

PROCUREMENT POLICIES OF GOVERNMENT AND INDUSTRY

2 December 1948

CONTENTS

	<u>Page</u>
INTRODUCTION--Colonel H. R. McKenzie, QMC, Chief, Procurement Branch, ICAF . . . . .	1
SPEAKER--Professor Howard T. Lewis, Harvard Business School . . . . .	1
GENERAL DISCUSSION . . . . .	16

Publication No. L49-54

THE INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington, D. C.



## PROCUREMENT POLICIES OF GOVERNMENT AND INDUSTRY

2 December 1948

COLONEL MCKENZIE: General Vanaman, gentlemen: We have concluded the series of lectures dealing primarily with military procurement and procurement by the agencies of the military establishment. We are embarking upon a series of lectures this morning from which we hope to derive basic principles of procurement. We are purposely inserting these lectures in your course in order that you may study and learn basic principles of procurement and the procedures employed by other government agencies, by industry, and by foreign governments.

It seems thoroughly appropriate that we should start this series of lectures by inviting to our platform a professor, who, in his academic studies, in his work with Government on a consultant basis, and with industry is well prepared to analyze for us these basic principles and to draw certain conclusions as to the best ways of carrying out the assigned functions of procurement.

A number of us who will hear Professor Lewis this morning will feel that we are back in the halls of the Harvard Business School. It is a rare opportunity that we have of being able to introduce one of our ex-professors. I take great pleasure in introducing to you this morning the gentleman who wrote the book, Professor Howard T. Lewis of the Harvard Business School.

PROFESSOR LEWIS: Gentlemen: I suppose that I cannot deny the fact that I wrote a book, but I shall never write another one if I can help it--and I think I can. There are all sorts of troubles in writing a book outside the fact that you supposedly know something about the subject before you begin and aside from the further fact that it is a lot of hard work. The chief difficulty is that, having written it, somebody always begins to quote it to you: "You said on page so-and-so, in the second paragraph; now how does that reconcile with what you have just said to us?" Well, the answer is, of course, that a lot of what you once wrote cannot be reconciled with anything--and you have doubtless changed your mind about it since you wrote it anyway, even if it ever was so.

So the only safe thing to do is to follow the same procedure that I understand is recommended in dealing with women--never write anything. I just add that comment lest there is any danger that somebody will take too seriously either what I once wrote or perhaps even what I may say this morning. Just remember, if you will, that I may change my mind even between now and 11:30 A. M. I refuse absolutely to be held to anything I ever did or be accountable for most of the things that I ever said.

1

I have been asked to speak this morning on "Procurement Policies of Government and Industry." Colonel McKenzie told me once that the real way to make a hit would be to say, "Colonel, here is the manuscript," and then forget it and go ahead and talk. I can give you the manuscript. I can't just talk without reading some of this. After all, that is why I wrote it. I may digress from time to time and say some things not in the manuscript, but so far as the manuscript is concerned, this is what you get.

In speaking on the procurement policies of the Government and industry, I shall, as I say, make some incidental comments which may or may not be to the point. I also want to make clear that I am not confining my comments to the military. The assignment had to do with government agencies and governmental procurement. The only restriction which I shall place upon that is that I shall confine my comments primarily to the Federal Government, leaving state and local units to be handled by a subsequent speaker.

I shall make some reference to the similarities and the differences between governmental and industrial procurement this morning, but I prefer to place the emphasis not on those similarities and differences, but rather on certain problems that are common to both. Thereby each may profit by the experience of the other.

Of course, in the last analysis, every industrial purchaser, like every governmental procurement officer, is trying in his own sphere to do exactly the same thing. That is important. Each is trying to secure the needed goods of the desired quality, at the proper time, and at the best price for which they may be obtained. This common basic principle must never be lost sight of, in spite of the fact that from time to time there is an attempt in some quarters to use procurement primarily as a tool by which to attain other and quite foreign objectives. For example, in industry there appears to be a feeling that procurement may be used as a form of sales promotion whereby, in return for orders that are given, the good will of the prospective customer is sought and that of old customers retained.

A similar diversion from procurement's basic objective occurs when a federal agency uses its buying power primarily to serve some more or less vague social objective or for purely political reasons. True, in certain instances, many of these other objectives constitute an outright perverse and unjustifiable use of procurement; others are at least in the realm of the debatable.

The essential soundness of procurement directives designed to promote racial equality or to provide aid to small business is illustrative of this point. However, it is well to remember that, even when conditions are such that they may appear to justify other than basic objectives of procurement, it still ought to be true that the monies spent should be well spent. There are no exceptions to the rule that the manufacturer

and the Government should be assured that the goods they do buy--whatever the purpose behind the purchase--are of the right quality and are bought at the right time, from dependable suppliers, and at the best (though not necessarily the lowest) price obtainable.

I should like to mention a second common characteristic of both governmental and industrial procurement, namely, the increasing acceptance of the idea that procurement (or purchasing, if you prefer to call it by that name) is one of the major functions of business, although this recognition, I suspect, is much more pronounced among manufacturers than it is on the part of the Government. I do not intend to review the evidences of this trend. Among manufacturing enterprises, centralized purchasing is generally considered an organizational "must." A very large volume of good literature on purchasing has come into being, most of it within the past fifteen years. The National Association of Purchasing Agents, which in 1934 had a membership of 3,400, now has roughly 11,500 members.

I recall that as the membership of that association grew during the days of the war, there was a feeling in many quarters that the increase was due primarily to the war--which it may well have been--but that after the war was over, the membership probably would drop to five, six, or seven thousand persons. The fact that this has not happened and that membership in that very powerful organization has grown steadily, and is still growing, is evidence that, so far as industry is concerned at least, sound purchasing is considered as one of the major jobs--one which any executive can well afford to take unto himself. Year by year, the industrial purchasing job is being better done, and more and more the purchasing officer is being accepted as a member of the top-management team.

I suppose one of the most notable things in industry has been the degree to which the director of purchases--or whatever title he may hold--is considered to be really a member of the group which determines company policies. There is an increasing feeling that sales policies, production policies and involved problems, to say nothing of finance, cannot be settled incidentally and without regard to the procurement problems. Obviously, the reverse is also true.

Improvement in governmental procurement has not been so great, but it has been notable. It was in 1933, you will recall, that President Roosevelt authorized the centralization of all federal procurement. (For an excellent summary of the historical development of centralized control of federal purchasing, see Monograph No. 19, Temporary National Economic Committee, under the caption "Government Purchasing on Economic Commentary," 1940.) The Second World War, if it taught men anything, did teach the imperative necessity of getting what was needed, where it was needed, and when it was needed. The Hoover Commission on Reorganization is having some very interesting and constructive things to say about

federal procurement, military and otherwise. Most of its findings, it is true, are extremely critical of the present status of federal purchasing policies and procedures, but the very fact that it has been made is a contribution. Unfortunately, I suspect little will come of its recommendations.

But I should like to turn from these fundamental similarities of purpose and recognition to a brief comment on just a few of the differences between governmental and private industrial procurement:

1. Clearly the former (governmental) is much more rigidly controlled by law and by regulation. The necessity for such control is obvious to everyone, although men may very well differ as to the soundness of the particular form which it may take. But for our purpose this morning, we shall simply accept the law as a governing fact without going into the details of its operation. The topic has been adequately discussed elsewhere, and General Brannon has spoken on certain phases of it before the Industrial College.

Parenthetically, however, I may add that the Hoover Commission (to which I have already referred), while granting the need for proper and adequate control, goes on to say "a maze of laws and regulations surrounds the whole process with unnecessary red tape. The emphasis of the laws is not on promoting efficiency and economy but upon preventing fraud. Overregulation encourages routine buying, prevents economy and the exercise of initiative." It points out, for instance, that the paper work for half of the three million purchases by civilian agencies each year costs more than the materials themselves. About a million and a half of these orders are for ten dollars or less--something for which industry would not stand for a moment.

I don't know how many of you may be familiar with a very interesting article written during the war by the editor of Purchasing magazine, Mr. Stuart Heinritz, in which this question was discussed under the caption of "Red Tape Must Go." I commend that article to those of you who may be interested in it. I do so not only because Mr. Heinritz, in my opinion, puts his finger on some of the more important considerations, but because his attitude is essentially a constructive one. He places the blame for much of the criticism almost as much--perhaps I may say more--upon the industrialist as he does upon the Government. It is a most interesting discussion.

2. A second obvious distinction lies in the fact that the Government does not buy materials which are to be processed into goods to be sold at a profit. This is a fundamental difference with very far-reaching consequences. The absence of any profit motive should make no difference, in theory, with either the quality, the amount, or the price

of materials purchased. Yet, in fact, there can be little doubt but what the lack of necessity for showing a profit results in a specified quality that is often higher than needed for a given use, a greater amount purchased than a reasonable estimate of requirements would dictate, and the excessive use of nonstandard specifications. Moreover, there is far less incentive to buy at a time when the market conditions are most favorable.

The T.N.E.C. discussion (See especially Chapters III and IX, Monograph 19) of some years ago on governmental procurement policies laid considerable emphasis on this matter of the proper timing of the purchase so as to get the most favorable price and to get quantities at times when they were available instead of trying to secure them under stress when deliveries were difficult and the prices were obviously higher. There are many limitations to that; I can merely call your attention to it.

Indeed, this proper timing of purchases, so very important for industry, operates in reverse in the case of the Government. A simple instance is that of purchases made late in a fiscal year for the sole purpose of utilizing appropriated money that would otherwise be lost. Another is the purchase of agricultural commodities made in a weakening market, not with the object of getting these commodities more cheaply, but for the apparent purpose of forcing prices back up to some designated level.

A friend of mine in the flour millin<sup>g</sup> business half facetiously said to me not long ago that in order to buy its grain most wisely, a company should disregard crop statistics altogether and instead try to guess when the Government is going into the market. The company should then buy when the Government is out of the market and stay out when the opposite is true.

Some light is thrown on this particular aspect of government procurement, too, from a glance at the stockpiling program. I can recall, as perhaps some of you can, back in 1933-1936, inclusive, we had some discussion of the matter of stock piles. We were convinced that stockpiling was an excellent thing but that there was absolutely no chance of getting Congress to appropriate enough money to accumulate a stock pile of anything. How times have changed.

Stockpiling of strategic materials in the interest of preparedness is a good idea, yet it does place those responsible for the program in a most unenviable position. On the one hand, with both money and authority available, to be "short" in the event of an outbreak of war would subject the administrator to the severest of criticism. On the other hand, to make the available funds go as far as possible and to interfere with private industrial needs as little as possible would seem to be only common-sense procurement. Yet conditions being as they

are, to achieve both of these ends would appear next to impossible. The Munitions Board is quite aware of this dilemma. Let's glance at the industrial implications.

At 1947 prices, it looks as though this stockpiling program might cost nearly three and a half billion dollars net, of which amount Congress will still have to supply over 60 percent. Of course, quite aside from the effect of all this on the national budget and taxes is the question of what this does to the available supplies of material for industry. The Munitions Board claims the impact will be "relatively slight" (whatever "relatively" means). It goes on to point out that it is cognizant of the danger to industry of trying to attain its objectives at too fast a pace. But as Mr. George A. Renard, Executive Secretary of the National Association of Purchasing Agents, has said, "Buying scarce materials at the top of the market for some future emergency offers little opportunity for the development of sound purchasing and inventory policies."

The Munitions Board, knowing that 75 percent of its goal is not even "in sight," asks that 20 percent of the Nation's annual consumption of the 67 materials listed be set aside for stockpiling. The Board asked importers and producers for 10 percent allocation but got nowhere. The Department of Commerce tried to get five percent, with the same result as the Board. The National Association of Manufacturers says two percent is enough.

The Munitions Board itself says, "In response to the increased need for certain scarce items to bring the stockpile into balance, it may be necessary to have leeway from rigid adherence to the pricing policies followed heretofore, which was to buy materials for the stockpile at or below current market prices."

Two plans for increasing output to meet this demand are in prospect, either or both of which may be put into effect:

"(1) Higher-than-market-price agreements might be made with marginal producers. This would amount to a subsidy similar to that in effect during the war for some materials.

"(2) Producers already at peak production might be offered an "added-facilities-amortization" plan. This would enable the producer to add to his facilities, turn over the added output to the stockpilers, and pay off the cost of the new facilities out of his receipts from the stockpiler. In other words, a producer would add to his capacity, at no cost to himself, in return for promising definite amounts to the stockpile."

Whatever method is adopted to insure the amounts deemed necessary, the effects of the action cannot but be very far-reaching.

3. Then again--and quite aside from a comparable urge to keep costs down--the mere volume and variety of governmental purchases is so great that it effects both the organization and procedures required for its accomplishment. This becomes even more apparent when we recall the very large number of federal agencies that do in fact buy independently of, and often competitively with, one another. The result is inevitable waste and lack of efficiency. There is no counterpart, even among our very largest corporations, for the volume, the rigidity of procedure and control, or the lack of unity of policy to be found in federal governmental procurement. This is not said without a full appreciation of the causes that lie behind these differences or of the difficulties to be overcome in even partially correcting it. Yet beyond the shadow of a doubt it should be, and in a measure is being, improved upon.

Some of this improvement, for example, should result from the efforts of the Munitions Board, acting under the National Security Act of 1947, to effect a larger measure of consolidation in military procurement. Such consolidation, properly carried out, should go far toward the reduction of duplication and of wasteful competition.

But just as the mere fact of an organizational centralization of purchasing does not in itself result in good industrial procurement, neither will mere consolidation of organization or standardization of procedure give the desired results for the Armed Services. The type of consolidation (if consolidation is the word) that is called for must go much beyond a realignment of responsibilities of the mere order-placing agencies. This partial centralization is essential and heartily to be commended, provided it is based upon the proper underlying concepts rather than just opportunism and expediency. For efficient procurement must go much beyond this to the development of a more highly trained personnel and to a more effective cooperation between the using and the purchasing agencies. Let us, therefore, turn to a consideration of these issues.

First, I should like to say a word about personnel. I suppose I really ought to go back and remind you that I am talking about the Government as a whole now; if you wish to apply this to all the other people who are purchasing, all right.

The underlying qualifications of a good purchasing officer are essentially the same in business as in Government, and since, in the last analysis, any operation depends for its success upon the men who are responsible for it, I should like to digress for just a moment to say a word about these qualifications.

Because there are very real differences among individuals with reference to their fitness for particular kinds of jobs, and because procurement is essentially unlike production, engineering, or any other major

function, this type or responsibility calls for a type of personnel with training, experience, and personal qualities unlike those required for other executive positions. Likewise, because the peculiar types of problems with which purchasing deals are unlike those confronting other departments, the advantages of specialized training and experience on the part of its personnel should be obvious. The desirability of a peculiar interest in this type of work, and of enthusiasm for it, should be equally clear. Furthermore, if it is true that the basic personal qualities of integrity, vision, willingness to cooperate, judgment of values, and the like are not fundamentally different from those called for in any good executive, at least they are required in a very high degree, and with emphasis upon certain traits not required in quite the same proportion elsewhere.

This is not to say that men are necessarily born with inherited traits that make them good procurement officers (or, for that matter, sales managers and engineers). Assuming that any young man is intelligent and adaptable, he may well become a specialist in procurement-- or in almost any other field. Through human associations and experiences which develop in him a real interest in this function, he becomes happy and proficient in it. Hence, if management looks upon procurement as an important function, chooses intelligent and adaptable personnel, and gives them responsibility and encouragement, that personnel, new and old alike, will develop capacity in their jobs. On the other hand, no matter how capable a man may be or how broad a concept of procurement he may have, he will himself have a most difficult time convincing a management which is illiterate procurement-wise of the fact that the function has any broad significance; and the management, in its turn, will have difficulty in persuading capable young men to enter the field.

The responsibility for purchase negotiation is one fundamental characteristic of the industrial procurement function. It is the requirement of the ability to negotiate objectively, plus a knowledge of trends in products and processes, that makes industrial procurement basically distinct among the functions of business administration. Moreover, although procurement responsibilities should, of course, be discharged in cooperation with the other functions of a business, this does not mean that they should not also be discharged positively, constructively, and at times even aggressively.

What is the significance of this, so far as governmental procurement is concerned? Just this: that unless governmental purchasing men, civilian and military alike, are well-selected, properly trained, adequately paid, and imbued with the proper understanding of and attitude toward their responsibilities, little can be hoped for in the way of sound procurement. Do not misunderstand me, please. There are many superb procurement men in government service. They are alert, keen and capable. Business organizations would be glad to "capture" them.

They function at times under heavy handicaps, and so far as is humanly possible, surmount them. But having said as much, I must also add that there are at least as many--probably more--who operate as mere clerks, with limited or no vision, who seek to avoid rather than to accept responsibility, who have but little real interest in their jobs, and who are satisfied to abide by the letter of a regulation or ruling rather than to develop a real understanding of procurement.

This is a situation which must, so far as possible, be corrected. I shall not take the time now to elaborate on this particular theme, but I should be remiss if I did not call attention to it. Training courses for governmental buyers need to be expanded where they exist, and instituted where they are lacking. More worth-while studies of federal procurement problems need to be made and rendered generally available. Schools and colleges should have courses in this field. In the area of industrial purchasing there were, in 1933, only nine schools of collegiate rank that offered separate courses for students. Today there are probably ten times that number. Of the eighty or more local association units of the National Association of Purchasing Agents, the majority have definite educational programs designed primarily for active purchasing agents. Nothing even remotely comparable has occurred in governmental or institutional procurement. Fortunately, efforts are being made to meet the personnel problem. Clifton Mack over in the Bureau of Federal Supply is doing splendid work for both industrial and governmental men. The National Institute of Governmental Purchasing has become a real force for the improvement of both personnel and policy. The special committee Appointed by the Secretary of the Navy to study the Navy's supply system, commonly referred to as the Hancock Committee, recognized the need for trained procurement personnel when it reported:

"It is generally recognized that with present prescribed rotations of duty, nobody in the Navy in peacetime gets adequate training in the arts of wartime purchasing. Recognized competence in procurement matters is considered absolutely essential. In order to subordinate established ritual and methodology to sound judgment in matters of supply, the Committee strongly recommends that the following steps be taken to insure having competent personnel to handle all of the elements of supply:

"(1) Continued training of carefully selected personnel in both postgraduate schools and in industry.

"(2) Proper differentiation which allows specialization in a single phase of the divergent functions of finance, accounting, procurement and supply.

"(3) Provision for specialization in supply functions with equal opportunities for advancement."

But even in view of all these efforts to improve the quality of government purchasing personnel, no one will deny that much still remains to be done.

I should like to turn from this matter of personnel to consider briefly the second point that I raised a moment ago, namely, cooperation between the using and the purchasing agencies. Up to now, I have said something about procedures and organization and personnel. But of course these things are merely the tools by which a procurement objective is to be attained. That objective in any individual case is sometimes, though in my opinion erroneously, said to be that of obtaining the needed amount of the highest grade at the lowest possible price. Or it is said to be getting a usable item for as little as possible. Or again, the objective of procurement is said to be merely that of accepting the requisition for a predetermined amount of a particular item, the quality of which has already been specifically and definitely fixed, and then undertaking to fill that requisition at the lowest possible price.

This definition of objectives raises some very fundamental questions both for industry and the Government. If the end in view is to get the "best buy," we still need to define "best buy." Is it the lowest price for which we can get any supplier to sell it? No industrial purchasing agent who is worth his salt would agree to this. The good will of a supplier, his dependability, his continued interest in the purchaser's business, his willingness to take care of a customer even at some sacrifice to himself--such things are important, and the buyer is quite right to pay a reasonable price, inclusive of a profit, in order to secure them. Although the governmental buyer has less freedom in the selection of his sources than does the industrial purchasing agent, he, too, will recognize that price is not the sole determinant of what constitutes "a good buy."

Nor is this "best buy" to be thought of in terms of the highest grade. Indeed, the higher grade may actually be less desirable, quite aside from the matter of price altogether. The executive vice president of the Gray Iron Founders' Society wrote in 1939:

"Consider a gear housing. The purpose is to enclose. There is little or no stress or strain involved. One of the virtues of low-tensile gray iron is its superior damping property. ...Hence, were the designer to specify the more expensive high-tensile iron or steel, he would be paying a premium for material whose strength could not be used, which would afford no superior protection, and which would actually sacrifice the most desirable quality, namely, quiet operation. And yet we know of actual cases where even steel was specified."

To put the same idea in another way: "Quality . . . is that which fits a product to a given use. A product is not simply good, it is

good for a certain purpose, and the word 'quality' is meaningless apart from the use in view."

To this thought must be added another; namely, that "quality" is a combination of characteristics, not merely one. Furthermore, the specific combination finally decided upon is almost always a compromise, since the particular aspect of quality to be stressed in any individual case depends largely upon circumstances. In some instances, the primary consideration is durability; questions of immediate cost, or facility of installation, or the ease of making repairs are all secondary to durability. In other instances, the lifetime of the item of supply is not so important; efficiency in operation becomes more significant. Certain electrical supplies will suggest themselves as illustrations. While a long life is desired, it is more important that the materials always function during such life as they may have than that they last indefinitely.

Assuming dependability in operation and a reasonable degree of durability, the ease and simplicity of operation may become the determining factor. Thus, it is not essential that a typewriter last indefinitely, and the mechanism of the modern typewriter is such as to make it dependable under all ordinary usages. Given these two factors, which are more or less standardized among various types of machines, the determining factor is the ease with which the machine can be operated. What constitutes a satisfactory quality therefore depends largely upon what a person is seeking in particular goods.

But if "best quality," technically speaking, is that combination of physical and chemical characteristics which is best suited to the intended use, it is equally important that mere technical perfection is by no means the whole story. For clearly, no matter what degree of technical perfection for a given use an item or material may have, it must be reasonably procurable or it is useless to discuss it. Or if the cost is so high as to be prohibitive, one must then sacrifice something in technical quality and get along with an item somewhat less suitable. Or if, at whatever cost or however procurable, the only available suppliers of the technically perfect lack adequate productive capacity or financial and other assurance of continued business existence, then, too, it must give way to something else.

Obviously, also, frequent reappraisals are necessary even though a workable balance between technical and economic quality has been established. If copper rises from 14 cents a pound to 21 cents or more, if magnesium drops from \$1.25 a pound to 20 cents or less, if aluminum falls from 26 cents to 14 cents, the balance we have referred to needs re-examination. The experiences of the war are still too fresh in our minds to forget the fact that many an item, a component, or even a finished product rated as "essential because superior" had to give way to one technically "less suitable."

Solder provides another example. Various combinations of lead, tin, zinc, cadmium, and silver can be used to produce thoroughly satisfactory solder. Such illustrations could be multiplied almost indefinitely. In such cases, where various alternative materials are suitable for an intended use, or where various combinations of materials give completely satisfactory performance, it is no more than common sense to say that the decision as to which to use should depend upon relative cost and procurability. To specify as crating material, to use one actual example, clear, all heart, redwood lumber, which is generally scarce and always expensive, instead of the lowest and cheapest species and grade of wood, just doesn't make sense.

But procurability and cost (it needs to be kept in mind that we are talking here about ultimate cost, not price. The lowest ultimate cost is always an object of procurement. It may be quite a different thing from lowest unit price.) are scarcely matters with which technical men can be expected to be thoroughly familiar. They are matters that lie peculiarly within the area served by the procurement officer. In any functional organization, whether governmental or civilian, it is apt to be true that neither the purchasing officer nor the technical expert is familiar with all of the factors that are involved in determining the "best buy." Moreover, in the large scale organization--and this includes the Armed Services--there is a definite tendency for specialists to act independently and to fail to consider the effect of their action either on others or on the total result. The continual development of, and insistence upon, special nonstandard or obsolete specifications in lieu of equally acceptable, up-to-date, standard, commercial specifications is an example of the sort of thing I am talking about.

Now since suitability for the intended use is one prime essential of proper quality and since final decisions as to suitability are peculiarly within the province of the technical expert or the engineer, a very difficult problem, procurement-wise, constantly arises. For if specifications are to be set first and finally by the engineer, then the purchasing agent either has to accept them without question and "as is" and do what he can to get a good price, or else he has to reserve the right to challenge the specifications or to refuse to buy until he is satisfied with them. His problem is made none the easier because the amount required and the time the item is needed are also specified. The easy way out of this dilemma is for the purchasing agent to say that it is none of his responsibility anyway, and in order to avoid any friction, to get some bids and to otherwise act in a purely clerical capacity.

And it is most important to note that, unless the purchasing agent is so qualified that he knows something about the commodity in question and about the use to which it is to be put, there really isn't much else he can do.

But with a qualified purchasing agent and a using department or agency that is reasonably cooperative, much can be accomplished. Indeed, illustrative examples from our wartime military experience indicate that a great deal was done under these conditions. Let me give an example or two:

1. A requisition was received for a large number of canvas covers to be used overseas. They were to be mildew-proof, rainproof, fireproof, and otherwise prepared to stand extreme weather conditions. Yet the requisition called for special protective packing costing \$97,000 higher than ordinary commercial packing.

2. An agency requisitioned 70,000 pounds of chemically pure oxalic acid in one-pound containers. Based on his knowledge of chemicals and their prices, the buyer knew that chemically pure oxalic acid was used only for laboratory purposes and was much more expensive than the technical grade. He also doubted the need for one-pound containers in lieu of the one-and two-hundred pound containers commonly used. He contacted the requisitioner, recommended a change of specifications, and saved \$18,000 on the transaction.

3. A buyer received a requisition for a considerable number of Crane faucets selling at \$8.28 each. The buyer knew that these faucets were to be used for temporary construction and that a rough brass finish would be equally satisfactory. By securing approval for the substitution, the buyer was able to place the order at \$5.35 each, saving approximately 33 percent.

4. A buyer received a requisition for 50 lube oil filters of a certain type. Because he knew the use of lube oil filters, the buyer believed that it was extremely unlikely that 50 of these filters could be used by the requisitioner. He therefore asked the latter to re-examine the requisition and found that filter elements only were required, not complete filters. By buying the filter elements only, the requisition was filled at a cost of \$360 instead of the \$22,000 required by the original requisition.

5. An extreme example of savings that can be achieved by qualified purchasing officers and negotiators is indicated by the purchase of 500-watt radio power units during the war. The specifications for these units called for motor generators and controllers, both of which were extremely critical at the time. Since the contractors who bid on these units were unable to deliver them in the time required, the purchasing officer suggested to the technical group that dynamotors be substituted for the motor generators and controllers. The technical group agreed that the two were equally satisfactory for the use intended and the specifications were changed accordingly. As a result of the change in specifications, the award price for 6,500 units was reduced from \$4,674,585 to \$774,585, or a saving of \$3,900,000.

964

6. A buyer received a requisition for services to install 2,450 new-style valves on carbon dioxide cylinders. The specification specified an award to Company A, and stated that the requisition was to be completed by that company because no other vendor could do the work satisfactorily. Because of the buyer's knowledge of the industry, he knew that other concerns could perform these services and therefore asked them to bid. The bid of Company A was \$2 per valve or a total of \$4,900. Another concern, Company B, which had satisfactorily performed similar services under government contracts, entered a bid of 62.5 cents each, or a total of \$1,531.25. Although this discrepancy was brought to the attention of the requisitioning activity, the buyer was advised to place the contract with Company A because the requisitioning activity doubted that Company B could install the new valves satisfactorily at the price bid. In view of this situation, the buyer requested Company B to send a representative to the requisitioning activity to inspect the cylinders and to demonstrate the company's capacity to perform the work. As a result of this visit, the contract was placed with the low bidder, thereby effecting a saving of \$3,368.75.

These examples from the various branches of the Armed Services could be matched almost indefinitely from industry. Indeed, one could say that, whereas in governmental purchasing such instances might almost be said to be the exception, in manufacturing organizations they are fast coming to be the rule. Why the difference?

Some of the reasons clearly have their origin in the differences between the two types of procurement to which I have already referred. But underlying the more obvious reasons, there is something more fundamental.

There are four basic conditions which make a satisfactory solution to the apparent conflict between the technical expert and the purchasing agent:

1. There must be a clear conception by top management of both the importance and true nature of procurement. It needs to be understood that this is a peculiar function unlike any other aspect of business administration. It is coordinate in importance with sales, engineering, and production. Like the heads of these other departments, the director of procurement should, by virtue of his position, be a member of the top-management team. He should have complete authority to determine sources and negotiate prices. He should have the right to question requisitions as to both quality and quantity. Management needs to appreciate the fact that the proper commercial quality is equally a matter of suitability to use intended, of cost, and of procurability.
2. Other executives of the company need to have the same understanding of the nature of procurement to understand the proper relationship

of their peculiar function to it and to cooperate fully with the director of purchases in such matters as the setting and reviewing of specifications. They should understand that the interdependence of the parts and the welfare of the whole is more important than any individual competence or responsibility. Needless to say, the director of purchases should maintain the same attitude.

3. The purchasing agent and his staff should be commodity experts procurement-wise, and the organization of the purchasing department should rest primarily on a commodity, rather than a functional or a geographic, basis. While these commodity buyers need not of necessity be engineers, they do need to know the physical, chemical, and other characteristics of the commodities they buy, the uses to which they are to be put and for which they are suitable, as well as the sources from which they can be bought and general market conditions affecting their purchase and sale.

4. The purchasing personnel need to be properly selected for their particular tasks and given every opportunity through continued experience and training to qualify themselves for the important duties they are expected to perform.

Not all manufacturers have even partially adopted these four principles, but the number of those who are adopting them is steadily increasing.

Experience may not always be the best teacher, but it is a stern and enlightening one, and progressive business management is realizing that upon these four basic concepts, modern industrial purchasing rests. If our original proposition holds; namely, that basically governmental and industrial procurement are identical in objectives, and, in so far as industrial experience is a guide to efficient governmental procurement, then it, too, must rest upon the same foundations. Deviations in detail from industrial practice is, with the Government, inevitable and necessary. Common sense would suggest that the deviations should be minor and not major. Whether or not federal procurement practice does in fact rest upon these four fundamental principles of efficient procurement is a debatable issue. In so far as it does not, then further questions become important: Can it ever be expected to? If so, how is that objective to be attained? Into these questions we can scarcely be expected to go this morning.

Let me conclude with a quotation from an editorial from the "Boston Herald" of last Thursday (November 25, 1948)

"Selling is easier than buying. Easier not only in these days of high demand, but easier any time. But to buy wisely is another thing again. A car, a washing machine or a television set, which of the multitude of offerings is the best for the purpose?"

"But the federal government has gone along on the assumption that any grade A clerk can buy coal or mail trucks or pencils if someone hands him a purchasing order in triplicate. Private industry, mostly, has learned that purchasing is a highly developed science, with a little art mixed in, and a smart company pays a good purchasing agent plenty and then saves more than his salary. But the government pinches its pennies in the wrong place, and wastes, according to Herbert Hoover's survey committee, a quarter billion dollars. It spends \$12 to surround a \$10 purchase with complete safeguards.

"We wish we might believe that the Congress and the executive branch would get together and work out an efficient purchasing system under the Hoover recommendations. But the subordinates in governmental departments never have been encouraged to exercise independent judgment, and probably never will, so that purchasing will probably remain a wooden, artless business based on 100 rules and plenty of carbon copies. . . ."

You may or may not agree with this pessimistic attitude. But no one can deny the challenge. I, for one, feel confident that the courageous perseverance on the part of those with "procurement vision" will finally cope with the problem in the best possible manner.

Thank you.

QUESTION: Sir, on purchasing, you said that in industry it is a "must" to centralize purchasing. Now, the surrounding of a \$10 purchase with a \$12 cost is the result of centralized purchasing. Could you explain how industry gets around that?

PROFESSOR LEWIS: Did I understand you to say that the \$12 cost is the result of centralized purchasing?

QUESTIONER: Well, it seems to be, sir.

PROFESSOR LEWIS: I don't follow that so perhaps you will tell me why?

QUESTIONER: I don't know why.

PROFESSOR LEWIS: Centralization of purchasing, industry-wide, is in my opinion in all progressive industrial organizations a "must." Now, of course, if I were to lecture on procurement at greater length, I would immediately have to raise some question as to what is meant by "centralized purchasing." That is point one.

Centralized purchasing does not mean that every purchase has to go through the same office at the headquarters of a company in New York City,

Chicago, or San Francisco. It is entirely consistent with centralized purchasing that there should be branch purchasing offices and divisional purchasing offices. Centralization consists of centralization in responsibility for company procurement policies. "This company does or does not permit its employees to accept Christmas-gifts." "It does or does not permit reciprocity." "As a matter of policy this company places all of its coal contracts for the entire year through a central office." A local plant may buy its local requirements against a central contract. Centralization will still permit the branch office to buy for itself without clearing through the central office.

The central office may say that all purchases of less than \$25, \$50, \$100, or \$250 may be made locally without going through the home office at all. The procedure for the purchase of major equipment items may be set up in the home office, and so on. These are matters of procurement policy. When I speak of centralization of procedures and of organization, that is the thing I am talking about. In other words, I want it to be clear that I am not talking about carrying centralization to the extreme where every detail goes through the home office without any leeway whatever. But the proper kind of centralization is the accepted practice, with obvious variations, in all progressive business organizations and manufacturers at the present time. Certainly with most of them.

Now to come down to this \$10 business. The matter of \$10 orders is a matter of anticipating needs, planning requirements, and buying in advance to avoid \$10 orders that happen because out in the plant they never send a request until the last minute.

I might give you an example. I remember a case with a company for which I was working for some months during the war. There were about a dozen different departments. In checking on requisitions when I first went there, I found that 99 percent of the requisitions that came in from one department were marked "rush." Well, it didn't make sense. Obviously, if they were really rush orders, that meant somebody wasn't anticipating what he needed or he didn't have confidence in the ability of the purchasing department to get them. As a matter of fact, in taking 75 of those requisitions (which is what I did), checking the requisitions against the purchase orders and against the deliveries, I found that in approximately 50 percent of the cases those rush requisitions had never been filled because the supplier hadn't filled the order. The using department that was so anxious to secure the requisitioned material overnight had never said a word about this delay, and many of the unfilled requisitions ran back months and months and months. Obviously, the material was not needed at all; something else was used. So the requisitions were not "rush" after all and they were filled out of stock.

There are times when small orders have to be used, but in my opinion an excessive number (I am not defining "excessive number") of small

orders means poor planning, poor inventory control, poor stock control, or all of them. It can mean very poor purchasing. Every time an order is placed, the mere processing of it costs money. It costs money all the way back from the making of the requisition to the place where the goods are delivered. If this process is complicated--a number of signatures required and X number of copies distributed to at least that many agencies around the company--the cost is going to mount up. Ten-dollar orders are seldom filled at the same favorable price at which an order for a hundred dollars can be filled.

QUESTION: My question is on one of the basic economic laws, the law of supply and demand. What is your opinion as to what role that law plays in wartime? I have read in a couple of books that it still is always fundamentally applied. I have also read that actually in wartime you have such a large demand and so little supply that that law goes out the window. I would like to get your opinion on that.

PROFESSOR LEWIS: I never wrote a book on that, and I don't propose to. I make only this comment about it:

As conditions change from one period to another, either from war to peace, or in peace from a period of brisk business activity to depression, the emphasis on procurement factors obviously has to change. If one were to ask me, "Does supply and demand operate then?" I would immediately start getting into some kind of discussion as to what "supply and demand" means. I can remember the old textbooks that said that supply and demand and price are the things that determine it. I don't know anything about that.

It is clear, however, that in wartime obviously there is a greater emphasis on certain factors which in peacetime do not occupy the same important role. Perhaps I should say we have to devote our attention more particularly to some factors than to others. In wartime, whether in industry or the Services, you get the most suitable material you can get at the time you need it. But that in my opinion does not for a moment justify your paying any price whatsoever or disregarding entirely the price to be paid. That to my mind just doesn't make sense. But it does mean that the more important factors under those circumstances are suitability and delivery on time in adequate amounts. You may have to pay higher prices than you would like to. Of course, I am of Scottish ancestry, am from New England, and am interested primarily in procurement; you wouldn't expect me to say that the price doesn't make any difference, because it always does.

Now the same thing applies under peacetime conditions as between a prosperity period and a depression. I was consulting yesterday with a company that was buying on an escalator clause. I remember during the war there were a lot of these escalator clauses. No matter how they read, everybody understood that when the clause came to operate, the

price would be higher, not lower. All right, you accepted them. You didn't like them. You would rather have had a firm price than an escalator clause; but if that was the way you had to do it to get your stuff, that was the way you got it. Back in the thirties--and it will happen again when we get into the next depression--you will never have anybody asking for escalator clauses, but you will have buyers asking for guarantees against a price decline.

I think it is an unfortunate, though inevitable and unavoidable, thing that there are so many people in the aggregate, numerically, in purchasing today who got most or all of their training during the war period. It is unfortunate, I think, because their training at that time was to get all you could get and forget the price. If you got more than you needed, some day you might need it. That is not good peacetime purchasing. But that was the way they learned to purchase. That was the training they received. They are going to have to get over it. A lot of those people--particularly the younger men in procurement today--will have to unlearn some of the things they learned.

That doesn't answer your question about supply and demand, I know. I have been talking around it. I know that just as well as you do. But I am not going to answer it any further.

QUESTION: I believe you mentioned that the good procurement officer would have a good understanding of the characteristics of the items he was to buy?

PROFESSOR LEWIS: That is right.

QUESTIONER: I believe you also said there was some parallel between a good procurement officer and the consumer, an individual, we will say a civilian buyer. I got the idea that an individual going out to buy would weigh well what he is spending his money for. My question is: Do you think item characteristics influence a determination of what civilians buy?

PROFESSOR LEWIS: I didn't mean to leave that impression. My emphasis was on a procurement officer, an industrial buyer who is buying material for profit. I couldn't say it was true in both cases because one difference is that the industrial buyer is influenced by chemical characteristics and a lot of things you can test fairly well, whereas a consumer is more likely to be influenced by looks, and streamlining, and a lot of things of that sort, or even his particular regard for a particular supplier. The difference, as I see it, on a lot of consumer purchases is that when a consumer buys, in the first place he doesn't have the knowledge or the ability to judge these chemical characteristics, let us say, and then in the second place, he is not so influenced by them as the industrial buyer is, or ought to be in any event. There are a lot of other things about it.

In years gone by when cars could be bought for less than six months' salary, I used to buy an automobile every year or so. The one I now have, I bought in 1940, and it is still going. It is going some more. If I had done the strictly procurement thing, if I had done what was best for my economy, perhaps I wouldn't have bought the car I did. Did I set up a careful cost analysis system? I did not. I wrote it off. I didn't try to amortize it at all. I said, "That money is sunk. If the car goes as long as I want it to, I am satisfied." I didn't set aside an amount for covering oil, gas, tires, and all those things. I didn't do any of these things. As a matter of fact, I don't know whether it was a better engine than some other engine or not. It got me up some steep hills at a speed more than I should have made. It looked all right. People that had cars of the same make seemed to be satisfied. I got repair parts when I needed them. That is the car I have now. Those are the factors that so frequently primarily influence consumer purchases. These factors are not weighed the same way by industrial buyers. I did not intend to imply that the consumer does what I think he ought to do. But generally it is what he does.

QUESTIONER: I would like to go just a step further. I believe in your description of item characteristics involving your automobile they border a little on the nonessential and luxury things. What do you think about the housewife who goes down to the grocery store and goes downtown to buy a pair of hose, what does she consider?

PROFESSOR LEWIS: I don't know. I haven't the faintest idea how she buys hose. Take another example.

QUESTIONER: If you don't mind, the characteristics I was thinking about were those of essentiality, and I think probably the procurement officer goes along that line of thinking, too. When you get into what and how you buy, and when you buy, you begin to apply a lot of judgment.

PROFESSOR LEWIS: You are right.

QUESTIONER: When you apply judgment, you deal with item characteristics.

PROFESSOR LEWIS: You are right.

QUESTIONER: What I wanted to bring out, what I thought I would get you to commit yourself on, was the fact that item characteristics on essential items are important. As a matter of fact, they are possibly determinant. I wanted you to say that but I don't think I am going to get you to do so.

PROFESSOR LEWIS: I will go along with you on that. Unless the item in question has those physical or other characteristics which make it suitable for the use for which you are going to use it, it is silly to

talk about anything else. Sure, I will go 100 percent with you on that. All I am saying is that you can often get the same net result with this or with that, or with a different combination of characteristics: magnesium instead of aluminum, aluminum instead of steel, low-grade tensile strength against high grade. It is nonsense for somebody to say, "Now I must have this amount by the first of January in so many tons; I must have it in Chicago, or somewhere else," if material can't be obtained. That is basic. The question to determine is: Is this suitable? If it is suitable and will adequately serve the purpose intended, then it seems to me there are some other things to consider as well in determining whether it is the best buy or not. If there are some alternatives, for somebody to purchase the very best grade made in the industry (as clear, all heart, redwood to put around some almost imperishable canvas for crates, for instance) is not good procurement.

QUESTION: I have had no experience in procurement or purchasing except in the engineering angle so I may be prejudiced. All my experience is prewar, but from the view that I have seen of purchasing, it appears to me that centralized purchasing is not an unmixed blessing. I have had a number of occasions, in trying to get stuff from an engineering angle, winding up locking horns with this procurement individual. I will have to admit, as you have said, that a man ought to be qualified. I thought many of them in many cases perhaps were not. But I was never able to get them to admit that they were not.

PROFESSOR LEWIS: That is the trouble with a little man anyway. He never admits it.

QUESTIONER: The net result of that in many cases has been that I have been forced to take equipment that didn't suit my purposes. Referring to President Roosevelt's authorization, I think you called it, in 1933 of centralized purchasing, we attempted at that time in good faith to use the services of the Procurement Division of the Treasury and found that we were soon being told what to buy and got a lot of equipment that didn't suit us. I think, too, that in determining what to buy one often has to take into account the desires of the ultimate user. I remember one case in New England, after the blowdown there, the hurricane that swept New England, I agreed with the purchasing agent in that case that we should buy some saw mills that were known as "head block mills." I am just trying to point out that in buying these mills they were not what the local people wanted, they never liked them, had no use for them, so we were finally forced to withdraw from that and go back to our own local purchasing and not use the Treasury Department.

PROFESSOR LEWIS: Yes, I know that happens. It is true. I hope I made myself clear. The two things that are essential--I am talking about industry--are, first, the buyer must know the commodities or the items himself if he is going to talk about major parts sensibly, if he

is going to place the order, certainly if he is going to talk to you. The other thing is, unless it serves your purpose and serves it well, it is not a good buy, no matter how much the other fellow thinks he knows.

QUESTION: You have listed many differences and similarities in procurement problems of industry and Government. What do you think are the primary lessons that the Government can learn from well-regulated industry?

PROFESSOR LEWIS: I can tell you what I think are the two most essential requirements. How they are going to get them, I don't know.

One is that procurement should be recognized as a full-time job and a life-time job by men who are qualified to learn something about commodities, who confine their operations largely to those commodities, and not try to talk about others.

The other essential thing is that the fellows in the using branch—Armed Services, bureaus, what have you—must understand that just because they are engineers doesn't give them the right to dictate unqualifiedly and without cooperation with the other units of the division, such as finance, as well as purchasing, for example. Procurement is not a one-man specialist's job; it is a cooperative team arrangement, and if these using branches will cooperate with a qualified buyer, they will get what they want, what they can use to their complete satisfaction, and the company will save a lot of money. I don't know if that is true of the Government. I think, however, the same thing is true of the Government.

QUESTION: Professor Lewis, assuming well-qualified, well-trained procurement officers in all branches of the Government, we will say, would you recommend defined branch authority by all government agencies to secure by negotiation?

PROFESSOR LEWIS: I think this meeting is going to stop at twelve o'clock. It would take the rest of the afternoon to answer that one. If I answer it, in the time that is left I won't be understood, and I haven't time to give the limitations. I think it could be centralized much more than it is, if that is any satisfaction to you.

COLONEL MCKENZIE: Professor Lewis, on behalf of the College and our visitors, I thank you for a most stimulating discussion. You may change your mind, but in so far as the written record of this morning will stand, I am sure we have a valuable addition to our library. To the gentlemen who have heard you this morning, I am sure your words will be well heeded throughout the rest of their military careers.

(7 January 1949--750)S.