength, (b) the building of alliances to achieve a balance of power stalemate, (c) bargaining with limited concessions to achieve peaceful co-existence, (d) the purchase of peace through submissive adaptation, or (2) the development of an association of nations inspired and effectively organized to expose and dissolve conflicts of interest. (It goes without saying that not all of these strategies would exist as possible alternatives in all contests.)

Although one would be understood if he were to speak of a strategy of bluff, of deception, of clarification, or of confrontation,

especially where the contested objective is a limited or instrumental one, I shall use the word strategy more broadly. Its reference will be to an objective involving a dominant aspect of the total interests of the entity (say, the nation) entertaining a grand policy of action. For convenience, we might refer to deception, bluff, and so on, as practices within a strategy.

For a statement of the dominant elements of the strategical situation I should like to borrow and adapt from games theory, as associated with the names of John von Neumann, the mathematician, and Oscar Morganstern, the economist, with whose path-breaking work *The Theory of Games and Economic Behavior* you must be familiar. The dominant elements are four: choice, interdependence, chance and imperfect information.

No strategy is possible where there is no *choice* of action. A skeet-shooting contest does not place a strategy-making burden on the contestants. The deliberate missing of a bird could not ever bring one closer to victory. Tennis, on the other hand, does; throwing away the third set in order to regain one's strength may be the best way to increase one's chances of winning a four or five set match. *Interdependence*, one might call the distinctive element of the strategic situation. From the sallies of courtship, through the bluffs of poker, the competitive advertising of big business, the trial balloons of politics, and the thrusts and parries of warfare, the dependence of one player's decisions on the other's actions is inescapable. *Chance*, while not always present in the strategical situation, is rarely completely absent from it. Life is chance, and if I may amend Bishop Butler I might say that if "probability is the very guide of life," it may be a very undependable guide unless chance is purely random and its results predictable in the long run. Like chance, *imperfect information* may or may not be present in the strategical situation. But although it may be absent from the strategical deliberations of the chess player, before whom the opponents' dispositions are fully exposed, I need not labor the point

that in matters of international policy, information concerning others' resources and operations is always imperfect.

A common factor characterizing all four elements of the strategical situation is, obviously uncertainty. It is a major function of the strategist to reduce it as affecting himself, while, if possible, increasing it for his opposite number.

The similarity between economic affairs and military affairs is perhaps as clear in the respect of their both being affected by uncertainty as in any other respect we might imagine. In a competitive struggle between two great giants of industry each side is usually quite uncertain of the effect that his own policies may have upon the other's fortunes, uncertain as to how his opponent might react to these policies, and uncertain of his own ability to meet such counteraction. The theories of oligopoly are testimony to the difficulties that economists have confronted in even formulating the types of problem involved. The military strategist's task of appraising the sensitivities, resourcefulness and strength of potential enemies is, I presume, no more easy.

#### IV

I have been stressing the similarities that one may detect in the work of economists and strategists. I think that a final similarity must be mentioned before I attempt to suggest the uses to which strategists might put economic analysis. Economists, I have said, do not choose objectives. If they are asked to describe the most efficient way to achieve conditions of stability in agricultural income, they will attempt to conceive or discover and then appraise, in terms of effectiveness and cost, alternative methods by which the objective might be reached. Yet economists do attempt to expose inconsistencies among objectives. Thus, they would feel qualified to demonstrate that the objective of a guaranteed, high level of income for every farmer would be consistent with the attainment of a flexible pattern of farm production regularly adapting to shifts in consumer demand.

They would feel qualified to argue that a governmental policy designed to guarantee full employment might be inconsistent with one designed to maintain stability of the price level. "You can't have everything," the economist would say. "Just as I am prepared to show you the most efficient means to any given end, so am I prepared to help you, indirectly to be sure, formulate a combination of mutually compatible ends."

Strategists, I take it, operate under the same type of self-denying ordinance as do economists. They may have more to say about whether any single end is attainable at all than economists do, for they are commonly under a stronger compulsion to reach decisions which may be irreversible. But their prime role, as I understand it, is, like the economist, to show the way once the objective has been defined.

## V

Without some assumption, however, concerning the grand objective toward the fulfillment of which current strategical considerations must be directed, it would be difficult for me to be as specific as I should like to be about the applications of economics to strategy. I assume, therefore, the major objective of assuring peace and progress for the nation in a world of tension. I suggest that the strategical problem involved may be broken down into five component parts or tasks. The *first* has to do with increasing one's own strength against the possibility of hostile action by any other nation or combination of nations. The *second* is to identify the nation or nations most likely to undertake aggressive action against one's self or one's allies. The *third* is to avoid any action that will contribute to the strengthening of potential aggressors and, if possible, to devise actions that will weaken him or them. The *fourth* is to become prepared to bring one's own strength to bear against the likely aggressor's weaknesses in case of a showdown at any moment. The *fifth* is to foster the development of a world situation in which any other nation's resort to war would be un-

profitable, not only because he would be unlikely to win it, but because the availability of non-warlike means of settling differences would reduce his ability to justify resort to war to his own people and allies.

In seeking to describe the means to fulfill each of these five tasks, the strategist must inevitably face, if not actually be hampered by, choice, interdependence, chance and imperfect information. In the execution of some of them, the economist may be of help. I shall try to suggest the ways.

From well before the time of Adam Smith until the present day, economists have written of a nation's strength in terms of its wealth, or, at best, of its undifferentiated productive resources, including the strengths and skills of its working force. Since the time of Adam Smith, most economists have been in agreement that a nation's wealth could be most surely increased by a policy of giving fullest scope to specialization in production. Through specialization in the production of those commodities and services in which each locality and each nation enjoyed the greatest relative advantages, economists have generally supposed that products could be produced where production could be carried on at least cost and sold where the demand for them was greatest. This commitment to specialization lies at the heart of the policy of free competition and free trade.

It is true that the nineteenth century saw develop on the Continent of Europe a school of economists unwilling, for nationalistic reasons, to accept the possible consequence of a policy of international free trade; that one's own nation might prove to become, because of a slow start in industrialization or a relative paucity of natural resources, a subordinate factor in a world inhabited by a few economic giants and many weaker members. Nineteenth-century America had its own dissidents from the policy of laissez-faire, and for the same reasons. In our own time, the distaste for the consequences of free international markets is

freely exhibited in the economic policies of many western nations. It is also, but for no persuasive reason, manifest in some aspects of United States trade policy today. Its most understandable and defensible manifestation in the present era is found among the underdeveloped countries.

Despite these qualifications, I think the bulk of economists would say that specialization in the development of one's own richest resources and acquisition by trade of products one can obtain more cheaply elsewhere is the soundest purely *economic* principle for increasing the strength of the nation. Should the strategist demur, the economist might suggest that a distinction could be drawn between the nation facing the near prospect of war and the nation entertaining it as only a remote possibility. He would grant that for the former, production might have to be concentrated on essential military and civilian items that could be more cheaply obtained elsewhere in peacetime but which might be unobtainable except at home during war. For the latter case, I think, he would ask the strategist if it would not be sounder to develop more flexibly and voluminously in order to raise the general level of productivity over time as the best possible hedge against a currently unformulated challenge.

Far more important for the strategist than any of the qualifications I have noted are two additional ones that have been quite fully exposed by the economists who have been the expositors and defenders of free markets. They are qualifications to the proposition that a nation's wealth can be most surely increased within the framework of a free market system. The first is that freely competitive markets, even if once clearly established, do not necessarily tend to maintain themselves. The second is that, quite apart from anti-competitive developments, a free market may give the consumer what he wants without giving the nation what it needs.

Free, competitive markets tend not to maintain themselves in industrialized countries. Where economies of large-scale pro-

duction are available, larger firms can become more efficient than smaller ones. The number of firms in an industry tends to diminish in relation to the number of consumers served. Two consequences that are inimical to the advancement of productivity and wealth set in. One is that dominant firms acquire the power to control price, costs and output and the incentive to limit production in order to stabilize prices, keep profits higher than the competitive level, or both. The other consequence is exhibited in the policies of small firms and large ones alike. The large ones, with a healthy respect for each other's market power, may incline toward a policy of "live and let live." The smaller ones may seek, through limited association among themselves or through appeals to the state for protective legislation, to escape the rigors of competition from any quarter. In each case, both production and productivity may suffer.

These anti-competitive tendencies, visible in our own national experience, are not the only consequences of industrial evolution. A countervailing tendency, positively conducive to advances in productivity and wealth, originates in technology. Partly autonomous, partly generated by the spirit of capitalistic enterprise itself, it is the tendency for monopolistic positions to be destroyed soon after their emergence—if not actually to be stillborn — by qualitatively competitive pressure. I refer to new products, new materials, new techniques. Among industrial nations, the United States offers the world's most notable illustration.

It is neither my purpose nor within my power to weigh these forces, anti-competitive and competitive, against one another. It is sufficient for my argument to set before you two convictions. One is that the march of technology proceeds unevenly within our industries. Where it has moved least rapidly, self-protective measures and governmental protection have been a drag on material progress. The second is that qualitative competition among the giants is so different in character and in market results from price competition among small firms in unprotected

markets that economists are literally incompetent to say at this time how nearly fully the theoretical advantages of specialization are being fulfilled. I think there is abundant warrant for saying, however, that either rigorous quality competition or rigorous price competition is necessary if output and efficiency are to be maximized. Protection and monopoly always require special justification.

The second major qualification to the proposition that a nation's wealth can be most surely increased within the framework of a free market system arises from a question concerning the definition to be given to the word, wealth. Running consistently through Western economic thought has been the theme of consumer sovereignty.

The textbooks will tell you that the glory of the competitive system is that the dollar votes of consumers determine what is to be produced, and competition among producers to satisfy consumer demand assures that what the consumers bid for will be produced by those able to produce at least cost. The advanced studies of the theory demand and the treatises in modern welfare economics do not suggest anything much different. Wealth is, by and large, what consumers consider wealth to be. If the consumer desires, among other things, a proliferation of only slightly differentiated products, then the devotion of productive resources to the elaboration of styles, qualities, and variant forms creates wealth.

Under such an economic system, it is left largely to the votes of the consumers' political representatives in the legislative bodies to see to it that forms of wealth for which there is a limited, or no, market demand nevertheless get produced. I speak of wealth in the form of trained and educated human resources, of wealth in the form of institutions of civil authority, of wealth in the form of roads, harbor works, and other public works. Nor may I omit wealth in the form of a defense establishment.

In view of these important qualifications, what may the economist say about the principles that ought to be implemented

if the nation's strength is to be maximized? He can, I think, stand by the principle of specialization in production. This is the key to heightened productivity. He can stand by the principle that in a world of limited resources, it is of the utmost importance to keep exchanges free. This is the way to break through the limitations on production that are imposed by local scarcities of resources. Against the interests of protectionism he can assert the gains to be derived from risk-taking. Personal security and national security can be shown, I believe, to be much more durable in a changing world when they are based on willingness to adapt, to invent, to be flexible than when they are based on a desire to become anchored, to be fenced in, to be stalwart in opposition to change. Finally, the economist can acknowledge that the dollar test of the market should not be considered equally serviceable relations. To the principles of economics must be added the principles of ethics and sociology and politics if the nation's strength, which is a function of its own standards, is to be joined by the strengths of other nations, which are functions of their own, often different standards. And the strategist, who can not always be governed by market considerations, must always be entitled to ask the economist to translate his dollar terms into units of weight, volume, time and energy. Only then can real limits, as contrasted with market limits, be exposed.

I have been speaking within the framework of Western economic thought. The question naturally arises as to whether Western economics, or capitalist economics, is all that the strategist need take into account. In the largest sense, it is. Marxist economics was a derivative of English classical economics and differed from it mainly in being evolutionary rather than static and historical rather than abstract. Current Western economic thought has addressed itself both to dynamic change and to empiricism. If one nowadays examines the content of socialist economic doctrine or communist economic practice, he finds exemplifications of exactly those principles of specialization, market expansion, innovation, and intermingling of other-than-economic

principles with the more purely economic that I have mentioned. The outward forms are, to be sure, often different. Where the discipline of the price system is enforced in capitalist economies through predominantly free markets, it is enforced in socialist economies by administrative fiat. Where the fight against restrictive scarcities is pursued in the West through more or less freely contracted exchanges, it is waged in the Soviet sphere through administrative allocation and state-controlled international barter. Where innovation in capitalist countries is fostered via the profit motive, it is fostered in controlled economies by subsidy and directive and honoraria. Where the fusing of economic considerations with political and other considerations is left in the West to the judgment of freely elected representatives, it is planned in the Soviet and in other totalitarian regimes by the self-perpetuating (and sometimes mutually-obliterating) upper levels of the political hierarchy. For the purposes of the strategist, the adjective might as well be eliminated from the phrase, capitalist economics.

You may be feeling that my level of abstraction is too high for my remarks to be meaningful. If I have committed that fault, I hope I may amend it by continuing on the abstract level for only a few additional remarks and then moving to more particularized consideration of specific economic factors that currently ought to affect strategical deliberations.

These few additional remarks of highly generalized character concern the remaining four of the five sub-tasks into which I suggested that we might divide the grand strategical problem. The first was to increase one's own strength; the second, to identify the potential aggressor; the third, to avoid strengthening him and, if possible, to weaken him; the fourth, to be prepared for a showdown; and fifth, to foster the conditions making any showdown unlikely.

Whether or not one is to believe that the economist can make any contribution toward the identification of potential enemies

depends upon the importance one attaches to economic factors as causes of war. I, myself, do not find it necessary to hold that all wars are instruments of economic expansion in order to believe that economic factors may be of determinative significance. Economic unrest in a nation can predispose it to external military adventures. A sense of growing economic power within a nation can reduce its fear of the consequences of resorting to war in order to settle international differences. On such possibilities as these the economist can shed a great deal of light, and his findings might very well turn up intelligence that is not fully being taken into account in the reckonings of more politically-oriented minds. The most bellicose-sounding nation may not be the first belligerent.

To the third sub-task, that of weakening the potential aggressor, the economist can also contribute something. The contribution should lie, first, in identifying the potential opposition's most critical scarcities and, second, in suggesting the means that might effectively be employed to prevent his overcoming them by procurement from beyond his own borders.

On the fourth sub-task, that of preparing to bring one's own strength to bear most effectively against the enemy in the event of a violent showdown, economists have two distinctively different contributions to make. The first they can make in their character as pure economists; that is, as weighers, in the abstract, of alternative means to reach given ends. In advance of the occurrences of war, they are prepared to envision the economic pressures that would arise in the nation in the event that war should come. I refer to the competing pressures of consumer demand and governmental demand for scarce material resources, to the competing pressures of the military and of civilian industry for manpower, to the competing pressures of the government and of private enterprises for funds. One of the best uses that the strategist could make of the economist in the connection with fulfillment of the fourth sub-task would be to have him assigned the duty of pre-

paring, in stand-by form, the plans that might be implemented in wartime to contain such pressures as I have cited.

The second contribution the economist can make is of a more circumstantial, though not less significant, nature. Many economists gain through their studies, intentionally or as a by-product, a close familiarity with the organization and distribution of industry, the availability of material and human resources of all kinds and qualities, and the technological, I might say mathematical, functions that relate resources, via technology, to potential output. You have heard of linear programming. This is simply an advanced development in the field of applied economics that is as relevant for calculations of military potential as it is for calculations of potential living standards.

To the fulfillment of the fifth sub-task, that of fostering the conditions under which resort to war by other nations becomes less and less likely, the economist can make something of the same sort of contribution that he can to the fulfillment of the very first, that of increasing his own nation's strength. Here, as in the case of identifying the potential aggressor, one must assume that an amelioration of economic hardships the world over would contribute to the durability of world peace. If one believes that it is not absolute levels of hardship that prepare the ground for war but rather invidious distinctions noted in the relative levels achieved by different nations, one may be pessimistic about the economist's ability to contribute. Yet if one supposes that absolute hardship may be significant, one must acknowledge that the economist can be useful. Recent advances in the theories of economic development, researches in the economic needs of underdeveloped peoples, and new understanding of the motives underlying foreign economic policies different from our own can all be brought to bear in the task of reducing international tensions. The ingenuity of economists in devising technical means of cooperation among disparate economies should not be reckoned of small account.

## VI

So much for the general. It is clear that any attempts to put into effect the principles I have suggested as relevant to strategy must run squarely into the difficulties inherent in the strategical situation. No principle, even so straightforward a one as specialization, applies itself. *Choice* must be made, for example, between specializing during peacetime in the ever more efficient production of military goods and in the development of a more broadly oriented economy which might, in the test of war, be both more productive and more durable. *Interdependence* must be recognized. It would be witless to adopt measures designed to weaken a potential enemy if they were to have the inevitable effect of inviting retaliation we could not well support. *Chance* should never be absent from the most confident calculations of one's own potential strength. The exhaustion of a critical source of supply, the unexpected obsolescence of an important type of facility, the intrusion into economic calculation of an ignored sociological factor, might at any time produce surprises for which one would not be prepared. One must accordingly allow for surprises, and the best allowance is a commitment to flexibility. *Imperfect information* is the mortal lot. The best defense against it is attack, with all of the facilities of intelligence and scholarship.

But choice must be made in concrete situations, interdependence perceived in them, chance confronted in them. And the concrete situation is the one with respect to which imperfection of knowledge is always most immediately critical. How, then, may one subdivide the areas within which the economic factors affecting the concrete strategical situation are to be dealt with? I should like to suggest a framework. It parallels the five-fold series of tasks into which I divided the grand problem of strategy. I submit that the economic factors affecting strategy are to be found and dealt with within the recognized fields of: economic development, economic intelligence, economic warfare, economic mobilization, and international economic cooperation.

Let me take these five fields up one by one and attempt in each case to illustrate the linkage between economics and strategy. I shall focus on the types of economic analysis or undertakings in which the strategist might profitably take a particular interest, and I shall try to offer at least a rudimentary appraisal of the effectiveness of the types of economic measure or analysis most relevant to the strategical problem.

In referring to the field of economic development I mean to invite attention to the efforts constantly being made within all segments of industry, agriculture and commerce, and at all levels of government, to improve facilities for production, to identify and satisfy unfulfilled material needs of the population — as individuals and as members of a national collectivity — and to maintain institutional environment within which involuntary idleness is kept to a minimum and opportunities for economic advancement are kept at a maximum.

Within this field of action are undertaken private and public measures to promote economic progress, economic stability, and distributive justice or social amelioration. It is not, you may well note, a field upon which the strategist is often directly engaged. He does not participate, as a strategist, in the devising or execution of tax reforms that will stimulate industrial research and expansion, or banking improvements that will help stabilize the economy, or extensions of social security that will lighten individual economic burdens and strengthen the confidence of the people in their system and their devotion to it.

Yet successes by statesmen, businessmen and economists in this field are grist for the strategist's mill, and failures in the field exacerbate his problems. I have said enough earlier about the strategical importance of increasing the nation's strength. Let me call to mind now the damage done to the nation's security by failure to achieve progress, maintain stability, and secure economic justice.

After World War II, the rest of the world expected an American depression. There were some who eagerly counted upon it. There were neutral nations, either determined not to be drawn into the conflict of interest between free and totalitarian nations, or waiting to see with which side it would be safer to cast their lot, who were perhaps objectively interested in whether or not a serious American depression would occur. The occurrence or non-occurrence of such a depression was obviously of tremendous strategical significance. A major depression might accelerate Soviet imperialist expansion. It might induce in Western Europe a repudiation of capitalist enterprise. There and elsewhere it might imperil the foreign holdings and sources of supply of American investors and industries. It could cause a drastic re-alignment of allies and neutrals. It could break the confidence of many Americans in their own economic, political and social system.

All of this must touch the strategist in two ways. In the first place, he can't afford not to be a student of current economic developments, for he must promptly, nay, even in anticipation, take national economic failures into account in his reckoning. Secondly, he may exert more influence upon national economic policy-making than would seem apparent at first glance. Let me give one example. Military spending is an important part of total national demand for goods and services. It helps determine the level of employment and incomes. It influences their geographic and personal distribution. It can exert these influences abroad as well as at home. In the timing and distribution of such expenditures, the strategist can help his own immediate cause if, where the military situation allows flexibility, the exigencies of the economic situation are explicitly attended. I am not suggesting military pump-priming or demobilization. I am suggesting that, within the framework of a planned level of military readiness, the exact timing and distribution of expenditures might either soften or worsen the total economic condition of the nation. Accelerated fulfillment of a given plan in time of recession and lengthier distribution of spending over time in a period of boom

might serve the ultimate ends of strategy far better than rigid adherence to a predetermined schedule.

Nor would I suggest that the strategist call a halt to his incursion upon the economic domain here. I would not, as a citizen, hold it amiss for the voice of the strategist to be raised at any level of government or in any public forum where matters of national economic policy are considered. If the strategist can make use of the economist, so can the economist and the economic policy-maker make use of the strategist. What embarrassments and tensions this might generate I am not disposed to guess, but I should regard them as small costs in so large an undertaking.

The effectiveness of the strategist in any such enterprise must depend, of course, upon the ultimate amenability of the economy to purposeful control. The recovery that the United States is now enjoying from the recession that began in the summer of 1953 has suggested to some observers that the recuperative powers of the American enterprise system are so great when their full play is not impeded by paternalistic governmental action that enthusiasm for governmental intervention in economic affairs can be carried to excess more easily than had been imagined. I think this is a misinterpretation of the true state of affairs, and I should be chagrined to see the strategist make it his own. The recuperative powers that the economy has shown owe much, in my view, to the improvements that we have been able to make, through governmental action, in our banking mechanisms, in our social security system, and — via taxation — in the distribution of income. Moreover, although the present Federal administration is devoted to a reduction of governmental intervention, it might be more accurately thought of as being devoted to intervention of the stimulating kind rather than intervention of the compensating kind. Economists are not yet ready to say in what combination these types may be most effectively joined. The strategist who would interest himself in economic policy-making, therefore, must plunge into this uncertainty with the economist when he studies fiscal policy and the dynamics of capitalist expansion.

In speaking of the second field within which economic factors affecting strategy may be seen and dealt with, I use the phrase "economic intelligence" in the sense of economic information concerning the resources, potentialities and intentions of other nations. Donald Bailey Marsh, the Canadian economist who wrote the excellent book entitled *World Trade and Investment*, has said that if there had been any popular understanding during World War II of the importance to the enemy of being intimately familiar with our national income statistics, some zealot would undoubtedly have demanded that those statistics be labelled 'Top Secret' and taken out of general circulation.

There is no better way to appraise the level of a nation's economic strength, changes in it over time, its likely potential at future dates, or the extent to which it is being mobilized in ways useful for the prosecution of war than by examining its statistics of national income and national product. How far has industrialization been carried? Look at the figures on capital formation. Is there a switch under way from guns to butter or butter to guns? Look at what is happening to the share of national income going to consumption goods. Is there a good deal of fat upon which its industries could draw if steel, aluminum and copper were to be diverted to military products? Look at the series for capital formation and depreciation. These are just hints. I could have developed the topic in connection with the first field, economic development, and suggested that the strategist become as familiar as possible with data on his own country. It is obvious that he can profit greatly by carrying on simultaneous and comparative study of foreign developments as revealed in the national income accounts. Where the foreign data are not easily available, they must be sought or imaginatively reconstructed from partial data. Professor Abram Bergson of Columbia has done notable work in this area. Nor can I fail to mention the skillful pedagogic device that Dr. Arthur O. Dahlberg has developed for the visual presentation of national income accounting.

Closely related to national income data are data on the industrial organization and structure of other economies. These lie behind the national income accounts. They are a dominant part of their content. But they are important for an additional reason. They expose the king-pins and the bottle-necks, the nerve centers and strong-holds in an economic system. Use what metaphor you like. If you wish to know the strengths and vulnerable points of a war-time enemy, you must have already become familiar with his economic structure.

Only slightly less important than these two sets of data are those brought together by modern nations in their balance of payments statements. These reflect their foreign trade directions and volumes and a great deal more about their economic relations with other nations. Related data on their foreign assets and indebtedness are equally relevant to a determination of the extent and character of their international influence and their international dependence and vulnerability.

By combining a study of other nations' balances of payments with a study of such exchange-control systems as they may be employing, the work of interpreting their condition and their intentions can be markedly facilitated. Hitler's trade and exchange policies vis a vis the Danubian states offers the classic example in our time of the harnessing of international economic measures to the cause of preparation for war. The current Soviet interest in an expansion of East-West trade may, I think, be differently, if not more reassuringly, interpreted. With them, I think, the propaganda aspect may be the dominant one so far as states other than satellites are concerned. For the satellites, I venture, the Hitlerian analogy holds up well.

The field of economic warfare must be divided in two. There is first, and of current significance, the economics of cold war. If we should be unsuccessful in that area, and unsuccessful in other areas of policy affecting the current world situation, we should have to be prepared for the economics of hot war.

I take it that so far as positive action, as contrasted with analysis, is concerned, there are three basic questions on which the strategist might seek the help of the economist in the matter of cold war. One, is there an effective way to deny external sources of strategic materials to the potential aggressor during peacetime? Two, can the international alignment of friendship and power be shifted increasingly in our favor by the extension to other nations of economic aid? Third, can our economic system be made to appear so attractive and reliable, and so complementary to an attractive system of political rights and liberties, as to weaken the appeal of promises made by competing economic and social systems?

In answer to the first question, I am disposed to suggest the doubt that we can gain more than we stand to lose by attempting to deny strategic materials to potential aggressors — in the contemporary case, the Soviets. I should make an exception of the atomic materials over which the American government may have the power to exercise tight control. The distinction between strategic and non-strategic materials must in any case be arbitrary and open to strategical criticism. It might also be argued that it is more important for a nation to develop its capacity to produce what it regards at any time as strategic material than to develop its capacity to produce what it regards as non-strategic material. Now, in a predominantly free market system, the development of production can not go far without the concomitant development of markets, both domestic and foreign. If our machine-tool industry, to take an example, could thrive and expand under a policy of free exportation, while it might wither or stagnate under a policy of embargo, I should say that the policy of embargo was of dubious value.

But my basic distrust of embargoes derives from another consideration. Economic strength is enhanced by the practice of specialization in production. Specialization and efficient, large-scale production, require unrestricted sources of supply and large,

dependable market outlets. This is as true for others, both friends and non-friends, as for us. I should put much greater reliance upon my own ability to become strong, and to help my friends become strong, than I should in my ability to weaken those who are not my friends. And I should not feel, that if I were able to win out in a contest for strength by such means, I should be likely to win out in any other type of contest. Add to this the consideration that cigarettes for the armed forces might be just as strategic as ball bearings in some particular case, and that friends might disagree when that case appeared, and you have ample reason for questioning the desirability of attempting to impose own judgment on one's friends.

The answer I should offer to the second question may be guessed from what I have just said. I should think it utterly invalid to hold that it is not possible, through economic aid to others, to win or strengthen their tendency to link their fortunes with one's own. The desirable principle, I should think, would be to give the aid in the form of opportunities for self-development under conditions of self-determination. With that principle stated, I think it becomes unnecessary for me to go into the details of economic aid versus military aid, grants versus gifts, either versus trade concessions and trading opportunities, and technological information versus funds.

To the third question I must answer that, although I do not know, I see no wise alternative to acting as if the answer were in the affirmative. We must all, economists and strategists and others, not only nourish the values of our system but also accurately represent it to the rest of the world. Its virtues are so great that its weaknesses need not be concealed. Economists can perform the useful function of interpreting our socio-economic system, without implausibly favorable coloring, in ways that should make sense to other peoples.

There is, next, the area of hot war. It is the realm of war-time embargo, blockade, preclusive purchasing of strategic ma-

terials, surveillance of contraband, freezing of enemy alien funds, seizure of enemy alien assets and, although far from finally, strategic bombing. In some ways it might seem that this area should receive more emphasis in this lecture than I shall have given it. Yet if the work of economic intelligence is well done during time of peace, and if mutually acceptable methods of cold war have been worked out with allies before the outbreak of formal hostilities, the economics of hot warfare must be viewed as involving problems of administration and tactics rather than strategy as I have defined it. It must suffice now for me to say that in the current condition of world affairs the possibility seems substantial that the great strategical problem we must face is that of deciding when to treat a local aggression as a rather violent manifestation of cold war and when to treat it as the initial manifestation of hot war. I should venture the hope that the strategist might work with the economist in devising quickly those economic means which might serve most surely to discourage parties not involved in the local conflagration from casting their lot with the aggressor.

The fourth field in which economic factors affecting strategy loom as important is that of economic mobilization. The Navy's immediate involvement in mobilization is nowhere, I suppose, more competently described and appraised than in the almost-official study written by Robert H. Connery of *The Navy and the Industrial Mobilization in World War II*. It would be presumptuous of me to attempt to go further in suggesting the strategical implications of economic mobilization. Yet there is one aspect of the problem on which I should like to touch. We hear much these days about the necessity of protecting this or that industry from foreign competition in order that we may preserve strategical skills that we should badly need in wartime. I believe that the strategist has a responsibility to the rest of the community that he has not particularly well discharged. It is his responsibility to stand ready, on the basis of careful and continuing study, to report to the civilian officers of government his own best judgement as to what

skills and facilities are in fact indispensable to the national security. It should then be the task of the statesman and the economist to devise means of guaranteeing that aspect of security without jeopardizing the interests of citizens outside the industry seeking protection by tariff and without jeopardizing the nation's economic relations with friendly countries. I do not ask this as a citizen whose pocketbook has been hit by high tariffs, but as one who has the same interests as the strategist in the nation's ability to attain the highest level of strength within its capacity. I believe, moreover, that the economist should have no reason to fail in such an assignment.

Of the many other aspects of mobilization let me say but one word. The strategist may be inclined to focus on plans for industrial procurement and only upon those aspects of manpower utilization, price control, wage control and profits renegotiation that affect military procurement most directly. This is too limited a focus, surely. The effective harnessing of the nation's strength in time of war requires the utmost cooperation among the directors of the armed forces and the directors of the civilian economy. The strategist must naturally feel under an obligation to avoid suggesting policies for the armed forces that would impede the administration of policies of apparently more immediate concern to others. More than this, however, he should feel entitled to concern himself with the effectiveness of all plans for economic control, direction, and stimulation, even within the recondite field of money and credit. It should be to his interest to urge within all of the agencies of decision-making open to him that plans should go forward in time of peace which would, in time of war, be instantly available for the successful administration of all segments of the economy.

There is, finally, the fifth field. It is that of international economic cooperation. If I have done the rest of my job even passably well, it must be unnecessary for me to suggest the range of the strategist's legitimate interest in this field. Of course he

must be concerned to know how his own nation might most effectively contribute to efforts being made by each friendly nation to build a firm mobilization base. This is typical of the narrowly military aspect of the strategical problem. He can call upon the economist for useful consultation, especially with respect to the non-military facilities and manpower training needed to support a continuing arms program or a speedy military mobilization.

Beyond this, I should like to suggest most urgently, the strategist should feel strongly impelled to go. It is not only that the work of economic development at home can not be carried on most profitably in a vacuum, nor that the work of gathering economic intelligence can be advanced by enlisting the cooperation of others, nor even that the tasks of economic warfare can be heightened in effectiveness through mutually supporting efforts. It is that the grand task of fostering the conditions under which resort to war by any potential aggressor becomes less and less profitable and less and less likely can only be accomplished through understanding discussion, negotiation, assistance to and work with other nations. The strategist can not look to the economist alone for assistance. Nor can the strategist become the Renaissance man, mastering every feature of the task himself. He has to become an entrepreneur among the experts, drawing upon the particular knowledge and understanding of sociologists, political scientists, moral leaders and economists. The economist may be informed of the constructive possibilities opened up by the International Bank for Reconstruction and Development, by the International Monetary Fund, by the Economic and Social Council of the United Nations, by private foreign investment and by Point Four. But he knows less than the sociologist and the others about the ways in which different peoples may respond to the offerings of these agencies. The sociologist may be ready to anticipate the responses without being prepared to weigh the material needs of one area against those of another, or without being prepared to devise new technical means of meeting the social needs he is trained to perceive. The strategist can not rely, in short, on any

one group of students and observers. But he is in a peculiarly advantageous position to stimulate them to undertake joint enterprises. If he should be supremely successful, he would do himself out of a job, of course. This would be an irony that he would appreciate not less than would the others. But if he should fail to incite them to efforts great enough to produce success, there would be few of those who might remain who would have any stomach for the task of distributing the blame.

I have reached the end. I am sensitive of not having given you as precise an account of the economist's limitations as I should have liked to. You are at least aware of my own. If, in addition, I have been able to convey, as I have hoped to, a sense of the sort of approach a general economist finds it natural to make to a new subject, I shall not feel too guilty about having accepted your kind invitation.

## BIOGRAPHIC SKETCH

### Professor Donald O'Connell

Professor O'Connell was born in New York on 22 March 1916. He attended Columbia University and holds B.A., M.A., and Ph.D. degrees from that institution. In 1938-39 he studied at Cambridge University on the Kellett Travelling Fellowship.

His teaching career was begun at Columbia College prior to World War II, but was interrupted by active duty in the U. S. Naval Reserve from 1942-45. Professor O'Connell resumed his teaching at Columbia in 1946. He has taught in the fields of economic analysis, industrial organization and market structure, and contemporary economic and sociological problems. He has also contributed to four of the textbooks used in courses on Contemporary Civilization in the last named field. His own research has been in the field of monetary institutions and theory. In July 1954 Professor O'Connell became Assistant Dean of the Graduate School of Business at Columbia University.

In addition to his teaching, he has served as contributing editorial writer for the New York Herald Tribune since 1949, covering national economic legislation, domestic economic developments, and international economic affairs.

## NATIONAL ECONOMIC PROBLEMS

A lecture delivered  
at the Naval War College  
on 24 September 1954 by  
*Professor Wassily Leontief*

Admiral McCormick, Captain Moore, Members of the Naval War College:

### I.

I hardly need to say how rewarding it is to have an opportunity to present to this type of audience problems, which, obviously, are of most fateful importance to this country. I will try to center your attention on basic problems and will strip their discussion from consideration of secondary issues.

In the year 1939, this country produced approximately 184 billion dollars' worth of goods and services. Out of these 184 billion dollars, 132 were consumed in our households. Twenty-two billions, just about 12% of the total gross output of goods and services, went into investment — partly to maintain and partly to expand our various productive facilities. When we speak of 'investment' in the United States we often include housing, which, of course, does not represent direct productive facilities; it must rather be counted as contributing directly to our high standard of living. Of the total production of 184 billion dollars only \$2,700 million were allocated for what might be called "defense." This was indeed a peacetime economy.

What an all-out-war means to a country we can see by looking at the similar figures for the year 1944, the time when economically speaking, we reached the height of our military efforts. First of all, our production was not 184 billion dollars' worth, but 323 billion dollars' worth. We increased our total output; we began to work harder. Instead of 2.7 billion dollars, we devoted to military needs 142 billion dollars' worth of commodities

and services; in other words, nearly half of the total output went directly for military uses.

It might surprise you to learn that at the same time we increased our consumption from 130 billion dollars' worth to 160 billion dollars' worth. Of course, this was partly a reflection of the fact that more people got jobs. A greater effort, even in human beings, requires greater input. Putting it in very simple language, if one works much harder one is also inclined to eat more. During the war we nearly stopped, however, adding to our investments; we used the existing facilities much more intensively and without expanding them much nearly doubled the output. This demonstrates how elastic an economic system is; it shows how by squeezing the peacetime facilities one can produce more in wartime.

We reduced during the war our annual investments to only 5 billion dollars; actually a negligible amount considering the 323 billion dollars of total income.

What are we doing now? Now, the U. S. total national income is in the order of 350 billion dollars, a little more than during the war — but not much more. We are resting a little. We are not working so hard, which is natural in peacetime. Our defense expenditures are much lower than they were during the war, but much higher than they were in the pre-war period. In 1952, this country spent, for example, just a little less than 60 billion dollars on defense, which is quite a goodly proportion, one-seventh, of its gross national income. We increased our consumption making it nearly twice as large as it was before the war. We also increased our investment, which is indeed a very hopeful sign. In this country since the war the rate of investment, the rate of expansion and improvement of productive facilities, is indeed a pretty satisfactory one. We devoted to new investment 60 billion dollars, approximately the same amount as that allocated to the military establishment and more than twice as much as we used to invest before the war. All these comparisons of the

pre-war, the war and the post-war figure are expressed in so-called fixed dollars corrected for changes in purchasing power.

This thumbnail sketch of the over-all balance of the U. S. economy, as it shifted from peace to war and halfway back, indicates how important for the economic health of a country is its ability to produce goods and services; also, how important it is from a point of view of its military capabilities. A significant fraction of our total income is devoted to purposes of defense, even in the present peacetime, and an overwhelmingly large proportion — during wartime.

The fact that we expanded our consumption, even during the war, is too very significant. The method used by this country to satisfy the military demands — whenever an emergency arose — was that of increasing the total output, rather than simply shifting goods and services from consumption to military uses. There is a considerable contrast in this respect between our policy and, say, the Russian policy, during the last war. The Russians were able to throw an unexpectedly large amount of economic substance into the battle — not by increasing output, but by reducing consumption to the very bare minimum. This is the great difference, from the point of view of economic mobilization and military allocation, between a free and a dictatorial country. The “tightening the belt” policy is typical for a totalitarian regime. A dictatorial government can afford letting three-quarters of the population starve if they do not directly contribute to the immediate war effort.

## II.

To produce the final goods and services, our economy, as any other, uses what might be called the “primary inputs,” such as various natural resources, labor and capital; “capital” really means buildings, machinery and inventories of semi-fabricated or finished commodities which assist in maintaining the smooth

flow of production. I do not want to ply you with statistics, but let us examine the basic facts.

First, the labor force. It does not include the entire population, since the very young and the very old are not expected to work. The U. S. labor force comprised in 1939 56 million people (less than half of the total population); it increased to 66 million by 1944, and now, ten years later, the labor force is around 67 million — not much larger than during the war. Why so slow an increase? Because during the war we put to work a large number of people who under normal circumstances do not participate in the production process.

In considering capital it is better not to think in terms of so many dollars' worth of stocks or of bonds, but rather to visualize it as so many buildings, so much machinery, so much auxiliary equipment, and so on. The productive sectors of the American economy currently use something like 800 billion dollars' worth of such capital goods. You remember that we turn out a national income of about 350 billion dollars which means that for each dollar of current annual output our economy uses approximately two dollars' worth of equipment, machinery and other stock — things which have to be accumulated from the non-consumed part of the flow of earlier production.

How are these stocks actually distributed between the different branches of production? This is an important question because the existence or absence of specific productive stocks might constitute the difference between our ability or inability to expand certain militarily important lines of output. Only approximately 5% of our total capital investment is tied up in agricultural production and only about 25%, or one-quarter, is used in industry and transportation. The accumulation of finished goods in stores, mainly retail and wholesale stores (but also comprising all other reserves) constitutes approximately 10% of the total stocks. The various strategic stockpiling programs, designed to



build up reserves which can be immediately put to use in the case of emergency, should increase that figure, to, let us say, something like 12%-15%.

Finally, the natural resources. As compared to other countries, the United States is quite well situated in this respect. We have a very good supply of coal. As a matter of fact, we do not have to worry about power resources in the long run. Russia, on the other hand, might have certain weaknesses in this direction. In some of the special metals, many of which are important for manufacture of modern weapons (and I am not speaking of uranium only), we are already beginning in normal peacetime to depend on foreign imports. But, again, I would dare to say that with the development of substitutes, with the readiness to absorb higher costs for the purpose of replacing imported raw materials with domestic ones, we should be able to get along pretty well.

It would, of course, be naive to think that the economic process consists in simply picking up the "primary resources" and combining them in appropriate proportion in the production of various finished commodities. No other system is as complicated as the economic system in the sense of the intricate interdependence between many different kinds of activities. One could nearly say such system consists of nothing else but bottlenecks and that a well-running economy balances these bottlenecks in such a way as to yield the greatest possible final output. The balance between the hundreds of its different branches constitutes the essence of a smoothly operating economy, be it in war or in peace.

You know how the logistic balance between many interdependent operations affects the solution of a strategic problem. It is not enough to have some place sufficient total amounts of this and that. It is essential to have them at the right time, in the right place and in proper combinations. In the same way, it is not enough to have a large national product; that product must consist of proper amounts of specific items, properly geared into each other. No industry can operate without the support of

other industries; the physical destruction of any one of them can, as you well know, effectively paralyze many others. This fundamental fact of functional interdependence constitutes the basis of the economic logistics of modern warfare, both in its offensive and its defensive phase.

To give you a concrete idea of this industrial interdependence, I suggest that you examine the so-called Input-Output Table of the American Economy.

On the reverse side of an ordinary road map there is often printed a little table from which one can read the distance between any two localities. The names of different cities are listed along the stub and — in the same order — also along the top of table. To find the distance between Boston and New York, one simply locates and reads the mileage figure entered in the intersection of the Boston row and the New York column. The structure of the input-output table is quite similar. The industries of which our economy is composed are listed on the stub and, in the same order, also along the top of it. Each figure shows how much of the product of one particular industry — listed on the left hand side of the table — is used by the consuming industry named at the top. Thus you can find out how much steel goes to the textile industry, or how many textiles go to the steel industry. One glance at the input-output table shows how interdependent the different parts of the American economy actually are — or, as a matter of fact, of any economy.

Let me give you a specific example; that of Automobile Production (in the consolidated table which you see it is included in the Transportation Equipment Industry). One would think that the making of cars and trucks involves only people and plants in and around Detroit, where the automobile plants are located. Examine, however, our capability to produce trucks, from the point of view of interindustrial interdependence, and you will find this: to produce one million dollars' worth of trucks it takes approximately two billion dollars' worth of capital — by capital,

I mean machinery, buildings, stores of goods, etc. — and approximately 200 man-years of labor. But (and this is most important from the point of view of logistic thinking), of these 200 man-years of labor, only 87 are really man-years worked in the Detroit automobile plants. Where do the remaining 113 man-years come from? Eighteen come from the workers in the iron and steel industry, supplying the steel of which the finished cars are made. Eight are the man-years of the railroad's employees; these are required in transportation of the things which indirectly contribute to production of components and materials which ultimately end up in finished cars. Four man-years are contributed by the non-ferrous metals industries and so on. Directly and indirectly every single branch of employment existing in the American economy contributes to the manufacture of automobiles.

The same is true of the physical facilities. As I said before, it takes two million dollars' worth of capital to produce one million dollars' worth of automobiles per year, but less than half of that capital — only 824 million dollars — are invested in the automobile industry itself. More than 200 million dollars' worth of it is represented by the blast furnaces and rolling mills of the steel industry; 167 thousand dollars' worth of railroad equipment is kept busy hauling goods which have to be moved to enable the final production of one million dollars' worth of automobiles.

The importance of such indirect relationships must already be familiar to you from the point of view of strategic bombing problems; the knowledge of its input-output structure is, however, also helpful to proper understanding of the working of any peace or wartime economy, in general.

### III.

Our economy is always on the move. In planning for a mobilization five years from now we must remember that the capabilities of the U. S. economy at that time will be very different from what they are at the present time, and ten years from

now they will be different again. Ultimately, we must, of course, compare our progress with the progress of the potential adversary.

In the long run the American economy has been doing pretty well. From the end of the nineteenth century, and up to the present, we have succeeded in doubling our national income every twenty years. If the real U. S. national income of 1890 is conventionally equated to 100 units, in 1910 — or twenty years later — it was equivalent to 200 units; in 1930 (again a twenty year interval) it rose to 400 units and in 1950 it reached the level of over 800 units. You see that our total outputs of goods and services increased in a geometrical progression.

The U. S. standard of living was able to increase because our total income increased faster than our total population; or, should one rather say that our population increased slower than did its total income.

In speaking of the per capita income, on the one hand, and of the total national income, on the other, let us not overlook the fundamental difference between the assessment of economy from the point of view of the level of peacetime welfare it is able to provide and the assessment of the same economy in the light of its military capabilities. It is the expenditure per person which really measures the economic welfare of a country. In considering the military capabilities, however, it is the 'total punch', not the 'per capita punch', which counts. A poor country, yet which is very large and which, because of that, can scrape together a lot — even if it is little per capita — may have a military capability equal or even greater, than another country with a very high standard of living but with a smaller total national income. This is why I emphasize in my talk today the total rather than the per capita figures — the latter are important, but not as immediately important in military considerations as they are from the point of view of a peacetime economy.

Our population was increasing very fast from the end of the last century up to approximately the First World War. That phenomenal population growth was to a large extent due to immigration, which played a very great role — in comparison with internal growth — up to 1910-1920. After the First World War there was a considerable slackening of immigration causing — in combination with a steadily slackening of the birth rate — a slowdown in the over-all population growth. However, since the last war, contrary to confident predictions of many experts, we had an upward jump in the birth rate, as you possibly know from observing your immediate environment.

Population is the basis of the labor force; but, as I have already observed before, the two are, of course, not identical since only people in certain age groups work. At the present, this country is relatively well situated in this respect. Because a smaller proportion of our population falls in the lower age groups a larger proportion is in the labor force — much larger than in Russia. Russia, because of its high birth rate, has a relatively large number of children and of young people who do not pull their own weight, in the economic sense.

There is also another factor to consider. In this country (and this is a sign of its high standards of living), we are taking it very much easier. Our work week was 70 hours at the end of the last century; now, it is approximately only 35-40 hours. But, of course, in a sense the many hours of leisure constitute a reserve on which the American economy can fall back in the case of emergency. This was what enabled us to increase our total national products so fast during the last war. We just lengthened the labor week, introduced more overtime multiple shifts, and the same population generated a much larger labor input, which in its turn resulted in higher output.

How about our stock of capital? Its growth depends on the rate of saving; i.e., upon the allocation of a certain part of

the national product to accumulation rather than current consumption. The U. S. rate of saving is, in the long run, diminishing. At the turn of the century, over 20% of the total gross output was devoted to maintaining and increasing the capital stock; between 1910-1920, our rate of saving fell to approximately 12%; now it came down to 8%-10%. This could appear to be somewhat alarming, but there is a silver lining to that cloud!

The American economy utilizes its capital much more effectively now than it used to in the old days. There is a notion amongst many people, including professional economists, that in order to have a large output it is necessary to pile up a very large amount of equipment, inventories and other kinds of productive capital. It is true that up to 1910-1920 the economic progress of the country could have been well measured by the accumulation of such stocks; "more productive capacity" was nearly synonymous with "more capital." But the development of modern technology took recently a turn in the opposite direction. As a matter of fact, for a couple of decades now we have not only used less and less labor per unit of output — which everybody knows — thus making our labor more productive, but capital has also become more productive. We are using also less and less capital per unit of output. At the turn of the century something like \$2.50-\$3.00 worth of equipment and machinery was needed to produce one dollars' worth of net output (which could be allocated to consumption, investment, or, if necessary, to military uses). Around 1950, only \$1.60 worth of equipment and machinery was doing the same job. If you ask how this increased productivity of capital was achieved, the answer is "organization, human and technical."

With the introduction of conveyors — first by Ford and then throughout the entire industry — the utilization of machinery, as well as labor, became much more efficient. With modern scientific scheduling, i.e., with better organization, a ton-mile of freight will be moved with less equipment than would have been required for the same job twenty years ago.

However, one should not forget that the same technological changes which enable us to economize on our capital and develop output beyond the previously imposed limit of available savings are being taken advantage of also by the Russians. It is often being said that in the future they will not be able to develop their economic capabilities as fast as in the last thirty years because their rate of saving and of investment is bound to fall. But the Russians can use the new technologies, too; the new technologies which enable them, as they enabled us, to increase the output beyond what previously appeared to be the limit imposed by the available stock of capital.

As time went on, there was not only an increase in the total mass of commodities and services produced, but also a marked change in the structure of the American economy, a change in the proportions between various industries and various types of occupations. This change is, again, of great importance, from the point of view of military capabilities. Some industries contribute more — or, at least, might contribute more, if you want to reconvert them — to military output than do others. Some train men and prepare them for the type of requirements presented by various branches of military service better than other.

At the end of the last century a very high proportion of our population (nearly half of it) was working on the land. Most of the rest was engaged in manufacturing and mining and a relatively small fraction devoted themselves to transportation and all kinds of service industries. As time went on our farm population not only became smaller percentagewise, but after 1910 — despite the fact that the total population increased — even the absolute number of people in agriculture began to diminish.

Up to about the end of the First World War, the number as well as the percentage of those engaged in manufacturing was going up. But that trend is now also reversed. The proportion of the total force in manufacturing has not increased for a number of years; indeed, it may now be even a little smaller,

depending on how you define 'manufacturing', than it was thirty years ago. On the other hand, the number of men and women engaged in distribution, in selling, in advertising, in putting gasoline into the tanks of cars at the service stations, has been increasing steadily.

This is a typical change in the structure of the labor force of a progressing economy. It reflects the change in the increase in our standard of living. In a free economy the consumers expenditures determine what commodities are produced and the consumer's income determines how he spends his money. A relatively poor family devotes a very large part of its income to purchase of food, i.e., of agricultural commodities. At the turn of the century we were, by present standards, a moderately prosperous country and spent a large proportion of our income on food. Consequently, we allocated large parts of our labor and capital to production of food. As the per capita income increased, we could not eat much more food. After the basic requirements have been satisfied, one cannot absorb many more calories; however, one begins to eat more meat. This change was promptly reflected in the structure of our agriculture — less grain — and relatively more meat production.

But most of the additional income was spent on industrial goods — clothing and all kinds of durables. We have even gone beyond that and started to spend more money on education, on travel, on medical services. You can see that one nearly can anticipate the shift in the purchases of the average consumer as his standard of living increases. On the basis of these shifts one can explain the changes in the distribution of labor, capital and natural resources between the various productive sectors of the economy.

Of course, to meet the growing demand those industries which increase their productivity faster than others will require relatively fewer additional inputs.

The productivity of different industries has not been advancing evenly. Manufacturing still keeps the lead. Recently, agri-

culture began to catch up. The smallest progress in this respect has been achieved in those intangible types of production which conventionally are referred to as the "service industries." They absorb an ever increasing proportion of our labor and of our stock of capital.

These observations lead back to consideration of interindustrial relationships. You remember that cars are produced not only, or even mainly, by people employed in the Detroit automobile plants. The men on the railroad, the worker in the steel plant, even the cotton farmer is indirectly also engaged in automobile production. One of the revolutionary changes which took place in the U.S. economy was the transfer (purposely, I use the word 'transfer' in a symbolic way) of agricultural workers into the cities. (Soviet Russia consciously went even further in the same direction.) What I mean is this: Much of "agricultural labor" is actually being engaged in tractor building. The mechanization of the Soviet agriculture was obviously promoted with an eye on military capabilities. Instead of letting the peasants produce grain with old-fashioned horse teams, the Soviet government transferred them to the tractor factories. The total amount of labor, directly or indirectly devoted to production of food, might not have diminished; as a matter of fact, it most likely has increased. Still the fellow who is now producing grain by making tractors has acquired a skill which proved to be quite useful when he had to build a tank or run one in the battlefield.

In speaking of the basic technological changes affecting the structure of the American economy, one must particularly mention automatization — a development which in the coming ten to twenty years, I think, will play the same role in increasing the efficiency of our industries which was played by the conveyer in the industrial revolution of the last three decades.

#### IV.

The figures which I have quoted and the structural shift which I have described reflect the basic trends of our economic

growth. Above these deeper currents, on the surface of the economic process one observes what the economist calls the "ups and downs", of prosperities and depressions. Having decided to devote this lecture to consideration of the fundamental structural aspect of the American economy, I cannot discuss with you in any great detail the rather technical question of "the business cycles". However, let me try to give you some indication of what the problem of "economic stability" involves.

According to the present view the business cycle is essentially the same type of disturbance which you might have sometimes observed in the operation of the automatic heating system in your home. The thermostat signals the furnace when the temperature drops below a certain level; the furnace starts to work, raises the temperature and the thermostat shuts it off again. What happens, however, when the thermostat responds only to changes in temperature with great delay and the heating plant takes its time in responding to the command which it gets from the thermostat? Instead of maintaining a nearly even temperature, the sluggish mechanism has you sweating one hour, freezing the next and so on in endless succession.

Something of that nature apparently happens sometimes to the automatic mechanism of our economic system. The response of investment to changes in demand works somewhat like the reaction of the furnace to a change in temperature. If the reaction mechanism is not sensitive enough, if the lag is too long, the economy is bound to go through alternate periods of "over" and "underinvestment", i.e., through cycles of prosperity and depression.

A certain amount of guarded intervention has done much to even out the path of our long-run economic progress. After the bitter experience of the great depression of the thirty's, our government — liberal and conservative alike — has been prepared — through taxes, monetary policy, public works and other similar

measures — to turn the heat up or down when the economic mechanism appeared to be too slow in its automatic response.

Foreign trade will be discussed in another of this series of lectures. To complete the thumbnail sketch of the U. S. economy, let me only observe that this country is relatively less dependent on foreign trade than any other of the large countries — except, possibly, Soviet Russia. In this respect, our position is very different from that of all our allies in Europe. I know this observation may raise many questions; let them be taken up during the discussion period.

I was also asked to consider the problems of economic policies — that is of public actions designed to affect the course which our economic system takes. We are, thank God, not a planned economy! The government can influence that course only by limited, and mostly indirect, means. The so-called “burning issues” of economic policies are concerned not so much with the general direction of economic development as with the question of how “to divide the pie.” The farmer wants a bigger piece; the taxpayers’ groups are apprehensive lest their cut is reduced; the workers feel that their share is too small. It is not primarily all a question of production as a problem of distribution. In a sense, however, the answers given to it indirectly affect also our total economic capabilities. It is the essence of a private enterprise system that if greater rewards are offered in a certain line of activity more people and more capital will go into it. One of the justifications of the price support in farming is that it will maintain higher capabilities in agricultural production.

You certainly remember the recent controversy over the tariff on the watches, the argument of its defenders being that we should protect the profits of the domestic watch-making, thus maintaining a high productive capacity of the industry which might be of great strategic importance. I am afraid, however, that in most — but not necessarily all — such instances, the national point of view plays a greater role in the arguments pre-

sented in the political forums than it does in actual political decisions. These still can best be understood as more or less opportunistic compromises between opposing pressures of two or more essentially self-speaking groups of economic interests.

This does not mean, of course, that measures of economic policies, specifically designed to increase this country's military capabilities, cannot and have not been effective. The strategic materials stockpiling program, for example, and the accelerated amortization (for tax reduction purposes) of certain militarily important production facilities have contributed much to the economic preparedness of this country.

Thank you.

## **BIOGRAPHIC SKETCH**

### **Professor Wassily Leontief**

Professor Leontief was born in Leningrad, Russia, on 5 August 1906. He was graduated as a "Learned Economist" from the University of Leningrad in 1925 and received a Ph.D. degree from the University of Berlin in 1928.

From 1925-28, and again in 1930, he was a Research Assistant at the Welwirtschaftlicher Institut, University of Kiel (Germany), and in 1929 served as Economic Advisor to the Chinese Government at Nanking. In 1931 Professor Leontief came to the United States to join the faculty of Harvard University as an Instructor of Economics. He advanced through the ranks, attaining full Professorship in 1946, the position he now holds.

He served as Research Associate for the National Bureau of Economics Project in New York in 1931 and has been Director of the Economic Research Project since 1948. In 1940, and again in 1950, he was a Guggenheim Memorial Foundation Fellow and also was a Fulbright Fellow in 1950. During World War II, Professor Leontief served as Chief of the Russian Economics Subdivision of the Office of Strategic Services from 1942-45.

He has traveled throughout Europe and in Turkey, Egypt, India, China, and Mexico. He is the author of: "Structure of American Economy."

## RECOMMENDED READING

The evaluation of books listed below include those recommended to resident students of the Naval War College. Officers in the fleet and elsewhere may find these of interest.

The listings herein should not be construed as an endorsement by the Naval War College; they are indicated only on the basis of interesting reading matter.

Many of these publications may be found in ship and station libraries. Some of the publications not available from these sources may be obtained from the Bureau of Naval Personnel Auxiliary Library Service, where a collection of books is available for loan to individual officers. Requests for the loan of these books should be made by the individual to the nearest branch of the Chief of Naval Personnel. (See Article C-9604, Bureau of Naval Personnel Manual, 1948).

- Title:           *Administration in Foreign Affairs.* 275 p.
- Author:          MacMahon, Athur W. University, Alabama,  
                    University of Alabama Press, 1953.
- Evaluation:      One of the wisest and most competent analyses of the present day administration of foreign affairs in the United States. The first chapter is especially good. It stresses the useful idea that policy making, to be effective, must be a concept of judgment. In reaching this concept, MacMahon points out that the Defense Department and the Bureau of the Budget play as significant a role as the State Department. The succeeding chapters provide a penetrating summary of the organization and administration of the State Department and the recruitment and training of its personnel. The author is careful to indicate how the Department actually does work rather than merely how it is supposed to work. This book is recommended for all naval officers interested in the administration of foreign affairs and for those who have direct dealings with the State Department.

Title: *"America Through Foreign Eyes."* The Annals of the American Academy of Political and Social Science.

Editor: Lambert, R. D. Philadelphia, American Academy of Political and Social Science, September, 1954.

Evaluation: This series of essays provides a most interesting summary of the attitudes of foreigners towards the United States. Its first section, entitled "Background," includes a useful essay on the analysis of American society by such prominent visitors as Alexis de Tocqueville, James Bryce and Max Weber. The second section, "As America Looks in Europe," includes two rather penetrating essays by a Frenchman and a German, explaining how the conflicts of national objectives and policies, the psychological and economic insecurities and the loss of control of the European nations over their own destinies affect the European view of the United States. There is also a useful essay by Frederick C. Barghoorn which summarizes his recent book on the Soviet image of the United States. The third section of the book, "How Foreign Students See Us," is less useful, although it does provide insight into Asian and Latin American attitudes which are not covered in the earlier sections. This book should be of real value to Naval officers concerned with the ideological and psychological aspects of national strategy, especially in relation to our own allies.

Title: *Red Design for the Americas: Guatemalan Prelude,* 347 p.

Author: James, Daniel. N. Y., John Day, 1954.

Evaluation: Traces the development of the pattern of communist infiltration of Central and South American countries.

Title: *Moslems on the March.* 312 p.

Author: Fernau, F. W. N. Y., Alfred A. Knopf, 1954.

Evaluation: An intelligent and easily readable summarization of the many and complex factors that make up modern Islam. It treats first of the great Islamic intercontinent that spreads from Northwest Africa in the west to the Gobi Desert and Indonesia in the north and east, and to the Belgian Congo in the south. It tells the amazing story of how the world of Islam expanded in 120 years to approximately its present limits. The book deals with the partition of Islam by France, by England, by Russia, and

by one Islamic nation, Turkey. The book suggests that Islam, with one-seventh of the world's people, occupies a strategic position across Russia's path to world conquest.

## PERIODICALS

- Title:** *Sea Power's Control Forces.*  
**Author:** Roll, George A., Colonel, U.S.M.C.  
**Publication:** UNITED STATES NAVAL INSTITUTE  
PROCEEDINGS, October, 1954, p. 1073-1083.  
**Annotation:** Discusses the theory of control forces and the manner in which sea power may exercise control.
- Title:** *"The Bomb" on Men and Cities.*  
**Author:** Weingard, S.  
**Publication:** INTERAVIA, No. 8, 1954, p. 500-504.  
**Annotation:** An article by a German on the problems associated with atomic warfare. Interesting to read a foreign viewpoint.
- Title:** *Red Air-Sea Buildup Poses Threat.*  
**Author:** Jessup, A. W.  
**Publication:** AVIATION WEEK, October 11, 1954, p. 15.  
**Annotation:** Reports that the communists are building a modern air force in Asia and pushing their ring of bases up to the fringe of American outposts.
- Title:** *Morocco.*  
**Author:** Douglas, William O.  
**Publication:** LOOK, October 19, 1954, p. 33-37.  
**Annotation:** The author describes the political situation in French Morocco and suggests that French policy must change if another Indo-China is to be prevented.
- Title:** *Will U. S. Help to Arm Russia?*  
**Publication:** U. S. NEWS & WORLD REPORT, October 8, 1954, p. 24-26.  
**Annotation:** Describes some of the items which have been taken off the export "strategic" list: scrap iron, machine tools, military trucks, locomotives, and aluminum.

Title: *The Race for Atomic Supremacy.*  
Author: Phillips, Thomas R., Brigadier General, U.S.A.,  
(Ret.).  
Publication: ANTI-AIRCRAFT JOURNAL, September-  
October, 1954, p. 2-5.  
Annotation: A comparison of Russian and U. S. aircraft development  
shows that the Soviet Union is ahead of the West in  
defensive air forces and making rapid progress in building  
long-range bombers.

Title: *The Cold War Reaches the Antarctic.*  
Publication: FORTUNE, November, 1954, p. 111, 226, 228.  
Annotation: Reports on the naval expedition being dispatched to the  
Antarctic continent primarily for scientific research but  
also to keep alive American rights to an area potentially  
rich in natural resources which has attracted the interest  
of other nations, especially Soviet Russia.

Title: *The Atomic Revolution in Warfare.*  
Author: Phillips, Thomas R., Brigadier General, U.S.A.,  
(Ret.).  
Publication: BULLETIN OF THE ATOMIC SCIENTISTS,  
October, 1954, p. 315-317.  
Annotation: General Phillips, military analyst of the *St. Louis Post  
Dispatch*, succinctly states the problems of the military  
forces in facing a situation where we must be prepared  
for either atomic or non-atomic war or a combination of  
both.

Title: *The Cruel Sea.*  
Author: Chamberlain, John.  
Publication: BARRON'S, October 25, 1954, p. 3, 17-18.  
Annotation: Analyzes Russian naval strategy as indicated by the con-  
centration on submarines and by the naval aviation pro-  
gram and considers the implications of Russian naval  
strength for the U. S. Navy.

Title: *American Foreign Policy in a World Adrift.*  
Author: Oliver, Robert T.  
Publication: VITAL SPEECHES OF THE DAY, October 15,  
1954, p. 776-781

**Annotation:** Examines the nature of our difficulties in the conduct of foreign policy under present world conditions, urging a strong assertion of leadership by the U. S.

**Title:** *Command of the Sea.*

**Publication:** ORDNANCE, September-October, 1954, p. 201.

**Annotation:** A brief statement on the role of the U. S. Navy in the defense of the U. S. under the direction of Admiral Robert B. Carney, Chief of Naval Operations.

**Title:** *The Changing Nature of War.*

**Author:** Sackton, F. J., Colonel (Inf.), U.S.A.

**Publication:** MILITARY REVIEW, November, 1954, p. 52-62.

**Annotation:** Colonel Sackton examines some of the tangible elements of military strategy, particularly weapons and weapons systems, in the light of the possible effects upon the less tangible, political and sociological elements. He plays the possible effect of mass destruction upon post-aims against the value of the objectives to be obtained by their use in a very interesting manner.