

May 3 The war load as it relates to the optical
industry; by Carl L Bausch, vice president,
Bausch and Lomb Optical Co

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DISCUSSION
following lecture by
Mr Carl L. Bausch
Vice President, Bausch and Lomb Optical Company

May 4, 1939

Colonel Miles Gentlemen, one of the reasons why we asked Mr. Bausch to come here is that at this time of the year we need to review and look again at industry, and I know of no one who presents an industry any better than Mr. Bausch does so as to focus our attention on labor, finance, and these other aspects of industry which must be considered if we are to have an intelligent procurement program. He also touches on questions of inspection, standardization, and gives us in a short time a re-orientation on a particular industry and one which has bearing on almost any industry that we may want to consider.

Q You mentioned something about the conscription of labor, Mr. Bausch. You mentioned that we are conscripting industry. As I understand it, we are not conscripting industry. We are going to allocate certain jobs to certain plants, but private management will continue. It is a little difficult to see off-hand how you are going to conscript labor to work in private plants.

A I made an assumption there that might not have been justified. My guess was that industry, although it might not be conscripted, would be forced to do certain things whether it wanted to or not. You look

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over your laws on the book at the present time and it is going to allow forcing industry to quite an extent. There is nothing in this set-up to force labor and I am not advocating that any laws be passed to do that, but I did want to call attention to an attitude on the part of labor that wouldn't take kindly to the type of forcing that I think is going to be necessary when the emergency comes. I think there is a tendency at the present time for labor to run sort of undisciplined and that isn't going to be good for the emergency.

Colonel Miles. I think what Mr. Bausch is trying to get over is that there are certain things to be done diplomatically, while they do not savor of compulsion they have the same effect. Beginning with the Civil Service law you can work or fight. There is control of migrating labor by means of the use of employment agencies and controls of that character so that while in effect you do not use compulsion, actually you come pretty near it.

Mr. Bausch. Maybe I can give you an example of what I mean. Only day before yesterday we realized we had been a little bit lax apparently, and we had to put a notice up on our bulletin board and send notice to all the foremen that in the future absolutely no overtime work could be done on government repair work. I can't name the law, the regulation that makes it necessary, but it was called to our attention that we had slipped and we worked overtime in our desire to get a government job out in a hurry. That is against the law. That whole attitude and atmosphere that is being bred is with us hitting in the wrong direction. It is

all right in times of peace probably but when the war comes we have to have an altogether different frame of mind on those matters.

Colonel Miles But we have still got to be diplomatic.

Q How does the optical industry stand in regard to a trade association? Does it have an active trade association at the present time?

A No There is an association of Scientific Apparatus Builders that we are a member of and several other optical concerns are members of that, but, as I said at the start of my talk, the optical industry is broken up a little bit by the fact that some are grouped with the Scientific Apparatus and others as optical manufacturers.

Take, for instance, the American Optical Company, probably the largest optical concern in the ophthalmic line in the country, is not a member of this same trade association that we are

Q In time of peace orders for military equipment are obtained usually in small quantities compared with orders of war Therefore, in time of peace you can't set up, design, manufacture and so on, labor-saving equipment, and you are compelled to use a large quantity of skilled labor. To what extent will increased orders in time of war permit you to reduce the amount of skilled labor required by putting the brains into the machine instead of the man at the time when your orders will be large enough to permit you to put a large quantity of money into this machinery?

A Quite a bit can be done in using unskilled by getting proper equipment, but the neck of the bottle is going to be the type of work

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where tools are not feasible, in the final assembly and adjustment, testing of range finders, and instruments of that kind. Their systematic manufacturing procedure with tools and gages isn't going to help very much but on the manufacture of parts a great deal can be done with proper tool equipment and cutting down the amount of skilled help required. I had that all in mind when I talked about the shortage of help that we would probably have. I fully realize that a great deal semi-skilled labor can be used, but not enough to offset the big need for skilled labor. A great deal of the optical work is a matter of manual skill - getting surfaces good enough on a lense, for instance. You can polish a lens on an automatic machine so you get a pretty good job, but the last refinement of getting the last touch of precision on the surface is a hand job that takes a lot of time and takes experience and skill to do. We haven't found a way yet of doing it by machinery.

Q I noticed in your curve of World War production some periods of actual decrease in the amount being put out. Do you know what contributed to the direct causes for that decrease?

A There were several. At one time we had a cute little boy apparently in our organization who would go along and throw a nail in a pot of glass when nobody was looking. I don't know what nationality he was, but things like that often happen. Not only that, but there is a little element of luck in making optical glass. You use the best skill you can on all your processes but something will go wrong, which is often the case on chemical processes, that is, you haven't absolute

control of all phases of the process. Something goes wrong that you just can't control and that makes for jagged monthly output.

Q In the matter of fuel, the gas, for instance, was a factor in that?

A I don't think so. I think it is more a variation in the materials used. I did mention the proper control of combustion as one of the elements in the proper composition of your fuel gas entering that phase of it, but it is just one of the things that can be improved. That wouldn't account for the big variations you saw in that curve. I think that is due to materials and lack of judgment in the stirring process. I will admit we often get a bad pot of glass, and we don't know why it is. We just throw it out. It hasn't any usable glass in it at all. Very often we don't know what it is due to.

Q Mr. Bausch, we see press releases regarding new plastics with optical property. Do you foresee any possible use of these materials as substitutes for optical glass in the case of shortages?

A At the present time they haven't been used. I would not be surprised if they are developed to a point where some day they may be. We are working hard on the problem. We have been experimenting for some years on making lenses out of plastic materials, but we have not done anything commercially as yet outside of a few pogo ball lenses and things of that kind. Materials at the present time are so very soft that they won't stand any cleaning. They get scratched so readily, and it is hard to remove the strain also.

Q Mr. Bausch, I would like to ask a question that is a little bit beyond your talk here but it is very evident that your company has

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gone into the plans for meeting its war load very thoroughly. I happen to be on a committee that is studying the post-war readjustment of business and of the country after the emergency is over. I wonder if in all the thought your company has put on this subject of meeting its war load whether they have thought at all about what they are going to do when the war load is suddenly taken off. What would you expect? Would you expect help from the Government? Would you rather be turned loose, or just what thoughts do you have on that?

A I will admit we haven't given it all the thought we should probably. We have a feeling that during the war the supply of certain types of instruments might be shut off in foreign countries and there will be a shortage of those instruments that we might be able to fill. There are certain types of optical instruments that we are not making now because of the fact that we haven't the organization to make them, and the volume of business is relatively small. We don't feel it advisable to build up, but after another war we would be in a position where we would have a force of more skilled labor than we have now, better organization, we probably could get into certain types of optical instruments that we are not building now. That was true after the World War. There were assorted jobs and we jumped into the manufacture of that type of thing, certain instruments, and have built up a fairly decent sort of business. I will admit that we wouldn't have business enough to take care of the force that we would have on the day the war was over.

Q My question deals with just the reverse of the last one. Assuming that the President declared that an emergency exists under

Section 120 of the National Defense Act and is voted his power. How does industry feel about going ahead with any war orders that might be placed, knowing that there are no funds at that time with which to make payment?

A I think there is a sort of fatalistic attitude. I don't think that many industries want war now. I think there was a time when they were looking forward to war to stimulate their business. I think they found out during the World War that there isn't any profit in war. Some thought they made money but the reaction more than took it away from them. I think industry as a whole realizes there isn't any profit in war and that they will have a duty to perform, and if they haven't money with which to pay their men, well, their men will either have to go without pay or stop work. I think that is sort of the attitude, that they are going to do their darndest with what they have available to do it. If they haven't money they will get along as best they can without it.

Q I am interested in knowing what ultimate use you make of that 75 percent of glass that is impure.

A We have absolutely no use for it. We have a dump down the river where we put it. It is not worth a tenth of a cent a pound.

Colonel Miles We certainly are very much obliged to Mr. Bausch for having given us this splendid talk. I think it is a real orientation in industry to have heard it. Thank you very much.