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THE INFLUENCE OF ECONOMIC CONSIDERATIONS IN THE FORMULATION OF NATIONAL STRATEGY

A lecture delivered
at the Naval War College
on 9 October 1953, by
Professor Edward Mason

Captain Mills and Gentlemen:

The subject which has been assigned me this morning is "The Influence of Economic Considerations in the Formulation of National Strategy." I want to take up under that general heading two main subjects: (1) What is the Relation of Economic Considerations to Military Capabilities, and (2) What is the Relation of Economic Considerations to the Use of Military Capabilities in Wartime?

So let me turn now to the first question: What is the Relation of Economic Considerations to Military Capabilities? In so far as military capabilities depend on quantities and qualities of materiel the most obvious economic indicators of military potential are the size of the national income and the size of various components of the national income. What an economist means by "national income" is simply the total volume of output of goods and services in a given year. Or, if you want to put it in monetary terms, it is the total quantities produced times the prices at which they sell. It is usually stated in value or price terms so you see estimates of the national income running in terms of billions of dollars of production in a given period.

If you look at these tests and compare U. S. military potential, in so far as it is governed by economic considerations, with Russian military potential the situation looks very rosy. Russian national income in so far as we know anything about it is certainly not more than one-third of U. S. national income. And if you look at the various components — that is, the value of steel

output tons and values, oil, copper, and most of the metals that go into military production — one views these figures with a certain amount of equanimity because they all show as of recent date that the U. S. position is a multiple of the Russian position in all these respects.

One thing I want to suggest to you is that reflection on these figures is apt to lead to too great a state of equanimity because there are other considerations that bear on this matter. One of the first and most important of these considerations is: What percentage of the national income of a particular country can under peacetime circumstances be devoted to military production? The countries of Western Europe, the United States, the Free World in general, show enormous variations in the percentage of national income that is in fact devoted to military production. When you look at the Russian-American comparison, the differences are rather striking.

When one talks about the percentage of national income that can be devoted to military production, one has two main things in mind. One of them has to do with the structure of production. To what extent is the structure of production, the allocation of economic resources among various industries, so ordered as to make a transition to military output extremely easy? That is the first question involved. The second question involved is: To what extent is the civilian section of the national income compressible in peacetime?

Looking at the first of these questions, regarding the relation of the structure of production in both countries to military potential, there is not perhaps a great deal to choose. Russia has become a highly industrialized country in the last twenty years. It is an extremely difficult thing to distinguish between heavy industry devoted and applicable to civilian production and industry applicable to military production. The only time the distinction becomes clear is when you get to the ultimate end products, where

a distinction can be made. But up to that point (and most of the resources involved in military production tell you up to that point) production can either go into heavy production for civilian use, either durable capital goods or durable civilian goods, or into military goods. As I say, when you look at the Russian economy you find it a highly industrialized economy, just as you find the United States a highly industrialized economy. So the applicability of civilian industries, which might otherwise produce for civilian use, to production for military use is great in both countries.

When, however, you look at the question of the compressibility of the civilian sector in peacetime you get a quite different judgement. So far as we can determine at the present time, the percentage of the Russian national income that is being devoted to investment plus military use is roughly 50%. In this country the comparable figures are around 30%. So, although the Russian national income is still a relatively small fraction of ours, the percentage of that national income that goes into investment plus direct military production is a much higher percentage —50% as against 30%.

The compressibility of civilians' requirements in peacetime is, of course, very largely a political and psychological matter. How much will a civilian population take in the way of tightening the screws? It is not entirely a political and psychological matter, though, for there are economic differences between a planned totalitarian economy such as that of Russia and a relative free enterprise economy such as ours. If the Russians want to compress the civilian sector of the economy, all they have to do is to give an order to factories to change their production from civilian to military purposes. The only result in the civilian sector is that there is a smaller quantity of goods available and the queues get a little longer. People may get restive under this, but it takes a relatively simple kind of decision at the top to switch from civilian to military production. In the American economy, particularly in peacetime, things do not work out that easily.

What you have got to rely upon mainly in a free enterprise economy are monetary incentives and penalties; that is, you have got to change your tax structure and your tax rates; you have got to change the price relationships; you have got to set up a new set of incentives or a new set of monetary penalties in order to induce a diversion of resources from civilian production into military production. In a free enterprise economy, the reaction of individuals to these penalties and incentives is by no means uniform; some people respond readily, while others do not respond very well. So even if you have the required political and psychological climate of opinion which would permit you to compress the civilian sector of the economy, in a free enterprise situation the economic factors are much more complex. As I say, they work through elaborate monetary incentives and penalties; and that, of course, along with the political and psychological factors, has a bearing on this question in which I think we are all interested: What share of the U. S. national income could in peacetime be diverted to military purposes?

I have indicated, first, that the Russian national income may be a third of ours but that that gives too optimistic an impression of Russian military potential as against the United States because there is a much greater degree of compressibility of the civilian sector of the economy. A second factor that comes into this situation, which again raises doubts as to whether comparison of national income leads to a sound approximation of the relative military potential in so far as it is based on economic considerations, is the vulnerability of the Russian economy as compared with the American economy. The vulnerabilities which I have in mind here are economic vulnerabilities, and there are two sorts. An economy may be vulnerable if it is dependent on foreign sources of supply, particularly foreign sources of output of strategic materials of various sorts. It is also vulnerable if its economy is particularly susceptible to attack (and I suppose this means air attack) on its internal installations. In respect to both those two factors it seems to be pretty clear that the American economy

as a producing unit is more vulnerable both to a cutting-off of foreign sources of supply and to internal attack on domestic installations.

Let me say a word about both of these, although I am coming back to them later. With respect to the independence of the United States on external sources of supply this, in comparison with almost any other country in the world except Russia, in a highly self-sufficient economy. In the volume of our imports in normal years, it is not more than 4%-5% of our total national income. Contrast that with England where something like 20% of their national income consists of imported materials and products. In a country like Canada, something like 25% of the national income consists of imported products. In a country like Belgium, close to half of the national income consists of imported products. Of course those products have to be paid for by exports from these countries. This country in comparison with most countries is extraordinarily self-sufficient. Nevertheless, we do import sizeable quantities of materials that are of strategic importance. I do not need to mention them for they are matters of common knowledge to all of you. We import oil, maganese, tin, nickel. We are a heavy importer of copper, lead, and zinc. We import a whole range of metals and, of course, needless to say, we are a heavy importer of uranium. So this country, although relatively invulnerable to cutting-off of external sources of supplies as compared to most of the countries in the Free World, is in a relatively different position with respect to Russia because Russia is an extraordinarily self-sufficient country. The volume of their imports is an extremely small percentage of their national income, certainly not over 1%. That is an element of vulnerability to which I will return presently.

With respect to the vulnerability of domestic installations, I would say that it is also a fact that a higher percentage concentrated in a fewer number of centers than is probably true in Russia. So, both with respect to external sources of supply and

with respect at least to the economic aspects of vulnerability, this country is in an inferior position to Russia. Again this is Point Two that one has to take into account when comparing the Russian military potential in so far as it is based on economic considerations with the United States military potential.

The third factor (and this is a very important one) leads to further qualifications. If comparisons of military potential extend over time, then relative rates of growth of the economy, relative rates of growth of the national income, have to be taken into account seriously. Looking at the United States and Russia this is, to my mind as an economist, the source of greatest pessimism in making these comparisons because in this respect growth rates in the United States and in Russian economy present a potentialy alarming picture. According to our best available estimates, there is about a 6% to 8% annual increase in the Russian national income, and that has been going on for quite a considerable period of time. The comparable figure for the United States is roughly 3% per annum. If you extend these differences in growth rates over any sizeable period of time they make an astonishing amount of difference. A cumulative growth of 3% yields a doubling of the national income about every 25 years; a 6% rate, cumulatively, yields a doubling in less than 12 years, and an 8% rate in less than nine years. So if you are not looking at the immediate situation but the situation over time, this comparison of Russian rates of growth in national income with U. S. rates of growth become a very important and, I would say, a potentially alarming situation.

If you focus your attention on this matter it now becomes an important, but probably unanswerable, question as to how long one could expect the continuation of these very rapid growth rates in the Russian economy. There are certain reasons for thinking that there may be some kind of a terminal point. But let me say that as far as I can see these are rather speculative considerations. One point, and perhaps the most important point

here, is that the very rapid rate of growth in the Russian national income may be largely explained by a once-for-all application of Western production techniques to one industry after another. After all, twenty-five years ago the Soviet economy was an agrarian economy with a very small industrial concentration. They have expanded output in industry after industry. In the main, they have had available to them the techniques of production of the most advanced Western countries, including ourselves. These techniques could be borrowed. It is possible to argue that the very rapid rate of growth of Russian national income has essentially been brought about to date by reason of the fact that in first one industry and then another they have taken Western techniques of production and then applied them to the domestic situation. To the extent that that is so, that is a once-for-all kind of operation and when these techniques have spread out over all the whole range of Russian industry the extent of their borrowing come substantially to an end. So it may be possible that these extraordinary growth rates are due to that fact to a large extent and, if so, there is a terminal point to these rapid growth rates.

Another consideration (and this is even more speculative) is whether or not in the course of time psychological and political considerations are going to make it necessary for the Russian economy to divert an increasing percentage of their national income to the satisfaction of consumer wants. As I have pointed out already, considering the relatively low level of the Russian national income, the percentage of resources diverted to investment and to military production is extraordinarily high. Of course the result of that is that consumers' standards of living in Russia are extraordinarily low; not only are they extraordinarily low but they have not risen, so far as one can see, to any considerable extent for a long period of time. The question arises as to how long a population, even in a totalitarian state, can be squeezed down in this way. A lot of people who look at this question are extremely optimistic since they see signs already of the necessity in Russia of diverting resources from military to civilian produc-

tion. I would say that a regime that has done this pretty satisfactorily for twenty years may very well be able to keep on doing it for an indefinite period of time. Nevertheless, that is a consideration and it needs to be taken into account.

A third consideration very frequently advanced is that current growth rates in Russia are really rates that accrue on a relatively small base. That is if you take the size of the national income either now or ten years ago in Russia, you are talking about a relatively small quantity and it can be argued that growth rates on that relatively small base can be more rapid than they are likely to be when the size of the Russian national income increases. That is an argument, but to my mind it is rather a nebulous argument. I am not quite clear why that necessarily must be so; I am not quite clear why if the Russian economy is able to avoid any raw materiel shortages, is able to continue the rate of technological change which seems to be pretty rapid, is able to maintain a tremendous volume of investment in relation to the national income—I am not quite able to see why that rate of growth may not continue for a fairly long period of time. So, summarizing this point (and I think this is a very serious point), I would say that if you do not limit your comparisons of Russian economic potential with U. S. economic potential to the present situation but look a little way ahead, for ten or fifteen years, then the respective growth rates become a very important element in this consideration. And it is a fact that now and over the last ten years, or twenty years ignoring the war situation, growth rates in the Russian economy have been extraordinarily high.

The other side of that picture of course is: What is likely to happen to growth rates in the United States? Here, the factual side of the matter is that this approximate 3% per annum growth of U. S. national income is a rate that is extended quite far back in the past. In general, the trend in U. S. national income for the last fifty years has shown on the average about a 3% per

annum increase in national income. If you push it back further, that rate tends to increase somewhat because the rate of growth of national income is a function of two things really: first, it is a function of the rate of growth of the labor force (and that, of course, depends on the rate of population growth) and it is a function, secondly, of the rate of increase in per capita productivity in the economy. Per capita productivity will depend in general on the amount of capital, and the extent of technical improvements in the use of capital, that are made available per unit of the labor force. If you run back into American history, you run into much higher population growth rates than we have seen over the last fifty years. So, the probability is that a hundred years ago we had a substantially higher growth rate of the national income, but it was due almost entirely to differences in population growth.

Attempting to look ahead and grapple with this question of what is likely to be the perspective growth rate of the American economy, I would say that the principal factors that need to be taken into account are: (1) the rate of population growth, because that determines the rate of growth of the labor force; (2) the question of raw materiel availability for much higher outputs in the United States; (3) the question of the rate of technological progress, and (4) the rate of savings which becomes available for investment. Obviously, attempting to look ahead with respect to these elements is looking into a crystal ball. And the picture that one is able to paint is at best a somewhat cloudy picture. Nevertheless, since this question of relative growth rates is so important, I would like to lay before you what might be known and surmised that has a bearing on this question of "probable rates of growth."

With respect to the first element — population growth determining the size of the labor force — we do, of course, have projections. The census is continually making projections of the probable size of the U. S. population "X" years hence. The median census estimate (they make three estimates: an estimate on the

high side, on the low side, and a median estimate) — the median census estimate of the U. S. population twenty-five years from now, or 1977, is 193 million. That means a growth rate of the U. S. population of just under 1% per annum. If the population grew at that rate that would mean that the U. S. labor force would increase at approximately that rate, at something like 1% per annum. Since the labor force means the numbers of pairs of hands that are available for production if there is no change in per capita productivity, that growth element in itself would mean a 1% increase in U. S. national income.

With respect to raw materiel availabilities, there has recently been undertaken a very extensive survey of the U. S. raw materials position with projections of availability of raw materials forward for the next twenty-five years. I am referring to the report of the President's Materials Policy Commission in 1953. I happened to be a member of that Commission (it was a five-man Commission) and I spent a good part of two years in working on that problem. Although I am not saying that my ideas are accurate, I am saying that they have been painstakingly acquired. My net judgement, for what it was worth, is that there is really no reason to anticipate over this period of time that we are going to run into serious difficulties on the raw materials side. I see no particular reason for believing that what economists call the "real cost per unit of output of materials" is going to increase. When you talk about the "real cost per unit of output," you are talking about the physical inputs of men and capital required per unit of materiel output. If you could foresee a sharp increase in real cost of materiel output, then that would constitute a deterrent to a continued increase in national income because it would mean we would have to put greater and greater quantities of resources per unit of materials output in order to meet our requirements. So far as I can see, that is not the picture in the United States.

If you go from one important material to another — let me take up two of the most important of them, oil and iron ore, which

are frequently considered to be materials for which we are confronted with a difficult scarcity situation — I cannot see in fact that that is likely to develop. With respect to oil, although there is some indication that the real cost of discovering oil in the United States is increasing it is not very convincing evidence. Furthermore, of course, we do not have to rely on domestic sources of natural oil supplies. In any kind of a calculation foreign sources of supply are of much lower cost than those of the United States. So there is a possibility of meeting our domestic requirements by increasing oil imports and that is what we have been doing over the last ten or fifteen years. Fifteen years ago, the United States was a net exporter of oil. Since the war, we have become a net importer of oil on quite a large scale. Our current oil consumption runs a little over 7 million barrels a day and about one million barrels a day of that is imported oil; maybe 800,000 barrels from Venezuela and maybe 200,000 barrels per day from the Near East. So there are external low-cost sources of supply. I do not need to tell you, of course, that a large increasing dependence on the Middle East for our oil sources tremendously increases the vulnerability of the United States to a cutting-off of external sources of supply. There are also alternative domestic sources. I am talking obout synthetic oil possibilities, shale, coal, which at the present time are certainly not much higher in cost than natural oil extraction and will undoubtedly fall in cost over time. So just to take that as an example, I think the same kind of a situation exists with most materials. I see no necessary reason for a shortage situation or an increase in cost of materials extraction. With respect to iron ore, which is frequently presented in an alarming way, such as: "We are running out of our existing resources of high-grade Mesabi ore," even if we had to depend on alternative domestic sources, that is, on relatively low-grade taconites, the increase in cost of pig iron involved would not be more than 10% to 15% and pig iron is a relatively small element in the cost of producing steel. So I do not think there is anything very alarming in that picture. Summarizing now (and you simply have to take my word for it, for I am just giving you an over-

all judgement), looking over the whole materials field, I see no reason to expect that we are going to have difficulties in meeting our raw materiel requirements over the next twenty-five years.

When you come to the rate of technological progress, that is obviously a tremendously important component in the rate of increase of national income. When I talk about technological progress, I also mean improvements in business and industrial organization and administration. Things of that sort, of course, are peculiarly recalcitrant to any attempt to predict. What we have seen in the past is roughly a 2% per annum increase in per capita productivity. The increase in our national income has been accounted for in the past to the extent of about 1% per annum by population growth and to the extent of about 2% per annum from increase in per capita productivity. That rate of increase in per capita productivity depends primarily on the rate of technological improvement. So far as I can see, we can say very little about that. All we can say is that, considering the numbers of trained professional personnel flowing into the critical areas that are in main responsible for technological change, there is no very overriding reason for expecting either a marked increase or a marked decrease. It is obvious, however, that such a conjecture could be radically wrong.

With respect to the problem of savings and investment, there is, in my opinion, no problem at all. The rate of savings in a high-income economy such as the United States is very high indeed. In fact the kind of economic difficulties we encounter in this country tend to be the fact that investment opportunities do not open up quite as rapidly as the rate of savings develops so that we are frequently faced with the situation in which the volume of savings is excessive and is one of the important elements in the current depressions in the United States. But that is a big subject in itself.

Looking at these main elements which determine growth rates, really I cannot see much reason for supposing that there

is going to be marked upward change nor can I see any reason why we should have to encounter a marked downward change. In sum, my hunch is (and no one can have more than a "hunch" on this matter) that while there are no insuperable obstacles to the continuation of a growth rate of 3+ per cent per annum, it would be unwise to base calculations on a higher growth rate than that. So I would say if you look at this problem of military potential over a substantial period of time that this disparity of Russian and U. S. growth rates, if it continues, raises some interesting questions for speculation in the field of military strategy. But I am not going into those questions, largely because I feel that I am much more ignorant on that kind of a subject than you are.

Now let me make a final cautioning remark before I leave this subject on the relationship between economic considerations and military potential. It ought to be recognized that this whole analysis which I am undertaking rests on a certain basic assumption. The base of that assumption is that military capability is a relatively continuous function, to use a mathematical term, of the input of economic resources. So if the input of economic resources into a military production can be increased, you will necessarily have an increase in military potential in so far as that depends on quantities and qualities of materials.

Has the advent of the A and H bombs changed that kind of calculation? I don't know. I put that to you as a question. I think it is a matter that deserves quite serious consideration. With the moving into an area of potentialities of destruction tremendously greater than anything that we have known before, it might turn out that a critically successful degree of destruction could be inflicted on the enemy with a relatively small input of resources. If that turned out to be true, then I am saying that the basic assumption on which I have been arguing to date would be altered. I have been arguing on the assumption that economic resources are scarce resources with respect to military potent-

ialities; that, in general, you increase military potential with an increase in the input of economic resources indefinitely, although perhaps not at a constant rate. Has there occurred a change in military technology of the sort that permits a critical degree of destruction on the enemy with a relatively small fraction of the input of our available economic resources? If so, this analysis of mine that depends on the assumption of scarce resources, and all economic analyses depending on the assumption that resources are scarce in relation to wants, needs or requirements, would have to be altered.

I think, though, before leaving this subject that if one looks at the defensive side of this picture rather than the offensive side, it is difficult to come to the conclusion that the analysis on which I have been depending will in fact have to be discarded. Because I think when you look at the defense requirements created by these new military weapons you probably come to the conclusion that there is on almost limitless relationship between the input of economic resources and military capabilities if you include the defensive as well as the offensive considerations here.

One final question which is an important question, but one on which I am not going to have much time to spend because I must return now to the second main question, is the question: What is the percentage of the U. S. national income that might be devoted to military production in peacetime? I think that is mainly a political and psychological question rather than an economic question. It has economic aspects of two sorts. One aspect is that unless in peacetime you are going to resort to direct control (I mean allocation of resources, price control, and everything that goes with it), you have a much more difficult problem of diverting resources away from civilian and military production than you do in a totalitarian economy. As I explained, you have got to rely on the monetary penalties and incentives involved in such things as tax rates, prices, and so on.

Then there is another economic effect that ought to be remembered. If the diversion from civilian to military production involves such a high percentage of the national income that rates of saving in the economy are markedly constricted, you may have difficulties in financing in reasonable ways that are non-inflationary the kind of output that you want. I would say, myself, that there is no reason why the volume of expenditures for military production in the United States should not be increased by at least 20 billion dollars a year without any serious economic effects. You would certainly be involved, however, in some extension of direct controls. I would say you are not likely to get that largely by reason of political and psychological considerations. I mean that the civilians in an economy like this simply put up too large a political squawk and their congressmen hear it with ears that are certainly "rabbit ears" under circumstances of this sort. But those really take me outside my own field.

Now let me turn, in the approximately fifteen minutes which remain to me, to discussion of the second main subject about which I want to talk; that is, The Relation of Economic Considerations to the Use of Military Capabilities in Wartime. Two questions need to be considered here: First, to what extent is it advisable to divert military striking power (striking power that could otherwise be used for military objectives) to the protection of our own economic base? I take it to the extent that where military resources are devoted to economic objectives there is loss of striking power and military strength. I take it that one of the problems with which you have to wrestle is how to minimize the diversion of military striking force away from military objectives.

The second main question is: To what extent are economic targets of attack to be preferred to military targets in the use of our forces against the enemy? Those seem to me to be the two essential questions that arise under this general heading of "The Relation of Economic Considerations to the Use of Military Capabilities in Wartime."

I must say that the answers to both of these questions have been changed so drastically by changes in recent military technology that the experience of the recent past may be irrelevant. I don't know. That is a matter for you to decide and is a matter about which you know more about than I do. Let me indicate, however, what my experience in this area has been and then raise the question as to whether it is any longer applicable.

When you look at this first part of the question, "to what extent is it necessary to divert military resources for the protection of an economic base," again you have got two questions involved: (1) To what extent is it necessary to divert military forces to the protection of a continuous inflow of foreign sources of supply, and (2) to what extent is it necessary to divert military resources to the protection of domestic installations?

With respect to the first question, I have already pointed out that we are relatively self-sufficient, but we do still have requirements for sizeable imports. I, myself, would say (and this is a matter that I covered in fairly great detail in an article of mine which I think has been assigned to you for reading, so I will just summarize it here) that with the use of any sensible precautions it is unneccessary to divert any large quantity of military striking power to the protection of the U. S. and the cutting-off of foreign sources of supplies. The main reason for that is that means are known, if they are used in advance, of preparing ourselves against this eventuality. Of course one obvious and very important means is the stockpiling of strategic materials. If that is done in quantities in which it should be done, then it becomes relatively important whether we are cut off from external sources of supply. But there are other means. There is creation of stand-by facilities for materials such as synthetic rubber production or aluminum production, etc. There are also possibilities of storing in the ground materials of which we have not availed ourselves to any very considerable extent. I am not going into those questions now. They are important questions, but I think they have been adequately covered elsewhere. All I am saying is that if these

devices are effectively used in advance, if economic planners (if you want to use that term) do their job right, and Congress comes through with sufficient cash, then I see no great need of diverting military striking forces to this kind of economic defense.

With respect, however, to the protection of our domestic installations, obviously we are runing into a very different picture. Here, it seems to me to be difficult any longer to make any sharp distinction between military targets and economic targets when you have weapons of such destructive capacity as the A-bomb and the H-bomb. I do not know whether destroying Pittsburg or destroying New York represents a military target or economic target, or what.

With respect to the question of how much of our striking force is necessary to divert to the protection of these targets, if you call them economic targets, that is a matter on which I have no special knowledge. All I can say is, as a civilian it looks to me as though the destructive capabilities were so great that unless we divert enough of our striking force to protect a critical minimum of these resources that there is not much use of talking about anything more. This, I think, represents a fundamental change from my experience in previous wars because that was certainly not true in World War I or World War II. So, again, in answer to this first sub-question, "is it necessary to divert military striking forces to the protection of our economic base," I would say that with respect to external sources of supply if we take adequate precautions it is not necessary to any considerable degree. With respect to the protection of our civilian economic base, I would say that you know a great deal more about that question than I do. But it looks to me as though that is a necessary diversion of military striking force.

When you look at the second aspect of this general question, "to what extent in the use of our own striking forces against the enemy are economic targets to be preferred to military targets," the same kind of general argument applies. With respect

to Russia, Russia is even more invulnerable than we are to the cutting-off of external sources of supplies. So I would say there is no point at all in talking about that kind of economic target. I have no doubt that it would become important in time of war to deny the Russians the use of Middle Eastern oil. I also have not much doubt but that can essentially be done without the use of large military forces.

Finally, and this is the concluding element about which I want to talk, here is a brief summary of how that situation (as I see it) has changed by reason of changes in military technology. While I am forced to raise the question as to whether an analysis of our experience really throws much light on the present situation, in World War I I take it that there is no doubt that Britain did achieve significant results — some would say "decisive results" —by denying to Germany access to external sources of supplies. The reasons why those results were important were two: (1) They were important because German space was extraordinarily dependent on foreign sources of supply, and (2) Germany had made no advance preparations before World War I to meet that eventuality. The result was that during about the third year of World War I Germany was being starved out. The economic situation in Germany was a serious economic situation. It had serious political repercussions in Germany. And I think there is very little doubt that economic warfare, carried on very largely of course during that period by naval blockade, had highly important results.

The situation in World War II, however, was very different. And the reason that it was very different was that the German space in World War II was by no means as heavily dependent on external sources of supply. First, Germany in World War II, by reason of its conquests, had the whole of Europe on which to depend and they could bleed civilian populations white in areas outside of Germany without worrying about it. The second reason was that Germany had made pretty adequate advance preparations in

World War II through stockpiling of materials and, in particular (and this is a matter in which I go into considerable detail in that article which I think you have read), in World War II Germany had found the capability of applying her technology to the development of substitutes in really remarkable fashion. So Germany, really, in World War II, simply designed out of scarce materials and into the materials that were more plentiful. By reason of those two facts — a larger economic space and advance preparations — I would say that the naval blockade of Germany inflicted negligible results on German military potential in World War II.

I think it is generally agreed (you would know more about this than I) that although the air attack on German economic installations produced a great effect, it did not produce what we might call a "decisive effect" in any sense of the term. As I read the record of that situation, air attack on German economic targets began to affect German military capabilities, if at all, only towards about the last six months of the war. It is, of course, true that the attack on economic targets in Germany did force a diversion of resources from destroyed factories into building other factories, and so on. But the Germans found it possible to have the civilian sector of the economy take up most of the slack. So as I read that record, air attack did not have a decisive effect by any means on German military potential. It had a pronounced effect only very late in the war. The experience of World War II, with respect to these things of which I am talking, was very different than World War I.

But can you base present analysis on the experience of World War II? As I have emphasized, certainly now there is no point in spending large military resources in denying our potential enemy access to external sources of supply. There may be a few qualifications to that remark, but they are not many.

When we get into the realm of air attack with new weapons, then what is the answer to the question about economic targets versus military targets? Here, as I say (and perhaps I am speaking

as an ignorant layman), I find that the distinction, as I have already said, between what is proper to call "economic" and "military" targets gets extremely fuzzy. Certainly I think that attacks on installations in Russia become a primary set of targets, but whether you want to call them "military targets," whether you want to call them "economic targets," or whether you want to call them "destruction of population," or "political targets," or "psychological targets," or what have you, I do not know. All I am saying is that I do have grave doubts as to whether the experience of economic warfare in World Wars I and II is very relevant to the problem with which we are confronted today.

Finally, in summary, let me say that I have been talking about the two subjects which seem to me to be essential to this question in the relevance of economic considerations to strategy. The first has to do with the relationship between economic considerations and military capabilities or military strength. After summarizing all the pro's and con's there, I find myself, despite the development of new weapons, still of the opinion that when you take the *defense* as well as the *offense* into account it is still true to say that there is a functional relationship between the input of economic resources and military capabilities. As long as that is so, then questions of the size of the national income and the rate of growth of the national income become matters of decisive importance as far as I can see for our military strategy.

The second great question is the extent to which military considerations in wartime should affect the use of military striking power. That has a defensive aspect as related to our own economic base and also offensive implications as related to the economic base of the enemy. I think the most useful thing that I have been able to do was to raise a caution in your minds as to whether even the most careful study of the experience of the recent past throws a lot of light on what the problem is which we confront.

BIOGRAPHIC SKETCH

Professor Edward Mason

Professor Mason was born in Clinton, Iowa, on 22 February 1899. He received an A. B. degree from the University of Kansas in 1919, an A. M. degree from Harvard University in 1920, a B. Litt. degree from Oxford University, England, in 1923, and a Ph. D. from Harvard University in 1925. In 1948 he was awarded a Litt. D. degree from Williams College.

Dr. Mason has been on the faculty of Harvard University since 1923, beginning as an instructor and advancing to full professorship in 1937. Since 1947 he has been Dean of the Graduate School of Public Administration.

He has served the Government in many capacities. In 1938-39, Professor Mason was economic consultant to the Department of Labor, and from 1940-41 he served on the Defense Commission. He was in the Office of Strategic Services, 1941-45, Deputy to the Assistant Secretary of State in charge of Economic Affairs, 1945, and Economic Counsel to the State Department, 1946-47. In 1947 he was Chief Economic Advisor at the Moscow Conference. Professor Mason was appointed by President Truman as a member of the Advisory Committee on Management Improvement to assist in improving Government organization and served as a member of the Materials Policy Commission in 1951. In 1946 he was awarded the Medal of Freedom.

VITAL ECONOMIC AREAS

A lecture delivered
at the Naval War College
on 28 October 1953, by
Professor Gardner Patterson

Gentlemen:

The topic which has been given to me is a very broad one. I like that because it means I can talk about what interests me at the moment.

I would like to look at this question of the vitalness or essentiality of various economic areas primarily from the point of view of American military capabilities rather than from the point of view of our economic welfare. I hasten to add that these two are not separate and unassociated considerations. I think it will become apparent as I go on that there are many cases where what is essential for economic welfare purposes may also be essential for increasing or maintaining our military capabilities.

This morning I will try to be as specific and concrete as I can regarding the situation as of today, but my major objective is to outline a general framework within which you may look at this problem yourselves at some future time and to mention some of the important policy issues involved. If there is anything that impresses one who studies the essentiality of various foreign areas to the United States it is that these areas change in relative importance all the time. And this for many reasons. The vitalness of a given area changes with the nearness of possible conflict in terms of time; it is highly conditioned by the estimates which must be made as to who are to be our friends, who are our potential enemies, and who, if any, are to be neutral; it is determined by the length of conflict which must be envisaged; it is, of course, also a function of the types of weapons that it is anticipated may be used. It is also dependent upon the specific techniques and methods of production

used in the United States as well as levels of production. Obviously it depends upon the estimates as to the areas where the actual fighting may take place.

A change in any of these factors (and others which could be listed) may mean that any Area "A" which may be of great vitalness to us today may not be a very important area to us tomorrow and that Area "B" which we do not really depend upon very much today, may become an essential one tomorrow. It is for this reason, I repeat, that while I shall try to be reasonably concrete and specific about the problem as I see it as of late October, 1953—the areas mentioned now may have relatively little importance five years from today. That is why I choose to emphasize the general types of considerations one must take into account in determining at any given time whether Area "A" is vital to us or not.

The first, and most obvious, consideration which one must take into account in determining how important an area is to the United States is the importance of that area as a supplier of needed materials. Looking first at the total value of all our commodity imports, one finds that Canada and Latin America are by all odds the most important areas as sources of supply. The two of them together account these days for something like 55% of all United States merchandise imports; Canada accounts for about 25% and Latin America for a little over 30%. The Western European NATO countries are next in importance, accounting for less than one-fifth; and they are followed by the Far East, which sends us something like one-sixth of our total commodity imports. The small amount that remains comes from the Near East and Africa. Virtually nothing is sent to us now from the whole area of Eastern Europe and China. Currently, we receive from the Soviet Bloc something less than one-fifth of 1% of the value of our total imports.

There are those who say that no foreign areas are really very vital to us as sources of supplies because, after all, our total

imports are equal to less than 4% of our total national income. This, of course, as compared with many other countries, is exceedingly low: imports in the case of many of the Western European countries, for example, account for from 20% - 35% of their national income. Compared with them, and in this aggregative sense, one can say that we do not have to worry very much about foreign areas in order to keep our own economy functioning at a high level.

But, as in many economic problems, it is not only the aggregates that are important. When we break down our imports into their components, one finds — especially from the point of view of commodities which are essential for mounting and maintaining a large defense force — that there are many imports which are vital to the United States. This is especially true of minerals and metals. There are a few commodities — natural rubber and industrial diamonds are examples — where 100% of our consumption is imported. There are, fortunately, relatively few cases where we are completely dependent on foreign sources. But we rely on foreign areas for more than 90% of our current consumption of many absolutely essential materials. Included here are such commodities as tin, chrome, nickel, mica sheet, asbestos, mercury, cobalt, and so on. There are others in which we rely on foreign sources for more than 75% of our consumption: tungsten, antimony, and bauxite. Over half of our lead and quartz come from abroad; and something like a third of our zinc and fluorspar and over 25% of our copper come from foreign sources. One could go on and expand this list of essential commodities — from the point of view of military operations — which do come from abroad.

The question is: Where do they come from? The answer is that they come from literally scores of foreign countries, but that the great bulk of them come from Latin America and Africa. Africa, especially, is a great potential source of these materials. It is an area which, in the aggregative sense, does not account for much of our imports. Yet this continent is of the very greatest essentiality to us in terms of our ability to maintain our dom-

estic production and our military potential. Canada is also an area of increasing importance. The rest of the world accounts for relatively little of these particular materials.

It is, unfortunately, not just our current dependence which is important. Many of these foreign areas are becoming increasingly important to us because our consumption of many of these materials is exceeding our domestic production by increasing amounts. If you make a comparison between 1936-1938 and the last two years, you will find some surprising changes. For example, in the earlier period (which is only fifteen years ago) the United States was a net exporter of copper. We are now a major importer of copper. As compared with fifteen years ago our imports of tin have increased two and one-half fold; our imports of the ferroalloys as a group by tenfold; zinc by fifty fold; iron ore by fourfold.

This growing dependence on others for raw materials can be shown in another way. The Paley Commission (the President's Materials Policy Commission) made a very extensive study of our dependence on foreign areas for raw materials last year and reported that, taking into account all the raw materials which the United States consumes (except food and the precious metals — gold and silver), in 1900 the United States produced something like 15% more than it consumed; in 1950, it consumed some 9% more than it produced; and that if anything like the recent rates of growth in our domestic production and population continue, that by 1970 we will have a 20% deficit. Therefore, these areas — primarily Africa, Latin America, and Canada — seem destined over time to become even more vital to us than they have been in the past. It must be noted, of course, that the relative importance of any given country within this group will change. The classic recent example of this is the Belgian Congo. About fifteen years ago, the Belgian Congo was not a very important area to us. Today, as a major source of uranium, it has a vitalness for us which is matched by few other countries.

In making guesses as to how important any given area may be in the future you must also make adjustments for the possibilities of shifting from the use of scarce to more abundant resources. It is possible to shift from copper, which is relatively scarce, to aluminum, which is somewhat more abundant for certain purposes. There are, I am told, good technical possibilities for replacing lead with plastics for pipes and other purposes. There are also great possibilities of reducing the rate of increase of dependence upon foreign countries by conserving in the use of many of these metals which we import. An outstanding example is the great "waste" of materials in our automobiles. Chrome is a scarce material. The very lavish use of chrome in American automobiles could certainly be reduced a great deal; the mere weight and size of the American automobiles present possibilities of tremendous savings of iron and steel products. There are also considerable possibilities for recovering scrap.

But, taking into account these various conservations, shifting in uses, and recovery of scrap, it still seems that if our economy is to continue to grow (and this is an assumption which almost no one questions — if for no other reason than that the population of the United States is currently increasing at a faster rate than that of most other nations in the world today), then the importance to us of those areas which supply these types of raw materials seem destined to become even greater.

This dependency on imports currently raises some very important policy problems for the United States. It has, for example, raised basic questions as to what the United States should attempt to do with the so-called Point Four Program. Originally, the emphasis was on the humanitarian aspects of helping others to help themselves and on the political aspects — it being assumed that if people ate better and lived better they would be less susceptible to the appeal of Communism. But as we became more aware of our increasing dependence on these areas for commodities which were essential to military strength, the emphasis of

the program shifted (so far as the United States was concerned) toward giving such technical and capital aid as might be necessary to expand the production in these countries of raw materials. This shift has run into violent opposition from most of the underdeveloped countries. What they do *not* want is to become raw material producers for the United States and Western Europe. Most of them want to become diversified, industrialized economies. How the United States is going to work out this problem, with its political as well as economic overtones, is by no means clear.

A second major policy issue that is involved in the fact of increasing dependence on imports is the question of how can we reduce the risk of being cut off from these areas in time of war. This gets into the stockpiling problem. And here there is a series of difficult decisions to make. What commodities are to be stockpiled? The answer to this rests on the whole series of assumptions about who your enemies are to be, who your friends are going to be, what weapons you are going to use, and what materials are going to be required. These in turn rest on a series of strategic and political assumptions — some of which are almost certain to be wrong. Even if the greatest wisdom — and intuition — is brought to bear on this you still have the problem of when should you buy these things. Should you buy them when the prices are low or should you do as we have in fact done — buy when danger is very close and prices high? Should we use stockpile purchases to stabilize international commodity markets? Should purchases for the stockpile be used as a means of easing the dollar difficulties of our friends? A more serious policy problem is the one which is very much in the press these days: should we try to encourage production abroad and then stockpile foreign-produced materials, or should we concentrate our ideas, energies and public funds on expanding domestic production? Much of this discussion seems to revolve around the welfare of the existing mining concerns in the United States but the issues are bigger than this. The complex of issues summed up in that slogan

"Trade, not aid" are present. There are also questions of whether or not buying abroad for stockpiling purposes does in fact discourage exploration and exploitation which would decrease the total capacity of the United States to produce for its own use. There is something to be said for not exploiting our own resources in times of peace in order to keep these materials in the ground so that if and when foreign sources are cut off in time of war these domestic materials would be available to us. I do not pretend to be able to answer these questions, but I do think you should be ever aware of them.

I would like now to go to the second major consideration in determining the vitalness of foreign areas to us — the first having been as sources of supply. Those foreign areas which constitute important markets for our products are also important to us. In aggregative terms our merchandise exports are more important to us than our imports; exports presently are equal to some 7% of our national income as compared with 3½-4% for our imports. When you look at the area distribution of our exports in terms of total value (excluding the military materiel which is being supplied under the Military Assistance Program — these are a very special form of export and I exclude them from this calculation), you find, as in the case of imports, that it is Canada and Latin America which are the most important single areas to the United States — these two areas accounting for over half of our total exports. Western Europe is more important as a market for our exports than it is as a source of imports, while the Far East is more important as a source of imports to us than it is as a market for our exports.

There are, it seems to me, two broad general senses in which exports (apart from their effect in strengthening our allies and possibly making potential enemies dependent on us) are important to the military strength of the United States. The first is the military stake in a prosperous domestic economy. The second is the need of exports to provide a large enough market to

maintain a production base for certain industries in the United States which may be more than is needed for military and domestic purposes in times of peace, but which may be needed in time of war.

We can for present purposes divide our exports into agricultural commodities and manufactured goods. Looking first at agricultural products, we find that several important crops are very dependent indeed upon foreign markets for maintaining anything like the present level of production. (United States agriculture is also dependent, of course, upon some large internal stockpiling programs carried out by the Federal Government). Going down the list of major commodities, you find that in the case of barley 13% of our total production has in recent years been exported; 36% of our rice is exported; 36% of our wheat; 27% of our peanut oil; 28% of our soybean oil; 26% of our leaf tobacco; and 41% of our raw cotton. These are very substantial percentages of the total production.

Are these foreign markets, which maintain agriculture at something like its present level, important from a military point of view? I would argue that they are. In the first place, our agricultural exports serve to improve the health of some of our potential allies. In the second place, these foreign markets in times of peace provide for a level of agricultural production which we can very well use in time of war. For reasons which we need not go into now, the consumption of foodstuffs increases greatly in time of war and the fact that we have foreign markets in times of peace helps to maintain a level of agricultural population, production, and mechanization will stand us in very good stead, indeed, in time of war. In the third place, the prosperity which these export markets help give agriculture is important, I think, because the agricultural sector of the economy constitutes a rather important source of demand for manufacturing industries — which industries, prosperous and on a large scale, are perhaps of more direct relevance to military considerations.

Fourthly, I would suggest that it takes no great shrewdness to guess that if the foreign demand for our agricultural products were to decline seriously and that this were — as it would — to reduce farmers' income the U. S. Congress would do something about it. There is, after all, some evidence to show that Congress responds to depression in this sector of the economy by various forms of financial relief. I would hazard a guess that if a great expansion in relief to agriculture were called for because of the loss of our foreign markets, the military budget might very well suffer at the hands of Congress. I suspect that in dealing with amounts of the size that might be involved here Congress would likely begin to match off one expense against another; and that if larger appropriations had to be made to take care of the farmers that this would be to some extent at the expense of the military budget.

What are the areas which are important buyers of our agricultural commodities? From this point of view, which are the vital areas? Western Europe is at present the most important area. Western Europe is not very important to us as a source of imports, but it is very important to us as a market for agricultural commodities, accounting for between 40-50% of our total exports in most of the commodities I have mentioned. It is followed by the Far East — at least in recent years — also an area which is not of major importance as a source of imports.

Turning from agriculture to manufactured goods, we find the degree of dependence on foreign market is not so great — but it is still important. More specifically, something like 12% of our production of locomotives is currently being exported; 13% of our diesel engines; 9%-10% of our industrial trucks; 22% of our machine tools; 24% of our textile machinery; between 11%-20% of various types of tractors, and so on.

The major markets for these goods are not Western Europe and Asia, but rather Canada and, most important of all, Latin America. If you take machinery — the whole category of elec-

trical and industrial machinery — you find that Latin America takes a little over a third of our total exports, Canada takes about 25%; and the rest of the world the balance. Approximately the same percentages apply for iron and steel mill products in general, and for the whole group of automotive parts and accessories as well as the vehicles themselves. I submit that those areas (especially Latin America and Canada) which buy a significant part of the output of our industries are of great importance to the United States military because in time of war one needs large and prosperous industries producing such things as machine tools, automobiles, tractors, and diesel engines, not only because these goods are needed but these industries are relatively easily convertible into the production of various kinds of materiel.

The third major consideration that you must take into account in determining at any time which areas are vital to the United States is, of course, the importance to us of particular military allies. Obviously, these areas themselves — since they produce a good bit of the goods that make them militarily strong — become vital economic areas. And so Western Europe is important to us today not only because it is a source of demand for our agricultural exports but, more importantly, because it is an ally. But one has to go further than this and apply the same sort of analysis to Western Europe as we have outlined for the United States.

Thus, one finds that Europe is even more dependent on imports of minerals and metals than is the United States. This particular consideration does not bring in new areas of great importance to us but it does increase the importance of Africa, Canada, and Latin America. On the other hand, Europe imports much of its food and textile raw materials and so the suppliers of these goods become, at a couple of stages removed, vital to us. In addition to areas already covered, this brings into the picture such areas as North Africa, Oceania, and Egypt.

Special mention should be made of petroleum products. The United States currently imports only about 10% of its petroleum

requirements. This could easily be supplied, I understand, by South America. On the other hand, Western Europe imports virtually all of its crude petroleum and relies very heavily upon the Near East. Therefore, if one looks only at our own (that is, strictly the United States) military potential, the Near Eastern oil has nothing like the importance it does if you take into account the needs of our particular allies.

The markets for Europe's manufactured goods — and I would argue that Europe, just as the United States, needs foreign markets (especially for her engineering industries) in times of peace in order to develop these industries on a scale that can meet the internal demands in time of war — are somewhat different from ours. Ours tend to be concentrated in Latin America and Canada; whereas, Africa, the Near East, and Asia are of great importance to Western Europe.

It is not enough, of course, to consider as essential just those areas which are vital to ourselves and our allies. Since military strength is relative, not an absolute, matter, in any determination of vital economic areas to the United States, consideration must also be given to those that are important sources or markets for our potential enemies. If one assumes that at present our most serious enemy is the Soviet Union and its satellites, then in determining areas that are important to us we must include in this category areas that are important to the military strength of Russia. I know very little about the details of Soviet Bloc trade. It is pretty hard to get much information on this. There is considerable evidence that the Soviet Bloc has been remarkably successful in its autarchic policies; that is to say that they have been remarkably successful in becoming self-sufficient. At what cost we do not know, but that the cost has been great seems certain.

That they have made great strides in this direction is indicated by the following comparisons of the percentage of the individual Soviet Bloc (excluding China and North Korea) countries'

trade at present with other countries that are now in the Soviet Bloc, as compared to their trade with such countries in 1937.

Country	*Soviet Bloc Countries' Trade with other Members*	
	1937	At Present
Albania	5%	97%
Bulgaria	12%	92%
Czechoslovakia	11%	60%
Hungary	13%	67%
Poland	7%	58%
Roumania	18%	79%
Russia	?	75%

I cannot vouch for the accuracy of these figures. They are from Soviet sources and one would presume that they have propaganda reasons for increasing rather than decreasing the current percentage of intra-Soviet Bloc trade. Still, one can perhaps safely assume that the general dimensions of the change are reasonably accurate.

One has to assume, I suppose, that so long as the Soviet Bloc hangs together there isn't much we can do about intra-bloc trade. The fact remains, however, that in none of these cases is the trade 100% intra-Soviet Bloc; that is, Russia and the satellites do rely on some outside areas and, therefore, one has to investigate how important these outside areas are and face the policy problem of whether, and if so, what we should do to reduce such trade. Thus, for example, Ceylon (which does not matter very much to the United States one way or another, directly), is of very great strategic importance to us because she is a major supply of natural rubber to the Soviet Bloc. India becomes more important to us in this vital military sense because she also

supplies jute, hemp, and certain other militarily significant goods to the Soviet Bloc. The United States herself was at an earlier time something of a vital economic area in this sense because we also used to supply some important commodities to Russia and the other Soviet-Bloc countries. This trade has now been virtually stopped. We are now exporting little except small quantities of tobacco and feathers.

The most serious problem for us today in connection with Soviet trade grows out of the fact that Western Europe has been an important source of militarily significant imports by the Soviet Bloc. Historically, Western Europe has been an important source to the Soviet Bloc of such things as iron ore, machinery, ships and boats, railroad and car transportation equipment, machine tools, other types of machinery, and some chemicals — all commodities which are directly related to the ability of the Soviet area to carry out a policy of aggression. Thus, Western Europe is not only important to us directly as an ally, but the vitalness of this area to us is increased by the fact that she has historically been an important supplier of commodities to what we must regard as our potential enemy today.

This has raised the question — the very tough policy question — of what we should do about East-West European trade. It is one of the most difficult international economic policy questions currently confronting us. If one could conclude that it was necessary only to take account of the shipments that went from Western to Eastern Europe, that is, if you did not have to worry about the trade (or lack of trade) in the other direction (which I want to come to in a moment) then it is often said that the issue would be simple; this trade ought to be embargoed. I don't think it is quite this simple.

There are at least two modifying considerations. One is the question of whether or not by stopping the trade from Western Europe to Eastern Europe you do in fact increase the cohesion

of the Soviet Bloc area; that is, do you in fact throw this area back upon itself in such a way as to make it virtually impossible for the satellite countries ever to break away? It seems likely that to the extent that Western Europe does not supply commodities to Eastern Europe the autarchic development of the Soviet Bloc is encouraged and the satellite countries become even more dependent upon other members in the Soviet Bloc. I don't mean to say this is an overriding consideration—all that I suggest is that one must take into account in determining what one's policy on the East-West trade is to be.

The second consideration is an even trickier one: might it be in the interest of the West to encourage this trade with the aim of making the Soviet Bloc dependent upon the West for sources of essential goods—and thus increasing for the Soviet Bloc the hazards of any military adventures against the West? (Of course, by the same token the West might become dependent on Russia for certain essential goods and so increase the hazards of war for the West). In any such policy you would, of course, have to determine whether the West's exports were being used primarily to build up stockpiles in Russia and that the latter's policy continued to be one of autarchy. If this were the case, the argument is all for stopping the trade more quickly.

Unfortunately, we do not have the luxury of being able to say that all we need to consider is the importance of Western Europe as a supplier of commodities to our potential enemies. The fact of the matter is that in this trade Western Europe gets back something in return—and this something is important commodities: grain and flour, meat, coal, timber, and small amounts of such metals as tungsten, cobalt, manganese, lead, copper, and iron ore. All of these are important in determining the size of the military force Western Europe can and will mount. One does not have to follow the history of the postwar rearmament effort in Western Europe very closely to see the close relationship between the price and the rations of bread and meat and housing on the one

hand, and the willingness of the Western European countries to make military expenditures on the other. Therefore, if we stop East-West trade because it is argued that we do not want to give Russia these machine tools, these iron and steel products — then we are, in effect directly stopping imports of commodities into Western Europe and Eastern Europe. On these matters the Russians are certainly no fools. They have reasoned that if they cannot buy something with the proceeds of their exports to Western Europe then why export. As the exports of Western Europe have been reduced, so their ability to import from the Soviet Bloc has also been reduced. The problem therefore seems to me to be a day-to-day one of clever, shrewd, well-informed officials deciding which particular transactions add more to the relative strength of the United States and its allies than they add to the relative strength of the Soviet Bloc and permitting such trade while prohibiting that which does not meet this criterion. It is a problem to be handled with a scalpel, not a sledge hammer of flat embargoes on all trade.

It seems to me that it is irresponsible for the United States, as some have urged, to say to the Danes: "You shall not ship tankers"; to say the Dutch: "You shall not ship electrical equipment"; to the Italians: "You shall not ship machine tools"; while saying at the same time that it is no concern of ours what happens to employment in these industries or what happens to the bread ration or to the ability of these western countries to build new houses. It seems to me that it is important to us that our allies do have these commodities because they contribute to their ability and willingness to join us in mutual defense efforts. If this be accepted, then the United States must face the problem of what its responsibilities are finding alternative markets and alternative sources of supply for Europe. And this exercise will bring in new areas that are important to us. That is to say, if we tell the Europeans that they cannot obtain these commodities — the bread, the timber, the meat and certainly, the minerals and coal — from Eastern Europe because we insist they not sell some

of their output to Eastern Europe (and we have ways of enforcing this, of course, because the Battle Act provides that if aid recipients ship certain goods to Soviet Bloc countries then our military and economic aid shall be cut off), then we have some responsibilities for helping the Western European countries find other places to buy these commodities and other places to sell the output of their industries. And this brings us back to the problem of what we shall try to do under the Point Four Program in the way of creating additional markets and sources of supply for Western Europe. It also raises the policy issue of whether we are under some obligation to make it easier for these Western European countries to sell in the United States the goods we now do not want them to sell to Russia. Or perhaps we would prefer simply to give them larger amounts of economic aid so that they can buy the goods elsewhere that they no longer get from the Soviet Bloc? No one of these policies is without its problems and costs. Which one — or which combination — is chosen depends upon a careful analysis of the facts of the given situation and the answer will be different at different times.

I see that I have used up all the time alloted to me. I would like, in closing, to repeat that while I have tried to be concrete at times, the most important thing you must keep in mind about this problem of determining which economic areas are vital to us is that they are constantly changing. There are, however, a few general factors which may help you select the most vital areas at any given time. First of all, the most obvious is to find out which areas are sources of essential raw materials, given our weapons, the components of those weapons, existing production techniques, and so on. Then one has to ask: "Which are the important areas from the point of view of markets for our exports?" These areas are important in part because of the competition you may have with Congress for funds if a given sector of the American economy suffers a blight as a result of losing its export markets. They are also important — and more seriously important, I think — because there are many industries,

both agricultural and manufacturing, where large foreign markets permit in time of peace the creation of a large production base which you may not need for military purposes during time of peace, but which is nice to have in time of war. You must also consider these same factors from the point of view of your potential allies. Finally, you must never forget that those areas that are vital to your enemies are, for that reason, important to you.

BIOGRAPHIC SKETCH

Professor Gardner Patterson

Professor Patterson was born in Burt, Iowa, on 13 May, 1916. He received A.B. and A.M. degrees from the University of Michigan and a Ph. D. from Harvard University.

He was a Teaching Fellow and Tutor at Harvard when World War II began. Most of the time during the period 1942-1946 he was engaged in economic intelligence work, part of the time in the Navy, and during the remainder as United States Treasury Representative. These assignments took him to Africa and a number of European countries. At the war's end he was serving as United States Financial Advisor to General Scobie (British), Commander in Chief of Allied Forces in Greece.

On being released to inactive duty in March 1946, Dr. Patterson was appointed the United States member of the International Currency Committee in Greece and resigned this appointment in September 1948 to accept a teaching appointment at the University of Michigan. In September 1949 he became an Associate Professor of Economics and Director of the International Finance Section at Princeton, the position he currently holds. His work there is both teaching and research, the former being entirely in the field of international economic theory and policy, and the latter resulting, so far, in the publication of four volumes entitled *Survey of United States International Finance* — an attempt to ferret out the important issues and facts in the whole range of United States international economic policies and activities.

During the past year Professor Patterson made two trips to Israel (totalling four months) as a consultant to the Department of State in connection with the United States aid program to that nation.

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.

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 or the Chief of Naval Personnel. (See Article C-9604, Bureau of Naval Personnel Manual, 1948).

Title: *Economic Controls and Defense.* 260 p.

Author: Wallace, Donald H. N. Y., Twentieth Century Fund, 1953.

Evaluation: This volume deals principally with fundamental problems raised by the use of direct controls in a long defense period. It describes in a clear and concise manner the various type of controls (i.e., manpower, wage, material, price, rationing, and products programing), their possibilities and dangers if used by the government in various degrees in times of national emergency.

Title: *Report on Indo-China.* 245 p.

Author: Newman, Bernard. London, Robert Hale, Ltd., 1953.

Evaluation: As the end-product of a six-weeks' flying trip through Indo-China, Mr. Newman has come forth with a brief historical analysis, kaleidoscopic depictions of local living conditions, an analysis of the military situation and his solution to the war there. The book is a capsule review of the complex situation that is Indo-China today. For an easily digestible, superficial treatment of Indo-China, it is recommended.

Title: *Our Secret Allies*. 376 p.

Author: Lyons, Eugene. N. Y., Duell, Sloan and Pearce, 1953.

Evaluation: The author has chosen the thesis that in the Russian people we have a weapon for freedom more potent than our atomic stockpile, provided we can find the wisdom to develop it for our common salvation. He believes that a foreign policy that disregards the people and lumps them together with the Soviet regime fails to understand the situation. He stresses the numerous indications that a wide gulf exists between the Russian people and their rulers and argues that we must take advantage of this. He concludes that a permanent civil war goes on in Russia between the Kremlin and the Russian people and points out that the history of Russia since 1917 does not substantiate the "Red Myth" that the Soviet leaders led a popular Communist uprising to overthrow oppressive Czarism. Instead, the Bolsheviks seized power through conspiracy and have maintained that power only through the application of the most ruthless measures. In World War II, the invading German armies failed to capitalize on this fact and the Russian people were rejected by the Nazis. Following the war, we insisted on returning Red Army deserters and failed to give them asylum in the West. The author believes that we must give up the idea of a co-existence with a cooperative Kremlin and should foster a unified front with its subjects. In other words, we must be with the people against their autocracy. This is an outstanding book, written by a keen observer who has the ability to analyze the political situation as it exists in Russia today. His arguments are clearly presented and well-substantiated. In addition to being a well-written volume, the subject matter of this book is stimulating and thought provoking. A condensation appeared in the March, 1954 issue of the **Reader's Digest.**

Title: *A Hundred Years of War*. 419 p.

Author: Falls, Cyril. London, Gerald Duckworth & Co., 1953.

Evaluation: A sketch of the past century (1850-1950) of warfare by land, sea and air, with a commentary in interpretation of it. The study includes coverage of minor campaigns and colonial wars, as well as the special problems of partisan and guerrilla warfare. The author has succeded in presenting this many-sided subject in a clear and precise manner so as to make it interesting and informative

reading. He has stressed the military aspects of war rather than the political and moral issues. In covering an era which has contributed so many revolutionary changes in warfare, the author has imposed upon himself a severe task of condensation, which he has accomplished in commendable fashion.

Title: *The Man Who Never Was.* 160 p.

Author: Montagu, Ewen. Philadelphia, J. B. Lippincott, 1954

Evaluation: A true story of World War II. It deals with "Operation Mincemeat," a ruse devised primarily by the author of the book and intended to mislead the Germans in regard to the projected invasion of Sicily. Very probably a classic in cover and deception, the operation could undoubtedly be counted a total success. The book is most interestingly and well written. While it reads like a very good fictional spy-detective thriller, it deals effectively with the minute details of the project and is sufficiently authenticated for the purpose of illustrating the extreme care and patience required in such an operation. The necessity for the operation is set forth, and by virtue of captured documents, its effect on the enemy and his reactions and resulting operations can be set forth with some certitude. The book is recommended reading for all students of the art of war, both for pleasure and for contained material. It is valuable as giving an insight into a type of warfare with which only a very few officers knowingly come in contact.

Title: *The Threat of Soviet Imperialism.* 402 p.

Author: Haines, C. Grove, ed. Baltimore, The Johns Hopkins Press, 1954.

Evaluation: This book is packed with scholarly treatments of all aspects of the Communist threat. It is not a "primer" and should not be picked as the first book in this field to be studied. Since it is actually a collection of twenty papers presented at a conference on "The Problems of Soviet Imperialism," it can be readily used as a reference to improve one's knowledge in any phase of the problem. The chapters are related, but not interdependent, and each presents material relevant to its own subject. Each paper is written by a person recognized as an authority in his field. The stature of the contributors lend much weight to the value of the book. Much constructive, positive thinking is indicated. Highly recommended as an authoritative work for use in any study of the present struggle between the Free World and the U.S.S.R.

PERIODICALS

Title: *Shape Up for 'A' War.*

Author: Canzona, N. A., Captain, U.S.M.C.

Publication: MARINE CORPS GAZETTE, February, 1954, p. 17-21.

Annotation: An excellent short discussion of amphibious operations in an atomic war with emphasis on needed organizational changes of interest to all.

Title: *Trade: Russia's Real Secret Weapon.*

Author: Harris, Herbert.

Publication: NATION'S BUSINESS, February, 1954, p. 23-25, 76-79, 82-83.

Annotation: Outlines the objectives of Russia's effort to expand her foreign trade and describes communist foreign trade operations that are planned to bring political, psychological and military gains, as well as economic advantage.

Title: *Air Defense of North America.*

Author: Phillips, Thomas R., Brigadier General, U.S.A., (Ret.)

Publication: ANTIAIRCRAFT JOURNAL, January-February, 1954, p. 6-9.

Annotation: Discusses the improvement of radar and radio air defense across northern Canada and the problems of obtaining adequate protection without bankruptcy.

Title: *Dilemmas of American World Leadership.*

Publication: WORLD AFFAIRS INTERPRETER, Winter, 1953-54.

Annotation: This issue devoted to addresses delivered at the Institute of World Affairs includes discussion of the following topics: **The United Nations and the Bricker Amendment**, by Paul G. Hoffman; **A Basis for Survival in the Atomic Age**, by John A. McCone; **Keep Your Powder Dry**, by Lt. Gen. Charles B. Stone, III, U.S.A.F., **Strategic Criteria for a Policy of Liberation or Containment**, by Arthur C. Turner.

Title: *Tomorrow's Atomic Battlefield.*

Author: Reinhardt, George C., Colonel, U.S.A.

Publication: MARINE CORPS GAZETTE, March, 1954, p. 16-23.

Annotation: Some thoughts on the role of atomic weapons in future war.

Title: *Preparing for War — In Peace.*

Author: BUSINESS WEEK, February 27, 1954, p. 100-102.

Annotation: Reports on mobilization planning at American Machine and Foundry Company, worked out by Major General R. L. Maxwell, U.S.A. (Ret.) and a staff of experts.

Titles: *Soviet Power in* 1960 *and American Power in* 1960.

Authors: Crankshaw, Edward and Keyserling, Leon H.

Publication: WORLD, March 1, 1954, p. 20-23.

Annotation: Two articles presented under the heading, "The Race of the Giants: American vs. Soviet Power in 1960" evaluate the U. S. and Soviet economies today and as they will compare in six years.

Title: *The New Strategy's Unanswered Questions.*

Author: Millis, Walter.

Publication: COMBAT FORCES JOURNAL, March, 1954, p. 13-17.

Annotation: A clear and challenging study of new weapons applied to our present stated national strategy.