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Vitamins

The monopolistic control of one of the most essential products of our modern era—the sunshine vitamin, also known as Vitamin D—has been magnified by the fact that it is the poorer elements of our country which have the greatest need for this product, since it is a preventative and a cure for certain diseases most commonly found among the lower economic strata of our population. Vitamin D is essential for proper bone growth and development, the prevention and cure of rickets, and the prevention or reduction of tooth decay.

The Wisconsin Alumni Research Foundation acts as a screen behind which a group of monopolistic chemical, pharmaceutical and food companies control Vitamin D. The story of the Wisconsin Alumni Research Foundation is of extreme importance because it indicates how a quasi-public research organization can be flagrantly misused.

At the outset I should like to state that the Wisconsin Alumni Research Foundation has no formal connection with the University of Wisconsin, and that the University of Wisconsin has absolutely no control over the policies and practices of the Alumni Foundation. It should be clearly understood, there-

fore, that what I say here does not reflect in any manner upon the University of Wisconsin.

A report of the Trustees of the Foundation dated June 22, 1931, defines the objectives and purposes of the Foundation as follows:

“Indeed one of the soundest reasons for the development of the Foundation as a suitable means of handling the Steenbock process lies in the rigid control through which it is possible to protect the public and prevent unscrupulous commercialism from capitalizing the Steenbock discovery.”

The investigation by the Antitrust Division of the Department of Justice indicates, however, that somewhere along the line these laudable objectives were lost. Instead, a summary of our investigation discloses the following facts about the Wisconsin Alumni Research Foundation:

(1) It has been the vehicle for creating a domestic monopoly resulting in division of fields, price fixing, control of container size, and limitation of potency of vitamin products—as a result of which the public has been charged excessive and arbitrarily high prices. (The Foundation has been described by a licensee as being “merciless in beating out competition” in the field of vitamins.)

(2) It has considered plans to denature and adulterate Vitamin D preparations in order to maintain high prices.

(3) It has exhibited a lack of interest in research unless a commercial advantage could be obtained.

(4) It has used threats of patent litigations under patents which it knew were very weak to eliminate competition. (Some of these patents upon which the monopolistic scheme rested, were, in fact, declared invalid in 1943 by the Circuit Court of Appeals for the Ninth Circuit.)

(5) It has suppressed the use of competing processes.

(6) It has organized international cartels with I. G. Farben of Germany and Joseph Nathan & Co., of Great Britain, in order to eliminate world competition by dividing world territory into noncompetitive areas.

(7) It has attempted to suppress the publication of scientific research data which were at variance with its monopoly interests.

(8) It has acted as a police organization for its licensees—in order to maintain its price fixing arrangements—by setting up a black list of price-cutting distributors.

(9) It has used its licensing scheme to discourage research by its licensees.

(10) It has endeavored to suppress or prevent truthful advertising in order to eliminate competition.

(11) It has required its licensees to charge unreasonable prices to the government.

(12) It has forced farmers to buy vitamin-enriched animal feeds in a monopoly market.

Since 1925 the production and use of Vitamin D has been under the control of the Wisconsin Alumni Research Foundation. The control has been based upon the so-called Steenbock patents, especially upon patent No. 1680818, which the Foundation regards as the basic patent on Vitamin D.

About 1925 Dr. Steenbock, then a professor at the University of Wisconsin, conducted experiments which eventually resulted in the Steenbock patents. Recognizing the commercial possibilities of his developments, Steenbock offered his patents to the University, but the Regents of the institution did not feel they were in a position to commercialize them. The President of the Wisconsin Alumni Association at that time was George I. Haight, a very able patent lawyer of Chicago, who immediately recognized the commercial possibilities of the Steenbock development. Together with some of the other leading alumni

of the University, Haight founded the Wisconsin Alumni Research Foundation to undertake the exploitation of the Steenbock patents and such other patents as the Foundation might from time to time acquire.

The Foundation was chartered on November 14, 1925 as a non-profit corporation. Its purposes, as stated in its charter were "to promote, encourage and aid scientific investigation and research at the University of Wisconsin by the faculty, staff, alumni and students thereof, and those associated therewith, and to provide or assist in providing the means and machinery by which their scientific discoveries, inventions and processes may be developed, applied and patented, and the public and commercial uses thereof determined, and by which such utilization or disposition may be made of such discoveries, inventions and processes, and patent rights or interests therein, as may tend to stimulate and promote and provide funds for further scientific investigation and research within said University or colleges or departments thereof."

The Foundation is managed by a Board of Trustees. Originally these trustees personally handled the work of the Foundation but, in 1931, they secured the services of Henry L. Russell, former dean of the University of Wisconsin College of Agriculture. Russell was made Director and executive head of the Foundation. Later, as business increased, L. D. Barney was employed as business manager, and Ward Ross, an associate of Haight, was retained as General Counsel. Steenbock himself appears to have handled most of the technical matters of the Foundation insofar as they relate to Vitamin D. The royalties received by the Foundation are invested and the resulting income is utilized for research.

The Foundation has controlled Vitamin D by reason of its ownership of the Steenbock patents Nos. 1680818, 1871135,

1871136, and 2057399. The underlying concept of all of these patents is that certain substances called pro-vitamins may be "activated" so as to result in a product having a high Vitamin D potency. This "activation" is accomplished by exposing the pro-vitamin to ultra-violet light, and the basic patent is limited to activation by ultra-violet light produced by an artificial source such as a quartz-mercury vapor lamp.

The commercialization of the Steenbock patents was phenomenally successful almost from the very outset. The report of the Trustees of the Foundation dated June 22, 1931, states:

"The accumulation from royalties so far has been almost wholly from the ultra-violet patents. During the calendar year 1930, the gross income was \$354,590, or very nearly \$1,000 a day throughout the year. This income has been developed within less than three years."

The Foundation's annual royalties showed a steady increase until 1936, when they amounted to nearly \$1,100,000. After 1936, the annual royalties decreased slightly, and in 1939 they amounted to \$936,610.70 or over \$2,500 per day. Up to 1940, the Foundation had received more than \$8,500,000 in royalties.

The royalty rates charged by the Foundation vary from 10% to 3% and less, with higher royalties applying to only a few products. The enormous size of the market is indicated by the munificent revenues yielded by royalties at these rates.

The first requirement for the success of the Foundation's licensing program was the elimination of competition from non-licensees. The Foundation's practices in this respect are aptly described in a memorandum dated February 20, 1935, from Connolly, a du Pont patent attorney, to Kupperian, of du Pont: "The Foundation has been merciless in beating out competition throughout the United States whenever such competition threatened to encroach upon the synthetic vitamin D field."

Some of the leading manufacturers in the country are licensees of the Foundation. Many of these manufacturers have been licensees for years, while in some cases licenses were obtained by the acquisition of companies holding licenses. Both du Pont and Standard Brands obtained their licenses by the latter method.

Acetol Products, Inc., had a license from the Foundation dated November 15, 1929. Du Pont acquired the assets of Acetol and on April 30, 1935, Acetol assigned its license to du Pont. On November 15, 1935, a new agreement was executed between the Foundation and du Pont which superseded the Acetol agreement of November 15, 1929.

Standard Brands succeeded to the rights of the Fleischmann Company under an agreement dated August 8, 1928.

The question naturally arises why these powerful manufacturers paid the Foundation such large royalties on the basis of the weak and limited Steenbock patents. The correspondence indicates that the licensees were not only willing but anxious to pay the royalties in return for the profit opportunities offered under the Foundation's schemes.

The desire of the licensees to cooperate in the Foundation's promotional schemes is well expressed in a letter dated July 8, 1935, from Atkins of du Pont to Barney, the Foundation's business manager:

"The writer feels certain that you understand our desire and willingness to be considered as a part of the Foundation. You know our desire to prevent the Vitamin D field from falling into disrepute because of too many producers of various types of so-called Vitamin D. We would much prefer centralized control in the hands of the Foundation and you may count on us to support you even though, at times, we may have differences of opinion."

A memorandum dated January 25, 1937, from H. W. Elley, associate chemical director of du Pont, to a number of the executives of du Pont, explains the reason for centralizing "control in the hands of the Foundation":

"He [Mr. Protto, assistant general manager of du Pont] felt that it would be preferable to deal with the Wisconsin Alumni Foundation since they could be of considerable value to the industry in policing and regulating matters. If, for any reason such arrangements become unnecessary, it would then be possible to consider alternative procedures not involving the use of the Foundation patents, that is, we might commercialize the Milas process."

The Foundation is organized along the lines of an international cartel insofar as its licensing program is concerned. It is party to agreements with the omnipresent I. G. Farbenindustrie of Germany and Joseph Nathan & Co., of Britain. The agreements, following the standard cartel pattern, create exclusive noncompetitive territories. Nathan and I. G. are prohibited from exporting to the United States and the domestic licensees of the Foundation are prohibited from exporting to Germany or Great Britain.

The domestic licensing policy of the Foundation is characterized by a most complex and minute division of fields into non-competitive areas. Generally speaking, these fields of activity are made exclusive so that all competition between the different licensees or groups of licensees is eliminated. Provisions of the various agreements, which will be later described, prevent any substantial overlapping of these fields. Often the provisions merely prohibit the licensee from accurately describing his product but the essential object, elimination of competition, is attained.

Fields are divided along three distinct lines: (a) the product

to be activated, (b) the method of activation, and (c) the use of the activated product. In the first category there are 13 principal divisions: (1) the pharmaceutical licensees are permitted to activate ergosterol, (2) Standard Brands is licensed to activate yeast and yeast products, (3) du Pont is allowed to activate ergosterol cholesterol and other sterols except yeast and yeast products, (4) S. S. Kovaks is allowed to activate sterols derived from yeasts but not yeast, (5) a group of licensees are permitted to activate evaporated milk, (6) a number of licensees are permitted to activate fluid milk, (7) Quaker Oats is allowed to activate cereals, (8) Borden is allowed to activate a milk product known as Dryco, (9) The Wantner Company is allowed to activate Ovaltine, (10) the Commander Larrabee Company is allowed to activate flour, (11) R. B. Davis and Company is allowed to activate Cocomalt, (12) Loose-Wiles Biscuit Company is allowed to activate crackers, and (13) Ayerst, McKenna and Harrison are allowed to activate a food product known as Glucose-D.

The extent to which the division of fields is carried is exemplified in an agreement dated June 27, 1938, between the Foundation and the Loose-Wiles Biscuit Company. This agreement authorizes Loose-Wiles to activate "Graham Crackers" and "Wafers slightly sweetened to such as English Style Arrowroot Wafers," but does not permit the activation of "cakes" and "cookies."

According to the method of activation, fields are divided into direct irradiation and activation by the introduction of an irradiated substance. Some few licensees are permitted to use either method of activation, but most are restricted to a single method. One of the most curious licenses issued by the Foundation permits the activation of milk by feeding cows irradiated material.

The division of fields according to use is most detailed, but

can be broken into several general classes. Licenses are issued for the human medicine field, for the human food field, for the fluid milk field, for the evaporated milk field, for the animal feed field, and for a field in which the product is not intended for internal use.

At the outset, it was pointed out that the stated objectives of the Foundation are "to protect the public" and "to prevent unscrupulous commercialization." Over the years the Foundation's devotion to these objectives appears to have wavered. The Foundation appears to be primarily interested in royalties, with little or no regard for the public interest. Article VII of the agreement of November 1, 1938, with the milk companies states that if "it should be found that the activation of unsweetened evaporated milk by ultra violent rays under this license is substantially harmful to the user of such milk, or to the milk itself, the licensee shall have the right to cancel this license."

In a memorandum dated February 8, 1939, Dr. Russell described a similar position of the Foundation in regard to high dosages of Vitamin D: "Steenbock is of the opinion that in view of the fact that Vitamin D is no longer a distinctive Steenbock product but can be secured from a variety of sources that the Foundation might as well favor the commercialization of high dosages unless there is *very* serious objection on the part of the A.M.A. officials toward a move of this sort."

It is to be noted that in neither of these cases is the Foundation concerned with public benefit or medical approval, but only with *substantial harm* and a *very serious medical objection*.

Another instance of the Foundation's regard for the public interest was the Snider Packing Company matter. In 1931 the Snider Packing Company obtained irradiated yeast from Fleischman to add to Snider's tomato juice. The results were

apparently not too satisfactory. After this 1931 failure, Snider was persuaded to continue the license and the Foundation undertook to supervise the activation of the tomato juice. Steenbock and Scott recommended Acetol irradiated ergosterol and this recommendation was followed.

Despite the recommendations and supervision and guarantees of the Foundation, the Vitamin D content of the Snider tomato juice did not come up to expectations. This inadequacy was known to Snider, Acetol, and the Foundation, and on February 27, 1933, Russell wrote to Acetol stating:

“It would be most unfortunate if any publicity was to occur as a result of the reduced potency of the Snider product and it would not only ruin the Snider business in this product, but would affect most disastrously you as well as ourselves. If the Government were to discover this situation and publish the result, it would do irreparable injury to the whole Vitamin D situation in foods.”

The correspondence does not show whether any of the Snider products reached the market under false labels, but the Foundation's concern in the matter is clear. The Foundation feared only publicity or discovery by the Government.

In 1934 and 1935 some research workers, and especially Dr. Reed of the University of Illinois, found that large doses of Vitamin D were highly beneficial in severe cases of asthma, hayfever and arthritis. These large doses required a highly concentrated product which was most easily used in the form of gelatin capsules. The Foundation and its licensees were greatly interested in this project, but feared the effect this concentrate might have on the pricing structure of viosterol. These fears and a suggested solution are referred to in a report of a conference between Russell and Ross of the Foundation and

Nielsen of Abbott, held early in February 1935. This report, signed by Nielsen, states:

“Mr. Nielsen stated that if the capsules were priced considerably lower than the commercial product unit for unit, nothing would prevent the hospitals from opening the capsules and diluting the content with vegetable oil to obtain a ‘250D’ solution far below the regular cost.

“Dean Russell asked for suggestions to prevent this. Mr. Nielsen stated that Abbott Laboratories would give further thought to this problem. Tentatively, he suggested that the concentrate might be denatured by the addition of a drug also indicated in these cases—Ephedrine, for example—that the product be considered as a drug, not a vitamin, and that it be distributed for clinical trial under a special name—all provided that the licensees agree. *Any untoward effects from it thus could not reflect on the Viosterol products on the market.*”

Despite its lofty objectives, the licensing program of the Foundation appears to have resulted actually in a substantial reduction of research and development. Its attitude toward research is indicated in a letter from Russell to the licensees dated August 24, 1936:

“We are hardly interested in the prosecution of problems of a purely scientific character that come to us from outside institutions. Nevertheless, if this is a problem that has definite commercial possibilities, we should not make a hasty adverse decision.”

In a letter dated January 6, 1937, addressed to Elley of duPont, Waddell of duPont referred to a meeting in Madison with members of the Foundation and stated:

“He [Steenbock] mentioned that most of the pharmaceutical licensees had not been interested in obtaining rights to the manufacture of crystalline Vitamin D (from ergosterol) and that

the present situation might find them in the same attitude. He admitted, however, that if the patent situation and licensing arrangements worked out so that the five pharmaceutical companies were again in a position of having an exclusive hold on the synthetic Vitamin D field that undoubtedly they would be very much interested."

Thus, in spite of the acknowledged physiological superiority of Vitamin D₃, the Foundation was reluctant to do any research whatever unless the willingness and cooperation of the licensees showed a definite promise of substantial profits.

The effect of the licensing policy on the research activities of licensees is explained in a letter from Kupperian of Acetol to Waddell, research director of Acetol. This letter states:

"According to my reading of the contract with Wisconsin Alumni Research Foundation, we are not at liberty to use yeast in connection with irradiated ergosterol, this field being reserved exclusively to Fleischmann. In view of this fact, I think we ought not to waste time and money on experiments in connection with yeast."

In at least one case where the Foundation sponsored and financed research, the publication of the results of the research were suppressed by the Foundation because they were at variance with the Foundation's commercial interests. In an attempt to eliminate the non-infringing product of General Mills from competition with the Viosterol of the pharmaceutical licensees, the Foundation attempted to prove that Viosterol was clinically superior to the General Mills product. To accomplish this, the Foundation made a grant to Drs. Smith and Owens of Freedmen's Hospital in Washington, D. C., to run certain tests comparing the effectiveness of the General Mills product and Viosterol, and to prepare an article for the medical journals on the results. On June 17, 1936, Drs. Smith and Owens submitted

to the Foundation their article, which contains the following conclusion:

"A comparative study of nine cases of varying degrees of rickets receiving 800 U.S.P. units of Squibb's Viosterol daily with eleven comparable cases receiving 800 U.S.P. units of American Pharmaceutical Company Viosterol [General Mills' product] shows no significant difference in rate or degree of healing as determined (1) by X-ray of the wrists and (3) Ca and P determination on the blood."

The attitude of the Foundation and its licensees to this article is described in a letter from Lescohier of Parke-Davis to Anderson of Squibb, dated July 6, 1936:

"If this article is published the Steenbock group are certainly in the position of being hung with their own rope. I should like to see the publication suppressed but am pretty certain that Meade Johnson will see that it is published since they are no longer vitally interested in Viosterol. Certainly anything that can be done to delay publication would be advisable."

In a letter dated August 17, 1936, Scott of the Foundation expressed the Foundation's attitude on this article as follows:

"From the outset, of course, we have been opposed to publication of this paper in any form. We have advised Dr. Smith that it was necessary to get the opinions of the pharmaceutical committee, and we intend to confer with them in the near future advising them that publication of the work is not desirable."

The Foundation has also suppressed the use of competing patents. Article II of the Supplemental Agreement of June 3, 1937, between the Foundation and Meade Johnson, Squibb, Parke-Davis, and Abbott provides for the licensing of additional pharmaceutical manufacturers who had been using Sperti Patent No. 1,676,579 on the irradiation of pharmaceutical products. This section provides:

“It is understood and agreed that such additional Licensees shall be prohibited, by appropriate restrictions in any license agreements that may be entered into between the Licensor and such additional Licensees, from employing the process described and claimed in United States Letters Patent No. 1,676,579 to George Sperti and from advertising the use of said process in connection with products sold under said license agreements. . .”

Thus, the results of the Foundation’s licensing program have been to stifle its own research activities and the research activities of its licensees, to prevent the publication of information which might jeopardize the Foundation’s financial interests, and to suppress competing patents. Certainly, these are peculiar results of a program instituted “to protect the public” and “to prevent unscrupulous commercialism.”

One of the most important fields in the Foundation’s scheme of exploitation is the pharmaceutical field. All Vitamin D products used in the treatment or prevention of human ills are embraced within the pharmaceutical field, and restrictions in this field thus have a direct and immediate effect on the health and well-being of the general public. Also, at the time the Foundation embarked on its licensing program, the pharmaceutical field probably was one of the most promising, both from a publicity and a profit standpoint.

In or about March 1929, the Foundation made agreements with five licensees, all manufacturers of pharmaceuticals: Meade Johnson & Co., Winthrop Chemical Company, Abbott Laboratories, Parke-Davis & Company, and E. R. Squibb & Sons. These agreements have been amended several times by letter agreements and supplemental agreements. Two letters, dated March 20, 1939 and April 27, 1939, offer the licensees certain royalty reductions, and it is assumed that these reductions were

accepted. These letters do not, however, make any substantial changes in the restrictive provisions of the agreement.

This combination in restraint of trade between the Foundation and its licensees is expressed in various ways throughout the pharmaceutical licenses. For example, Article XII of the agreement of March 21, 1929, fixed minimum prices for the sale of irradiated pharmaceutical products. This article contains the following language: "Such prices so established shall remain in effect indefinitely but may be changed by the Licensor not less than ninety (90) days after consultation with all of the Licensees of this group."

Article XIII of the agreement of March 21, 1939, states that the potencies of the pharmaceutical products shall remain fixed "until and unless changed by the mutual understanding of a majority of the licensees of this group." Article XVII prevents the assignment of the licenses "without the written consent of the Licensor, the Patentee and the Licensees under similar licenses." Each of the agreements with Abbott, Meade Johnson, Squibb and Parke-Davis, executed June 3, 1937, also contains long recitals regarding the provisions to be introduced into a new contract with Winthrop Chemical Co., Inc.

Price stabilization was one of the main considerations offered by the Foundation to its licensees in exchange for the royalties. It might almost be said that this price stabilization was the bait which made the licensing scheme of the Foundation so attractive to the various manufacturers. Clough of Abbott wrote to Russell of the Foundation on April 21, 1936, and referred to the importance of price-fixing activities of the Foundation as follows: "It was argued by your Trustees that under our arrangement with the Foundation, we were given certain benefits of price stabilization which was well worth the additional 5%."

That price-fixing was one of the most important points in the

pharmaceutical licensing plan and is described in a memorandum of a conference between Anderson and Lewis of Squibb and Ross and Barney of the Foundation on February 23, 1939:

“We outlined the high potency D situation both with respect to Merrell and Winthrop. Their reaction was first that Squibb would have no objection to Merrell’s continuing to sell its concentrated viosterol if we could line up Merrell on its regular viosterol from the standpoint of container size and price. We indicated that this latter could be accomplished.”

Further, the papers indicate that this price-fixing was carried over into the field of resale prices. This is brought out in a letter from R. D. Keim of Squibb to Dean Russell of the Foundation dated July 23, 1934:

“We gave this matter our very serious consideration and wrote to all the licensees, under date of July 19, 1934, as per copy enclosed and we firmly believe that our suggested *Full Retail Prices per package to the consumer and Minimum Retail Prices per package to the consumer* for Viosterol in Oil and Cod Liver Oil with Viosterol are more in line with present market trends and the present economic market conditions than those proposed by Parke-Davis & Company.

“We are desirous of acting in harmony with all the other licensees of the Wisconsin Alumni Research Foundation in regard to the stabilization of the market for Viosterol in Oil and Cod Liver Oil with Viosterol. However, we firmly believe that it is necessary to establish a schedule of Minimum Retail Prices to the consumer such as we have suggested in order to bring about such stabilization.”

Prices were not only fixed; they were fixed arbitrarily at levels which can only be regarded as extortionate in view of the economic status of the people whose need for Vitamin D was the greatest. (Barney, the business manager of the Founda-

tion, once stated on examination in a lawsuit: "It is my understanding that rickets is found to a great extent in the so-called poorer class of people.") Despite this full awareness of the incidence of their high price policy, the Foundation and its licensees remorselessly maintained prices on the Viosterol products so high that their use was practically restricted to those who had least need for them. This is recognized in a letter dated March 30, 1934, from Russell to the pharmaceutical licensees: "Very severe criticism from certain prominent pediatricians has been lodged against the Foundation on account of the alleged high retail prices of certain Vitamin D preparations."

The price-fixing activities of the Foundation also extended to sales to Federal, State and local governments and government agencies. On May 10, 1940, W. S. Merrell Company wrote to the Foundation:

"We have an inquiry from the Government for a substantial quantity of Irradiated Ergosterol and are wondering if we shall have to abide by the price schedule in our license agreement in quoting. In other words, would our quotation have to be the same as our minimum price to wholesalers, or could we figure on a reasonable profit basis taking our cost on such a large quantity for one shipment into consideration?"

The letter also contained a postscript: "We know that the price would have to be much lower than our price to the wholesalers to secure the order." In spite of the fact that Merrell was merely asking to quote on a "reasonable profit basis" and assured the Foundation that the price would have to be "much lower . . . to secure the order," the business manager of Foundation replied on May 13, 1940:

"Under the present license agreement with your company and the other pharmaceutical licensees of the Foundation under

the Steenbock patents, the minimum price to be quoted to government institutions is the minimum wholesale price as outlined in your contract, less two per cent discount for cash if paid by the tenth of the following month.

“All of the other pharmaceutical licenses of the Foundation have operated under this arrangement for some time. We note, however, your postscript which indicates that the quotation to the government will have to be lower than the price to wholesalers in order to secure the order. We dislike to see your company or any of our other licensees lose business.”

The pharmaceutical agreements fix both the potency and the quantities in which Vitamin D concentrates may be sold by the pharmaceutical licensees. The purpose and effect of these additional controls were stated by an official of the Foundation. “We feel that it is perfectly proper to control the price of Viosterol and cod liver oil from a legal standpoint and, unless we control the potency of the product and size of the container, price control of the product, of course, would be rather useless.”

The pharmaceutical agreements specified that potencies could be changed only by “mutual agreement of Licensees of this group,” while container sizes could be changed by “mutual understanding of a majority of the Licensees of this group.” Operations were in exact accord with these provisions, and only unanimous approval by the licensees could authorize potency changes. Notes of a phone conversation of March 30, 1932, between Nielsen of Meade Johnson and Russell of the Foundation state: “Russell said under no condition could such approval be given. That Meade Johnson had no warrant in changing the potency without the knowledge and approval and consent, not only of the Foundation but also of the other four licensees.”

Prior to December 24, 1936, the Foundation and its pharmaceutical licensees maintained a very effective black list and

white list of dealers. While the approval of dealers was ostensibly within the exclusive control of the Foundation, actually it was again a matter for vote by the licensees. L. D. Barney, business manager of the Foundation, described the program to Dr. Russell, director of the Foundation, in a memorandum dated November 6, 1935:

“As you know, the usual procedure in handling requests of wholesale drug concerns with respect to their addition to the approved wholesale list for the sale of Viosterol products is for the Foundation to send the name and address of this company to the five licensees. They, in turn, investigate the company and report back to whether or not they favor the addition of the said company to the list. The general procedure set up several years ago was that a majority of the licensees (three) would constitute sufficient authority on the part of the Foundation to add the name of the company to the approved list.

“By reason of the manner in which these are handled, it is impossible for us to tell the licensee when we refuse their request anything other than the fact that the Committee, which handles the request, did not approve their application, or, stated in another way, the Committee voted in the negative. Obviously, we cannot say that our licensees did not favor the addition of this company to the group.”

W. N. Larson of Meade Johnson recognized that this black list and white list might be illegal, and referred to it in a letter dated December 22, 1936, to Ward Ross, Counsel for the Foundation. He sent copies to each of the other pharmaceutical licensees. Larson's letter states:

“We would have no objection to the Foundation acting as a clearing house for information relative to those to whom wholesale terms on Viosterol and Cod Liver Oil with Viosterol are extended, except we wonder if such action might not be con-

strued as a violation of law. Anyone investigating this activity might well inquire as to why this was done, if some action which could be construed as collusion or restraint of trade were not contemplated.”

One of the principal functions of the black listing and white listing of wholesalers and retailers was the maintenance of resale prices. This is explained in a letter dated June 29, 1931, from W. N. Larson of Meade Johnson to N. A. Buttle of Winthrop, with copies to the other licensees and to the Foundation. This letter states:

“To our knowledge there have been very few departures from the suggested minimum price, and these departures have been confined to a very few relatively unimportant wholesale druggists whose objectives unlike ours, are not to stabilize conditions in the drug trade. It is the legal right of any manufacturer to refuse to sell to a wholesaler or any other customer in fact, who will not carry out his wishes. I hope that it will not be necessary, but it is entirely possible that it may become desirable for the Foundation to make the list of preferred jobbers a trifle more exclusive than it is at the present time. We would work with the Foundation in any reasonable steps in that direction. Better proof of our desire to have this matter straightened out could hardly be given, we believe.”

At least as early as 1933, the Foundation and the pharmaceutical licensees realized that this black list was illegal. On May 11, 1933, Larson of Meade Johnson wrote to Gunn, attorney for the Foundation, regarding this black list:

“Licensees cannot make agreements among themselves in these matters and must, of course, take the position that they are acting under instructions from the Wisconsin Alumni Research Foundation. The revelation that that is not the case might prove to be very embarrassing, as you probably realize.

My suggestion is that, in cases of this kind, you simply inform the inquiring party that your action was guided by a committee, operating under the Wisconsin Alumni Research Foundation, and that this committee does not reveal its reasons for taking any action of this kind."

Probably in part on account of this growing disquietude concerning the lawfulness of their undercover boycott, in part also, perhaps, because of the vast amount of detail work involved in maintaining the list, the Foundation ceased rendering this service for its licensees some time late in 1936. On December 24, 1936, the business manager of the Foundation referred a prospective wholesaler to the pharmaceutical licensees for direct action.

The pharmaceutical agreements were thus far more than mere restrictive patent licenses. Prices, potencies, dosages and container sizes were fixed by the licensees jointly and black lists of price-cutting dealers were established and maintained. The Foundation offered little more than a facade of respectability to conceal these activities, and it was for this concealment that the licensees were willing to pay so handsomely.

The remaining agreements of the Foundation prohibit the other licensees from invading the pharmaceutical field. Several of the agreements prohibit, in express terms, sales of activated products for pharmaceutical uses, others so limit the potency of the licensed product as to make it worthless for medicinal purposes, while still others merely limit the right of the licensee to claim curative properties for his product in his advertising.

All the agreements of the Foundation clearly show the intention to protect the exclusive market of the pharmaceutical licensees in the human medicine field. Actually this practice is carried to a ridiculous extent. The following statement appears in a memo note of November 14, 1935, written by Ward Ross,

General Counsel for the Foundation, regarding a conference with Dr. Hooper of Winthrop:

“With regard to the comparison between Viosterol and Drisdol, I asked Hooper how he would like it if our milk licensees said that one quart of irradiated milk was equal to 10 drops of Viosterol. Hooper claimed that this would be an invasion of the pharmaceutical field by our milk licensees and that they would be selling milk as medicine.”

Apparently, the licensees are prevented from telling the truthful merits of their products if the truth would cause an overlapping of the artificial division of fields.

Another industry capable of using large quantities of Vitamin D was the bread industry. Under an agreement dated November 15, 1939, this field is allocated exclusively to duPont. DuPont's chief concern in the bread field was price “stabilization” which to duPont meant the maintenance of high price levels. DuPont was even willing to share the field with Standard Brands to accomplish this end. A memorandum, dated September 19, 1935, from Mr. Kenneth T. King of duPont to Mr. Ralph Horton and Mr. W. S. Kies, a Trustee of the Foundation, states: “We would be willing for the Foundation to grant non-exclusive license for the sale of Vitamin D from Ergosterol in the bread field to the Fleischmann Company, providing the price of Vitamin D in the bread field shall be stabilized.” The agreement between duPont and the Foundation expressly stipulates the limits of licensees' discretion in price policy. Article 2 (C) provides: “DuPont shall not sell said irradiated or activated Ergosterol or its derivatives at a higher price than one dollar and a half (\$1.50) or a lower price than ninety-five cents (\$.95) per million U.S.P.A. (revised 1934) Vitamin D Units.

The Foundation's support of duPont's policy of high prices

is indicated in a letter dated July 18, 1935, from Barney to Atkins of duPont which states: "Dr. Waddell stated that it was his opinion that if General Baking came back into the picture a higher price for ergosterol should be charged. We discussed the possibility of a price of \$1.25 to \$1.50 per million Steenbock units."

So long as the Foundation could be "merciless in beating out competition" price-fixing at these levels was quite attractive. But by 1940 the weakness of the Steenbock patents was so apparent that the fixed prices became a competitive hazard. On March 5, 1940, King of duPont wrote to the business manager of the Foundation:

"In reply to your letter of February 24th we are very much interested in modifying our contract with respect to the maximum and minimum provisions in the baking field. In fact, we believe the simplest way to handle this question is to delete from our present contract the clause specifying maximum and minimum provisions. This, of course, was explained to you over the telephone in our recent conversation concerning General Baking. I believe unless some change is made in the maximum and minimum provisions all business in this field will be lost by the licensees of the Foundation."

The Foundation recognized the need for abandoning these artificially high price levels and on March 14, 1940, Barney of the Foundation wrote to King of duPont referring to "a quotation from General Mills at a price of 60c per million" and stated: "This will acknowledge receipt of your letter of March 5th regarding the maximum and minimum price provisions with respect to the baking field. Shortly, Ward [Ross of the Foundation] will send Art [Connolly of duPont] either a letter agreement or supplemental contract deleting this provision from the contract." On July 19, 1940, Connolly wrote Ross

again asking elimination of the price-fixing provision and finally on July 30, 1940, Ross of the Foundation wrote to duPont deleting the price-fixing paragraph from Article 2 (C) of the agreement.

DuPont's aim in all of its Vitamin D operations was to obtain high, non-competitive prices for its products. This thought is expressed time and time again. A memorandum dated July 26, 1932, from Bradshaw to Atkins, both of Acetol, states: "This morning I reported to Mr. Protto and Mr. Robinson regarding conversation with Dean Russell and also the known facts concerning Lever Bros. business. It was Mr. Protto's feeling that we should raise our prices as much as possible and not sell the material cheap." The next day Atkins replied:

"It seems obvious to me that we should always try to get the maximum price for any of our goods, keeping in mind the possible potential volume and competitive conditions.

"According to authentic price information which we have secured, Fleischmann have been selling and offering Vitamin D at slightly less than \$1.00 per 1,000,000 Steenbock Rat Units. This is what influenced my suggested price of \$1.00 to Lever Brothers and I was very much surprised when you informed me that Fleischmann was not in a position to furnish irradiated ergosterol. If this were true, I apparently had gone too low on our initial price in view of the fact that we were the exclusive source of supply."

The profit levels resulting from the Foundation's activities were enormous. In a letter dated March 9, 1938, addressed to Ward Ross of the Foundation, King of duPont stated: "With respect to the Chesney matter, all I know is that 35c per million units was quoted to General Baking Company."

Vitamin D is of the greatest importance to expectant and nursing mothers, infants, and children and, consequently, milk is

one of the most natural and most important vehicles for this vitamin. The Council on Foods of the American Medical Association stated in the *Journal of the American Medical Association* for January 16, 1937, "Of all the common foods available, milk is most suitable as a carrier of added Vitamin D. Vitamin D is concerned with the utilization of calcium and phosphorous of which milk is an excellent source." Next to the pharmaceutical industry, milk was probably the most promising outlet for Vitamin D from a profit standpoint. The Foundation therefore became active in promoting the use of Vitamin D in the milk industry.

On November 1, 1938, the Foundation granted licenses to five producers of evaporated milk, The Borden Company, Carnation Company, Indiana Condensed Milk Company, Nestle's Milk Products, Inc., and Pet Milk Company, to activate evaporated milk. The agreements allocate the evaporated milk field exclusively to these five producers. Like the Foundation's other agreements, these evaporated milk agreements provide for the maintenance of the division of fields. Article XX, in protecting the evaporated milk field, states: "The Licensor agrees that in all licenses for the activation of fluid milk by the use of irradiated ergosterol or by direct application of ultra violet rays, it will incorporate a provision preventing the use or sale of such activated milk by such licensees for the manufacture of activated unsweetened evaporated milk."

The rights of the evaporated milk producers were similarly restricted to prevent encroachment on other exclusive fields. Article XII specifically protects the pharmaceutical field by providing that "said evaporated milk shall not be intended or sold as a cure for rickets." The other fields of use of Vitamin D are protected from invasion by activated evaporated milk by Article IX which provides: "The Licensee agrees that it will

not knowingly directly or indirectly sell its unsweetened evaporated milk activated under this license to others . . . as a source of Vitamin D for any other product when such product is intended to be sold or resold on a commercial basis.”

There are several methods by which fluid milk may be activated and the Foundation has issued licenses for each of these methods. In one method, irradiated yeast is fed to cows to increase the Vitamin D content of the milk; in the second method, the milk is irradiated directly; and in the third method, an activated concentrate is introduced into the milk.

The Bill of Particulars in the Vitamin Technologists suit lists 138 dairies licensed to activate milk by feeding irradiated yeast to cows. In its agreement with West Haven Creamery, Inc., which is typical of all of the licensees of this class, the Foundation licensed and empowered the licensee to purchase from Standard Brands, Incorporated, dried yeast “antirachitically activated” upon the following terms and conditions:

“First: The Licensee shall buy and use such yeast for no other purpose than that of feeding cows to impart antirachitic qualities to milk.

.

“Fourth: The Licensee shall not sell any of its antirachitically activated milk to others for use or incorporation in any other marketed product when Vitamin D or antirachitic claims are made or intended to be made for such other marketed product.

“Fifth: The activated yeast purchased by Licensee pursuant to this License shall not be resold or otherwise used except for feeding the same to the Licensee’s animals, pursuant to the conditions of this license.”

The Steenbock patents do not even purport to cover anything more than a process of irradiating or an irradiated product. Under no circumstances could the milk from an irradiated-

yeast-fed cow be an infringement of the Steenbock patents. Article Fourth is a bare-faced attempt to carry out the artificial division of fields. Milk from an irradiated-yeast-fed cow could, for example, be used in the commercial making of bread, but such use would be an invasion of the exclusive bread and bread-stuffs field. It was, therefore, necessary for the Foundation to insert this limitation in the West Haven Creamery's license even though the limitation was entirely outside the Steenbock patents.

The prohibition of resale in Article Fifth likewise lacks any taint of legal justification. A patentee's right under a patent is completely exhausted by the first sale of the patented product. Here again the Foundation is seeking to prevent any use of the irradiated yeast which may in any way conflict with the division of fields.

As the demand for activated milk increased, the addition of concentrates was accepted by the medical profession. This business was so attractive that the Foundation decided to engage in the sale of these concentrates for addition to milk. The Foundation did not, however, wish to enter a market in which any competition existed and since Standard Brands had rights in this field, it was essential that the Standard Brands competition be eliminated. In the agreement of February 1, 1939, the Foundation agreed to pay Standard Brands 40% of the profits derived by the Foundation from the sale of concentrates in return for Standard Brands' withdrawal and agreement not to, compete.

Vitamin D is of the utmost importance in the poultry industry since it is essential for the prevention and cure of rickets and for bone development, egg production and hatchability. Prior to the war some Vitamin D could be obtained from cod and other fish liver oils, but at the present time, the requirements

must be obtained almost exclusively from synthetic Vitamin D. Even apart from war time shortages, synthetic Vitamin D presents certain advantages over fish liver oils. The synthetic product may be used for forced feeding without adversely affecting the flavor of the poultry, while too generous use of fish liver oils results in a somewhat fishy flavor.

The size of the poultry market in the United States involves almost astronomical figures. The crop report of September 1, 1943 of the United States Department of Agriculture on poultry and egg production states that there were over 316,000,000 laying hens; over 318,000,000 pullets and over 224,000,000 chicks. The egg production for August 1943 was 3,863,000,000. This crop report also states that the average cost of feed for farm poultry ration on August 15, 1943 was \$2.13 per hundred pounds. Dr. Harry Titus of the Poultry Nutrition Section of the Bureau of Animal Industries of the Department of Agriculture estimates that 25,000,000 tons of commercial mixed feed are used annually in the poultry industry and that 75% of this feed is fortified with Vitamin D.

The wartime demands on meat make the poultry market unusually important and any artificial restraints or artificial price levels affecting the poultry market are of the most serious national importance.

The discovery upon which Steenbock's patent No. 1680818 is based is that certain substances, known as pro-vitamins take on antirachitic properties when irradiated with ultra violet light. These pro-vitamins are sterols which may be obtained from either vegetable or animal sources and the effectiveness of the irradiated product is dependent upon the nature of the pro-vitamin.

In the early days, vegetable pro-vitamins were used almost exclusively but it was subsequently found that the animal pro-

vitamins were superior. Vegetable pro-vitamins were unsuitable for poultry feeding and the exploitation of this market awaited the development of the animal pro-vitamins, cholesterol and 7-dehydrocholesterol.

The animal and poultry feed field had been exclusively allocated to duPont and its predecessor, Acetol. This exclusive arrangement highlights the artificial nature of the Foundation's division of fields. In the case of cows Vitamin D in the feed will result in a Vitamin D content in the milk. Vitamin D may also have some antirachitic effect on the cow itself. In interpreting this provision of its agreement with the Foundation, duPont was obliged to consider the question whether the effect of the Vitamin D feed is in the cow or in the milk. Finally, however, duPont resolved the doubt in its own favor. A letter dated February 20, 1935, addressed to Kupperian of duPont, from Connolly, a duPont attorney, states: "Irradiated cholesterol may therefore be used in feed for cows regardless of whether its purpose is to enhance the Vitamin D content of the milk or prevent rickets in the cow itself."

Prior to 1936, duPont recognized the importance of the animal sterols, cholesterol and 7-dehydrocholesterol, in the poultry feed field. DuPont immediately set out to secure a monopoly over these pro-vitamins and through them to control the entire poultry feed field. The first step in this direction is described in a letter dated January 21, 1936 from King of duPont to Nielsen of Abbott which states:

"We were, of course, largely interested in the poultry field, and to protect our position had made tentative arrangements to secure all of the available cholesterol in the country, or perhaps we might say, in the world."

Apart from attempting to corner the sources of animal sterols, duPont also sought exclusive rights in the field of animal sterols

within the licensing scheme of the Foundation. The agreement of November 15, 1935 between the Foundation and duPont grants duPont an exclusive license to irradiate sterols from animal sources. When the Foundation wished to grant new licenses and submitted the proposed licenses to duPont for approval, duPont insisted upon retaining exclusive rights in the animal pro-vitamin field. In a report to the Executive Committee of duPont recommending approval of the Foundation's license to Merrell, E. G. Robinson states:

“The Foundation now wishes to grant a license to the William S. Merrell Company of Cincinnati, Ohio, limited to Vitamin D from non-animal sources for sale only as medicinals or pharmaceuticals for human use, which this department is willing to approve. It is limited to non-animal sources in the pharmaceutical field and, therefore, we do not think it will materially interfere with our own developments. Also, the Foundation is able to grant a license with respect to yeast ergosterol without our permission, since that product is not in our license field; and if the license to Merrell is limited to yeast we will not have the opportunity of selling Merrell our own ergosterol.”

Thus, while duPont desired to protect its animal sterol field it did not wish the Merrell license so limited as to deprive duPont of a potential market for non-yeast ergosterol. In both instances the Foundation was most willing to cooperate.

8

Quebracho Extract

Quebracho extract is of great use to the nation in the war effort. It is a material which has been found most desirable for tanning the leather which goes into the shoes, harness, straps and other leather articles of the armed forces. It is of some interest to every man, woman and child whose ration stamps are used to buy a pair of shoes.

Practically all heavy leather tanned in this country has been tanned by use of a blend in which this material is an important ingredient. It comes from the southern part of South America, and there have been times when it was difficult, and others when it appeared it might be impossible, to ship the material to this country. The production and sale of the material is controlled by a monopoly pool or cartel, and this country is at the mercy of the pool in procuring the material in adequate quantities and at a reasonable price. The pool has exercised its power to curtail the quantity shipped to this country, to prevent any adequate stock pile in this country, and to raise prices out of proportion to any increase in costs.

In the Spring of 1942 the Department of Justice submitted the facts of this monopoly pool to a Federal Grand Jury in

New York, and it promptly returned an indictment against five American corporations, one Canadian and one British corporation, and five individuals, officials of four of the American corporations. Pleas of *nolo contendere* were subsequently entered by three of the American corporations and four of their officials. Fines were levied against and paid by these defendants, totalling \$59,002. A *nolle prosequi* was entered as to the two remaining American corporations, the two British corporations, and one official. The reason for the *nolle prosequi* in the case of the two foreign corporations was that they were outside the jurisdiction of the court.

The national interest in such a situation plainly warranted a diligent effort long ago to find an adequate substitute which would relieve us from entire dependence upon the ability and willingness of a foreign cartel to supply us with a vital material.

The extract is obtained from the quebracho tree. For commercial purposes the growth of these trees is limited to Argentina and Paraguay. Although there are quebracho forests in southern Brazil, the extract manufactured from these trees is inferior to Argentine and Paraguayan extract, and cannot compete favorably with it in the market. Ninety-eight per cent of the world production of quebracho wood and extract comes from Argentina and Paraguay. In 1942 the total production amounted to approximately 300,000 metric tons of extract and was valued at \$25,000,000.

This war has naturally affected the market for quebracho in Europe. Several years before the war the German Government took steps to render that country less dependent upon the continuance of quebracho imports. Clauses were inserted in all Army and Navy contracts for the purchase of leather goods that at least 12 per cent of such goods should be tanned by German-

manufactured tanning agents. This resulted in the development of a new industry based upon the production of tanning material from German trees. Tannic acid was extracted from the oak trees of South Germany and was permitted to find a place in the tanning industry by reason of the Government policy. Thus the German leather industry gradually became independent of quebracho importation from South America.

The loss of the continental European market due to the war was not felt to any great extent by the quebracho exporters because of the great increase of exports to the United States. During the war the imports of quebracho almost doubled due to the tremendous production of leather goods for the armed forces.

The quebracho industry consists of twenty-two producers in Argentina and Paraguay. Five of these are owned or controlled by the British corporation, The Forestal Land, Timber and Railways, Ltd., through its Argentine subsidiary, La Forestal Argentina S. A. de Tierras, Maderas y Explotaciones Comerciales e Industriales. These five companies have a productive capacity which constitutes approximately 57 per cent of the total capacity.

All producers, except four having a capacity of about eleven per cent of the entire industry, are members of a Quebracho Pool which regulates the production and sale of the product. Quebracho is sold by official agents of the Pool, and it recognizes two official agents in the United States: The Tannin Corporation and the International Products Corporation, both of New York.

Forestal of England controls La Forestal of Argentina through the ownership of a majority of its stock and a substantial portion of its bonds. One John B. Sullivan, Chairman of the Board of Forestal of England, is also the manager of Forestal of Argentina. Sullivan is an Argentine citizen who was

formerly a citizen of the United States and a graduate of Harvard College.

By reason of La Forestal's ownership of 57 per cent of the total productive capacity of quebracho in South America, which is approximately eight times the capacity of its next largest competitor, Forestal has completely dominated the quebracho industry. Its policy has been to restrict production and maintain high prices. Forestal's economic dominance in Argentina has enabled it to exert a great influence upon the government of Argentina. For example, in 1942 the efforts of John B. Sullivan alone were primarily responsible for the imposition by the Argentine Minister of Agriculture of highly restrictive export quotas upon each producer. These restrictions were imposed upon the industry at a time when it appeared that the efforts of Forestal to continue similar restrictions upon the South American producers might fail.

Forestal's domination extends not only over the production of quebracho, but over its distribution as well, including importation into this country. Through St. Helen's Ltd., a Canadian corporation, Forestal of England owns substantially all of the stock of Tannin Products Corporation, a Delaware corporation, which in turn owns all the capital stock of The Tannin Corporation, a New York corporation.

The Tanning Corporation imports approximately 70 per cent of all quebracho extract consumed in the United States. The Tannin Corporation has been controlled by Forestal of England since 1913 and during the past thirty years its controlling officials have been completely subservient to the policies of Forestal of England. Thus Forestal controls this material from the tree to the United States consumer.

The questionable character of the functioning of these American subsidiaries is indicated by portions of a letter written De-

ember 23, 1941, by Carl B. Ely, President of the Tannin Corporation, to J. B. Sullivan of Forestal, whom he addressed as "My dear Jack":

"You will recall the formation for good and practical reasons of the Tannin Products Corporation in 1925, at which time a very large dividend was paid, which procedure continued in a more or less degree during the following years, particularly in 1929 and 1934. The company, as you will see, earned \$3,284,-427.28 and paid out dividends of \$4,200,000.00. In other words, we declared practically \$1,000,000 more during the sixteen-year period than we earned.

"Under the circumstances I have no fault to find with this, provided our principal stockholders, the Forestal Company, are aware of it and are prepared to take care of our money situation as the same arises. . .

"To come right down to the last analysis, we have been living on Government funds, which under proper business procedure should be reserved for income tax payments, but, as these payments are not due until next year, it has been possible to use this money. We owe the Government today \$500,000. This money, together with your most helpful postponement of payments, has made it possible for us to have cash to pay the dividend we did. I believe that with the extra terms on future purchases of extract we will make our position stronger during the next six months, and we are trying diiligently not to borrow from the banks, as in this particular case it would appear that such borrowing was done to pay dividends. This I believe would have a very bad effect on our good will and financial standing—and we enjoy today the good will and respect of the tanning industry as we never have before."

I have already pointed out that Forestal controls five of the South American producers. One of the other seventeen is the

International Products Corporation of New York. Another producer, Samuhi S. A., is controlled through ownership of a majority of its stock by two American corporations, Proctor Ellison and Howes Bros. of Massachusetts. International Products Corporation and Samuhi together have a capacity of about eight per cent of the entire industry. Both of these producers have been ineffective in preventing La Forestal from carrying out its policy of restricted output and high prices, and International Products has in the past frequently cooperated closely with Lo Forestal to further such a policy.

Since 1934 International Products Corporation has consulted with Tannin about the prices to be charged to quebracho extract consumers in the United States, so that the prices of both companies have been fixed, uniform and high. From May, 1934 to July, 1939, Tannin owned a substantial amount of the stock of International Products Corporation, and from May, 1934 until May, 1936, the president of Tannin, Carl B. Ely, was a member of the Board of Directors of International Products Corporation. On February 26, 1935, Ely wrote to Sullivan:

"I am giving the I.P.C. problems a lot of my time, and, as previously told you, have found that there is a lot to be done to straighten out that problem. I am working slowly so as not to upset the apple cart any more than is necessary. . .

"I am getting their sales policies straightened out and believe now there will be no more monkey business."

From 1934 to 1939 International Products Corporation was a member of the Quebracho Pool, and by reason of its designation as an official pool agent for the United States gave up its business of selling extract in England and in Asia.

American purchasers of quebracho might well wonder whether this American company was more concerned with giving them

a good deal or with favoring certain foreign concerns, from the concluding paragraph of a letter from one of its officials to its President dated November 16, 1939:

"You undoubtedly know that Mr. Seldes was successful in substituting Casado extract to fill the order we had for Forestal for 535 tons of Supremo for delivery in Buenos Aires for shipment to Japan. We paid for the Casado extract with a dollar draft and have since received from Forestal the sterling representing the sale. The net result of the whole transaction represents a loss of a little more than a \$1.00 per ton, which, as explained in a previous letter, is really not a loss at all, as we will use this extract to fill orders for North America which will net us a nice profit."

The production of Samuhi was so small, being about one per cent of the entire industry, that it could hardly contain any competitive threat to La Forestal. Nevertheless, our records show that for many years Forestal harassed this company by every means and sought to buy up its assets and its stock.

It is interesting to observe in what manner the quebracho extract pool operated to carry out Forestal's policy of restricted output and high prices. Before the formation of the Pool the price per pound of quebracho extract was $2\frac{1}{2}$ cents. By the terms of the pool agreement a directive committee, dominated by Forestal, was empowered to fix the prices of all its members. The directive committee between November, 1934 and January, 1941, decreed six price rises, raising the basic price of quebracho extract for the whole world market from $2\frac{1}{2}$ cents up to $4\frac{7}{8}$ cents, an increase of nearly 100 per cent. Sullivan admitted in July, 1942, that at the then existing price, which prevails at present, Forestal was making a net profit of 33 per cent on every ton of quebracho it sold.

The exorbitant profits of the quebracho manufacturers were

severely criticized by the famous leading Argentine newspaper, *La Prensa*. The following excerpt was taken from a letter of May 20, 1936, written by the manager of the Buenos Aires office of the International Products Corporation to its president:

“Another matter, which has caused a lot of excitement amongst the manufacturers has been the inopportune declaration, made by the Chairman of the Fõrestal during the annual meeting of the shareholders, viz. that the understanding of the manufacturers was performed under the auspices of the Argentine Government, in other words, that the Argentine Government was really responsible for the agreement and that it was protecting the same. This news was reproduced all over the world and the *La Prensa*, the most important paper on the Southern Hemisphere, has seized the opportunity to denounce the huge profits made by the quebracho manufacturers, profits which in their opinion mean a loss for the Argentine Republic on account of the decrease in the export of both, Quebracho Extract and Logs. I am enclosing herewith the article, as appeared in the *La Prensa* of Monday the 18th. inst., and we would add this paper has on more than one occasion criticized the so-called ‘gentlemen agreement.’ Mr. Marti told me that he is at a loss to understand how the Baron made these declarations as Mr. Sullivan has always stressed the necessity of not mentioning the Argentine Government in connection with the manufacturers’ agreement, a fact which can be noted in the balance sheets of the other companies, who, referring to the higher prices, explain that they are due to a better understanding in the sales policy abroad. Anyway, I hope that his faux pas will have no serious consequences.”

To maintain high prices it was necessary to limit the production and the sale of quebracho in the world market. The method used to limit production under the pool agreement was to

allocate a quota to each producer in accordance with his respective productive capacity. These quotas limited the amount of quebracho extract which any manufacturer could sell during a given period. Each member of the pool was compelled to make substantial contributions at regular periods to a so-called "battle fund" of the pool. These contributions were retained by the pool unless the producers adhered to the pool's regulations relating to prices and quotas, in which case a portion of each producer's contribution was refunded. So restrictive were these quota limitations that producers who desired to sell above their quotas often paid enormous prices to acquire the quota rights of other producers.

This rigid control of the market so severely limited the production of many companies that in 1941 several deserted the pool. These companies were LaChaquena S. A. and Cotan S. A. These two companies, together with International Products Corporation, Samuhi, and Weisburd & Cia. Ltda., a new concern, have been the only producers outside of the pool since 1941. Although the total productive capacity of these five companies did not exceed 12 per cent of the total industry, their threat of full production and decreased prices jeopardized its whole structure. To meet this threat, Forestal succeeded in persuading the Ministry of Agriculture in February, 1942, to impose export restrictions upon each producer which prevented exportation of more than approximately one-third of their total capacity. In addition, Forestal attempted to prevent companies outside the pool from shipping their extract to the United States.

One instance is the experience of Hammond and Carpenter Corporation, an independent importer which has sought to compete with The Tannin Corporation and International Products Corporation in the importation of quebracho. In February

or March, 1942, J. A. Barkey, its Vice-President, attempted to import some extracts produced by Weisburd, an Argentine extract manufacturer, who entered the industry in 1941. He called at the offices of the Sprague Steamship Company and spoke to Mr. Bodemann of that company. Mr. Barkey later described the conference as follows:

“Mr. Bodemann retorted that it was very unlikely that our firm would be given any space for the reason that we were newcomers in the import of quebracho extract and for the further reason that the ‘Pool’ had supported his line during the lean years before the war and by reason of such support his line would be obliged to support the ‘Pool’ during the present emergency.”

Similar sentiments were voiced by Mr. Horgan of the Stockard Steamship Corporation. The aid of the Buenos Aires Agency of Moore-McCormack was also previously enlisted. In October, 1941, the Moore-McCormack line stated that “at the request of the Forestal Company they had promised their cooperation for the purpose of keeping out any of the new brands. . . . The understanding was that whenever they were offered outside extract and they had space they were to reject it and advise the other manufacturers, who would try to offer replacement.”

Forestal’s tactics are well illustrated by the case of Mr. T. Valentine, exporter and concessionnaire of a projected new company. International Products Corporation was informed in September, 1941:

“[It] has proved impossible so far to reach a satisfactory agreement with the new factory at Santiago del Estero. For this reason, the Forestal Company, in an endeavor to impede the exportation of the extract, has seen all the steamship companies

requesting them not to give space to any outsiders, but to advise the Forestal who would immediately offer replacement cargo. The steamship companies promised to act accordingly."

The Basal Agency had obtained shipping space for Valentine in the past. "The Basal Agency," an official of International Products wrote to Feeney a week later, "has informed us that Valentine wants to book a further 200 tons on the next steamer but that they would refuse to take it if we or the Forestal would offer them replacement cargo."

The effect of the restrictive government decrees and other measures taken by Forestal has been to force one independent, Cotan, S.A., back into the Pool, while another, Samuhi, S.A., is contemplating rejoining the Pool. It appears inevitable that within a short period of time the remaining independents will be forced into full cooperation with the Pool and that the industry's policy of restrictive production and high prices will continue unless some completely satisfactory substitute may be found for quebracho extract. Apparently the tanners in this country find that wattle extract is the only tanning product interchangeable with quebracho extract, and it is therefore significant to observe that the wattle extract industry, which is located in South and East Africa, is also controlled by Forestal of England, and that the principal importers of wattle in the United States are the Tannin Corporation and International Products Corporation.

The chief official of one of the companies which stood up against the bulldozing tactics of the Pool wrote a letter to American Tanners Ltd., on February 7, 1935. After discussing in a critical manner the actions of the Pool and referring to a conversation with an individual whom he said could be "interpreted as a stool pigeon for Forestal," he wrote:

“We also pointed out the fact that if the arbitrary methods of the gentlemen [the Pool] were pursued, that they were throwing away their markets, they were encouraging the fields of research and that they would wake up one day and find that the volume of consumption of Quebracho Extract had been greatly reduced due to the introduction of other materials which supplanted Quebracho and I cited the instance of what the tanners went through with substituted leather and how the volume of the market had never been regained and that the same thing would happen to Quebracho.”

9

Titanium

The titanium industry is controlled by a typical cartel. That it is a cartel there can be no question. The president of one of the American companies which dominate it was thoughtful or thoughtless enough to define it. He wrote to one of the European officials as follows:

“May I call the proposed combination, for simplicity, a cartel? The whole purpose of the cartel is to obtain a monopoly of patents, so that no one can manufacture it [titanium] excepting the members of the cartel, and so can raise the prices by reason of such monopoly to a point that would give us much more profit on our present tonnage, but also prevent a growth in tonnage that would interfere with their greater profits in lithopone [a competing but inferior product].”

It is typical because it has utilized the devices and followed the practices which are found in greater or lesser degree in all cartel arrangements. The members of this cartel include I. G. Farbenindustrie, the German chemical trust and many other foreign companies. The American scene is dominated by three American corporations, the National Lead Company, E. I. duPont de Nemours and Co., and Titan Co., Inc. (These three

companies and four of their leading officials were indicted by a grand jury in the Southern District of New York on June 28, 1943.)

The story of the titanium cartel is significant for these reasons:

1. Titanium, the most valuable and useful of all white pigments for paints, rubber products, glass, paper, enamel and other materials has been priced exorbitantly and its use restricted because of the monopolistic control exercised over it by a world-wide cartel.

2. American members of the cartel are placed in a position where they have felt obliged to help the Japanese evade the British embargo.

3. American members have seen fit to aid I. G. Farben in attempting to prevent seizure of German owned patents by the American Alien Property Custodian by the execution of specious patent assignments.

4. To attain such monopolistic control, the cartel has resorted to flagrant misuse of patents and has gone so far as to actually pay large sums to potential competitors to keep them out of the titanium business.

5. I. G. Farben, the German chemical trust, as one of the leading parties to the cartel, has dictated the terms upon which American members might do business.

6. The fact that duPont, Imperial Chemical Industries and I. G. Farben are also members of other cartels, such as that involving dyestuffs, makes their control of a fine pigment such as titanium the more objectionable.

It is difficult to think of any material which is more universally used by private citizens and by governments alike than is paint. In time of peace, the United States government buys and uses enormous quantities of paint. In this time of war its pur-

chases account for by far the greater portion of all the paint manufactured in the entire country.

It is a fact which is not widely known that the finest of all white pigments, useful in colored paints as well as white, is titanium dioxide. It is also not generally known that titanium is the ninth most abundant element in the earth. Crude titanium is found in combination with iron in an ore called ilmenite in many places in this and other countries. It is found in purer form in the sands of Travancore Beach in India and in lesser concentration in many places.

While the element itself is abundant, no commercially practical processes for reducing it to pigment form were known until about the time of the first World War. In the relatively short period which has passed since then, technology has been developed which makes possible the manufacture of the finest pigment from titanium. It has already displaced white lead, lithopone and other pigments in a large share of the market. In hiding power (covering qualities), opacity and chemical inertness — all essential qualities for paints — titanium compounds, chiefly titanium dioxide, excel all other kinds of pigments.

Shortly after the Civil War it was discovered that titanium ore could be reduced to a powder which when mixed with oil resulted in a paint. It was not until about the beginning of World War I that a feasible method of separating titanium oxide from the ore was worked out. This was accomplished by two chemists, Dr. A. J. Rossi and L. E. Barton, whose research was done for the Titanium Alloy Manufacturing Company organized by Dr. Rossi and others in 1906. As a result of their discovery, a new corporation called the Titanium Pigment Company was formed in 1916. At that time, as well as subsequently, the leading manufacturer of white pigment was the National

Lead Company. Recognizing the implications of titanium's excellence in this field, National Lead purchased a substantial interest in the Titanium Pigment Company in 1920. The two companies continued to operate more or less separately until 1932 when National Lead acquired the entire stock of Titanium Pigment. In 1936, the latter was dissolved as a corporation and its business and properties were taken over and operated as a division of National Lead.

During substantially the same period in which this development was taking place in this country, a different process for the manufacture of titanium compounds was being developed in Norway by Gustav Jebsen. His process was patented and was exploited by a Norwegian corporation called Titan Co. A/S. At about the same time a Russian chemist named Joseph Blumenfeld was perfecting, in France, another method of manufacture, which was likewise patented. Thus prior to 1920 three groups working independently of one another had developed processes for utilizing titanium ore for production of pigments. These groups are:

1. Titanium Pigment Company, subsequently absorbed in National Lead Company.

2. Titan Co. A/S, originally organized in Norway by Jebsen for the exploitation of his developments. Eighty-seven percent of its stock was purchased by National Lead in 1927, the remaining 13% being retained by Jebsen. This company was originally intended to exploit the foreign interests of National Lead, but in 1929 National Lead and Jebsen organized in Delaware a holding company called Titan Co., Inc., the sole function of which was to hold all foreign interests of the parties. Titan Co. A/S remained in existence in Norway solely as the sales agent for Titan Co., Inc.

3. The Blumenfeld Interests. Whereas National Lead and

Jebsen chose to exploit their patents by means of operating companies, Blumenfeld followed a general policy of licensing other interests.

Titanium Pigment and Titan Co. A/S entered into a contract dated July 30, 1920, which is the foundation upon which the parties and their successor companies have been able to build a cartel with monopoly ramifications extending throughout the world. This contract was to extend to 1936 and was to be automatically renewed for 10-year periods unless terminated by 5-year notice. By the terms of this agreement, National Lead (as Titanium Pigment and its successor in interest will be called) was assigned the markets of North America as its exclusive territory. Titan Co. A/S was given the rest of the world with the exception of South America which was to be common territory. The two companies granted each other exclusive licenses under their patents for their respective territories, excluding even the licensor from the licensee's territory. Each agreed not to ship into the other's territory and to prevent its licensees from shipping their finished products into the other's territory if it would interfere with the other party's sales. Any sublicensee was required to be governed by the same restrictions as the parties imposed upon themselves. The parties agreed to exchange know-how and also to permit visits of representatives to their respective plants. Each party undertook to secure from its employees assignment of any and all inventions developed by them. In acquiring rights to inventions from third parties, each agreed to secure rights for all countries within the territory of the other party.

Following the execution of the 1920 agreement, the parties operated under it until 1927.

Jebsen, having Europe as part of his territory, set up a selling company in France. This was originally intended to become a

manufacturing company also, but this idea was never carried out. National Lead acquired a majority interest in this company in 1927. At the same time it acquired 87% interest in Titan Co. A/S, the Norwegian company, Jebsen retaining the remaining 13%.

Also in 1927 National Lead and Jebsen formed a new company in Germany in conjunction with I. G. Farben. This company, Titangesellschaft, G.m.b.H., was organized as part of a series of transactions including the execution of nine separate contracts. Titangesellschaft was given as its exclusive territory for manufacture and sale of titanium compounds the following countries: Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Serbia, Jugoslavia, Bulgaria, Greece, Turkey, Japan, China and Spain. In 1933 Titangesellschaft eliminated potential competition on the part of the Sachtleben Company in Germany by the simple expedient of paying it a large sum of money for its agreement to stay out of the titanium business.

In 1929, National Lead and Jebsen organized in Delaware a company called Titan Co., Inc., for the purpose of holding their foreign interests. Titan Co., Inc., succeeded to the position of Titan Co. A/S (the Norwegian firm) under the basic agreement of 1920. Thus we have National Lead as successor to Titanium Pigment as one party to the basic agreement and Titan Co., Inc., owned 87% by National Lead, as the other party. However, the 1920 agreement continues in existence inasmuch as its territorial and license exchange restrictions form the basis and pattern for all the subsequent agreements. Thus, Titan Co., Inc., became entitled to all territory outside North America except as yielded up by the German agreements and others subsequent to them.

Blumenfeld transferred all his patent rights to a French

company known as Societe de Products Chimiques des Terres Rares. This concern then licensed or sold them to different companies operating in various European countries, the British Empire and United States.

In the United States, the patents were first owned by the Commercial Pigments Corporation which sold them in 1931 to the Krebs Pigment and Color Corporation. At that time, duPont owned 70% of the stock of Krebs. It subsequently acquired 100% and now operates it as the Krebs Division of duPont. National Lead entered upon negotiations with duPont looking toward an agreement which would allow the two companies to maintain a monopoly of the titanium business in this country and eliminate competition between them. I. G. Farben insisted that in any such agreement duPont must obligate itself not to compete or allow its sublicensees to compete in I. G. Farben's territory, i.e., the world outside the Western Hemisphere. When a proposed form of agreement was submitted to I. G. Farben for approval, it objected because the license given by duPont for foreign territory was a "non-exclusive license." A National Lead official reassured I. G. Farben on this score in the following language, quoted from a letter written in 1933:

"In regard to the phrase 'non-exclusive license' to which you call our attention . . . we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive licenses between two manufacturers in the United States as such a practice would tend to create a monopoly. Therefore, the use of this phrase 'non-exclusive license' is simply to comply with the United States Laws and in practice the licenses under each other's patents will undoubtedly prove to be, to all intents and purposes, exclusive."

I. G. Farben's objections having been met and other difficulties overcome, Titanium Pigments Co., Inc., and Krebs Pig-

ment and Color Corporation, subsidiaries of National Lead and duPont, respectively, entered into an agreement dated January 1, 1933. It provided for a mutual grant of irrevocable and "non-exclusive rights" and a license within the United States to use all processes, methods and apparatus of manufacture including present and future processes and patents. It also provided that each party might sell the products resulting from the exercise of the processes in the United States, Central and South America. The territorial division of the basic agreement of 1920 was thus preserved.

The agreement also provided for the exchange of the most detailed information with respect to technical developments and know-how "to the end that all the knowledge and experience of each party in the licensed field shall be at the full disposal of the other." This provision caused some little difficulty between the parties. About 1937 I. G. Farben developed a new titanium pigment (rutile) of exceptionally fine quality which gave a great competitive advantage. It passed the information concerning it to National Lead. The latter failed to inform duPont of this development and when duPont later discovered that such had been the case, it charged National Lead with violation of its agreement. The net result was an amendment in 1941 of their agreement with the elimination of the exchange of information provision. Actually, duPont itself developed a similar rutile pigment and started production of it while National Lead was still guarding the secret it had received from I. G. Farben without producing the pigment.

The 1933 agreement further provided that each party was to pay a royalty to the other on the basis of titanium dioxide produced and packed by it. DuPont was to pay National Lead a royalty of $2\frac{1}{2}\%$ based on the average published carload price and National was to pay Krebs (duPont) 1% on a similar basis.

It was provided, however, that in no event was royalty to either party to exceed \$10,000 in any given year and all royalties were to cease as of December 31, 1936. The parties undertook to use their best efforts to acquire the rights for each other from third parties and duPont further agreed to offer licenses to the foreign associates of National Lead for the various countries of the world. This virtually was a commitment by duPont to give National Lead's foreign subsidiaries a preference in granting licenses.

Following the execution of the duPont-National Lead Agreement in 1933, duPont entered into a series of four contracts with Titan Company, Inc. By these agreements, duPont agreed to turn over all its foreign patents to the various foreign associates of Titan Company, Inc. The result was a virtual consolidation of all the important titanium interests throughout the world. All commercially useful patents were under the control of the parties involved. Future control was assured by the various provisions of the agreements requiring the continuing exchange of licenses and patents to the practical exclusion of all would-be competitors.

At the time of the formation of Titangesellschaft, it was the intention of the National Lead-I. G. groups to extend their facilities into any country if and when it seemed necessary. From time to time beginning in 1933 the National-Titan-I. G. group because of threatened competition in one country after another was forced to take action to control the various competitive forces. This happened in Great Britain, Canada and Japan.

As early as 1930 the British Chemical Trust, Imperial Chemical Industries, Ltd., evidenced a desire to engage in the titanium business and in fact carried on considerable research work in that connection. This came to the attention of the National

Lead-Titan group and prompted them to take action to control the development in the British Empire. At that time, the Blumenfeld British patents were owned by National Titanium Pigments Co., Ltd. It was feared by the National Lead-Titan group that National Titanium Pigments, I. C. I. and Imperial Smelting Corporation would undertake a joint enterprise and thus offer formidable competition in that territory. After considerable negotiation, a jointly owned corporation, British Titan Products Ltd., was formed. The stock was owned 49% by Titan Co., Inc., and 51% by I. C. I., Imperial Smelting and Goodlass Wall Lead Industries, Ltd., in equal shares. In conjunction with the formation of the new corporation, the participating companies executed a series of agreements, the purpose and result of which was to divide territory and avoid competition among the various companies. The principal contract between Titan Co., Inc., and British Titan Products was to extend to 1963 and to continue in force thereafter until cancelled by either party upon twelve months' notice. It is still in effect. The Blumenfeld patents had been acquired by the British Laporte Co. and negotiations between Laporte and British Titan Products were carried on in 1940 and 1941. In August 1941 an agreement in principle was arrived at. This provided that Laporte was to receive 20% of the British market for the duration of the war. British Titan Products tried to make it for a longer period and stated its willingness to concede a larger proportion of the market, but Laporte refused. Jebson, now as an officer of a National Lead subsidiary, gave his approval to this agreement and stated that he was quite satisfied that it was only for the duration because he felt that British Titan Products would be much better off after the war as a result of the developments which they would get from National Lead. He felt that they

could use these developments to advantage in dealing with Laporte in postwar negotiations.

The most important chemical company in Canada is Canadian Industries, Ltd. (C. I. L.), most of the stock of which is owned by duPont and I. C. I. Under the basic agreement of 1920 Canada was within the territory assigned to National Lead and it supplied most of the Canadian market until the early thirties when British Titan Products was allowed to ship into Canada on a preferential basis. The British Laporte Company was also shipping into the Canadian market. Although it held the Canadian Blumenfeld patents, it did not undertake to manufacture in that country. DuPont also was exporting to Canadian buyers and for a number of years the various companies participated in price stabilizing agreements.

In 1937 National Lead and C. I. L. organized Canadian Titanium Pigments, Ltd. (51% C. I. L.—49% National Lead) for the manufacture and sale of titanium in the Canadian market. At the same time, they purchased the Blumenfeld Canadian patents from Laporte. A series of contracts executed by National Lead, C. I. L. and Canadian Titanium Pigments contain the usual provisions for division of territory, licensing of patents, control of shipment of manufactured products, exchange of know-how, etc. The principal contract extends until 1967. National Lead continues to sell Canadian Titanium Pigments all its requirements for the Canadian market. However, it is obligated to cease all exports to Canada as soon as Canadian Titanium Pigments builds a factory which is scheduled for erection immediately after the war.

The only remaining country of any commercial consequence was Japan. By virtue of the European cartel agreements, the Japanese market had been assigned to the Titangesellschaft and to the Blumenfeld French company in the ratio of 70-30. The

Titan Co., Inc., owning 50% of Titangesellschaft, profited by this arrangement. From the time of the execution of these agreements until 1937, the Japanese market was supplied with products manufactured in Germany. From time to time, however, there were indications of independent competition which finally became so threatening to their control that the National Lead-I. G. Farben interests thought it necessary to undertake development of a domestic manufacturing plant in Japan.

After considerable negotiation and the overcoming of many difficulties, the various interested companies executed a series of seven contracts providing for the formation of a new company known as Titan Kogyo Kabushiki Kaisha. The participating companies were National Lead and I. G. Farben operating through their jointly owned subsidiary, Titangesellschaft, Blumenfeld's French company, and a Japanese chemical company, the Kokusan Kogyo Kabushiki Kaisha. Neither National Lead nor Blumenfeld had any direct contact with the operations of the Japanese company inasmuch as all matters were handled through I. G. Farben by its Japanese representative, Doitsu Senryo Gomei Kaisha. By virtue of the executed contracts, Kokusan was given 50% of the stock of Titan Kogyo. Titan Co., Inc. (representing National Lead's interests) received 17½%; I. G. Farben, 17½% and Blumenfeld's French company, 15%. Because of restrictions of the German government, I. G. Farben was unable to supply capital necessary to subscribe for its share of the stock. Consequently, Titan Co., Inc., subscribed for I. G. Farben's share and gave the latter an option to purchase these shares at any subsequent time.

Because of German participation in the Japanese Titanium Company, the British Government refused to permit titanium from Travancore, India, to be exported to Japan in the fall and winter of 1940-41. Titanium was badly needed in Japan and

the Japanese government had not permitted any titanium pigments to be exported for a long time. Knowing this and in spite of the fact that the situation in this country was very serious because of disruption of shipping and inadequacy of domestic supplies, nevertheless Titanium Pigment (National Lead) shipped 700 tons to Titan Kogyo Kaisha, Ltd. on March 9, 1941, thus aiding the Japanese to evade the embargo which the British had with good cause placed on sale to Japan. In a letter dated April 3, 1941, the manager of Titanium Pigments wrote to the Japanese company:

“Even at the time we made shipment to you of 700 tons on March 9th, the situation was so serious that we should have much preferred not to have released even this quantity, but in view of the fact that we had promised it to you early last fall, we felt that we should not withdraw our offer. Incidentally, at the time we made this shipment to you in March, the replacement value of that ore was more than double the price at which we invoiced it to you.”

The extent to which one member of a cartel will go in protecting the interests of a foreign partner and incidentally in attempting to safeguard its own monopoly position is indicated by the following letter and resolution. The letter dated December 11, 1939, is from the manager of National Lead's Patent Department to the General Manager of the Titanium Division.

“Confirming our recent conversations, regarding exchange of title to patents, I beg to review the situation for you.

“On September 7th I wrote Dr. Jebsen, pointing out that in view of the war certain questions arose affecting the United States patents which stand in the name of Titangesellschaft and the I. G. Farbenindustrie under which we enjoy an exclusive license. We suggested to Dr. Jebsen that it might be desirable

to assign to National Lead Company, in trust, the patents of the I. G. Farbenindustrie and Titangesellschaft against the possibility of the United States entering the war and taking over these patents. *The suggestion was primarily designed to protect the patent property of the I. G. Farbenindustrie and Titangesellschaft and at the same time would have protected our exclusive license by insuring that no one else could have petitioned the government to secure licenses under them.* On December 7th I received the following cable from Dr. Jepsen:

“YOUR LETTER SEPTEMBER 7 STOP SUBJECT LEADCOS AND TITANINCS APPROVAL HAVE AGREED ASSIGNMENT TG PATENTS AND APPLICATIONS COUNTRIES OUTSIDE TG TERRITORY TO TITANINC AND ASSIGNMENT LEADCOS AND TITANINCS PATENTS AND APPLICATIONS COUNTRIES WITHIN TG TERRITORY TO TG STOP ASSIGNMENT PATENTS BRITISH EMPIRE FRANCE MUST BE POSTPONED DUE WAR SITUATION STOP PATENTS AND APPLICATIONS OF IG CANNOT BE INCLUDED PRESENTLY BUT QUESTION WILL BE STUDIED STOP PLEASE CABLE APPROVAL STOP GERMAN PATENTS 571387 AND 588230 AND 604311 ARE IN LEADCOS CZECHOSLOVAKIAN PATENT 39354 IN TITANIUM PIGMENT CO INCORPORATEDS NAME ALL OTHER PATENTS TG TERRITORY IN TITANINCS NAME STOP CABLE TITANINC BOARDS AUTHORISATION I ASSIGN TITANINCS PATENTS AND APPLICATIONS TO TG AS ABOVE OUTLINED STOP SUGGEST FORMAL RESOLUTION BE MADE GENERAL REGARDING ASSIGNMENT AND MAILED STOP PLEASE ACKNOWLEDGE CABLE UPON RECEIPT—JEBSEN’

“The suggestion here is that Titangesellschaft will assign their United States patents and applications to National Lead Co. and National Lead Co. and Titan Co., Inc., will assign their applications and patents in Germany, and other countries within Titangesellschaft’s territory to Titangesellschaft. . . . Several years ago National Lead Company formally renounced maintenance of any European patents owned by it, putting upon Titan Co., Inc., the obligation to pay all maintenance charges and hence, under the Agreement of 1920, Titan Co., Inc., could have requested formal assignment of these patents. They have not done so in order to save the expense of prepar-

ing the assignments and recording them in the various countries. The question is, therefore, whether Titan Co., Inc., should assign its patents and applications to Titangesellschaft.

“In discussing this matter with you on December 8th, it appeared to us that to assign these patents in Germany to Titangesellschaft might involve some risks for the future. For instance, if the Germans owned all the patents now held in Germany by Titan Co., Inc., and if, as a result of the war they were forced by their government, or through other circumstances, to abrogate the main agreement, they would be free to export their products and, in general, take themselves outside of the titanium family cooperation. I cabled this thought to Dr. Jebsen, soliciting his views. A reply has just been received which reads as follows:

“PROPOSAL MY CABLE DECEMBER 7 IS NOT TGS BUT MINE STOP CONSIDER THIS BEST PRESENT CIRCUMSTANCES TO SECURE LEGAL POSITION ALL AROUND STOP EXACTLY LEGAL POSTWAR POSITION PATENTS OTHERWISE VERY UNCERTAIN STOP PREVENTION IMPORT PARTLY SECURED IN FUTURE BY PATENTS IN RESPECTIVE COUNTRIES BUT WILL BE CHIEFLY SECURED BY ALL COMPANIES SELFISH INTEREST IN COOPERATION BECAUSE OF ADVANTAGES ALREADY REALIZED BY EXPERIENCE.’

“You will see that Dr. Jebsen believes that in view of the war the best possible legal position for each of the members of the family is to hold title to all patents in its territory. He believes that prevention of import and export competition will chiefly be secured in the future through the individual company’s recognition of the advantages to be derived from maintaining the cooperation, having through experience appreciated the value of this cooperation.

“It should be noted in this connection that even if Titan Co., Inc., retained title to the patents in Germany, and should the government force abrogation of the main agreements, particularly with a view to fostering German exports, they will find

means to negate Titan Co., Inc.'s patent rights also. *Should the situation develop where Titangesellschaft is forced, perhaps against its will, to engage in export competition with other members of the titanium family, then, as pointed out by Dr. Jebsen, that competition can be controlled by patents owned by the other members of the family in their particular territories. Therefore, I believe we should approve Dr. Jebsen's proposal.*"

That this plan was put into effect is shown by a resolution adopted by the Board of Directors of Titan Co., Inc., on December 19, 1939:

"Resolved, in furtherance of that certain License Agreement between Titan Co. A/S (predecessor in interest of this corporation) and Titangesellschaft m. b. H., of Leverkusen, Germany, dated October 3/20, 1937, and pursuant to the recommendation of Dr. G. Jebsen, Vice-President of this corporation, the officers of this corporation be and they hereby are authorized and empowered to execute and deliver in its name and behalf appropriate assignments to said Titangesellschaft of all patents and patent applications of this corporation, within the Licensed Field as defined in said Agreement, in countries now embraced within the territory of said Titangesellschaft as defined in said Agreement and subsequent amendments thereto, in consideration of the execution and delivery by said Titangesellschaft to this corporation of appropriate assignments of all patents and patent applications of said Titangesellschaft, within said Licensed Field, in countries embraced within the territory of this corporation as defined in said Agreement and subsequent amendments thereto; and upon the express understanding and condition that such reciprocal assignments shall in no way alter or limit the general intent and operating effect of said Agreement of the several other rights and obligations of the respective parties thereto."

Among the patents so assigned to avoid seizure by the Alien Property Custodian is one covering the new rutile pigment previously mentioned.

In the cable which has just been cited, and the action taken pursuant to it, there is an example of postwar planning which has been all too prevalent in these cartel groups. This is not the only instance in which a German company's United States patents have been taken over by an American cartel partner to avoid seizure by the Alien Property Custodian. The understanding that such assignments shall only operate during the war and that after the war the game shall take up where it left off is of great importance. Government postwar planning should not fail to take into account and deal forcefully with the secret postwar plans of private cartels.

In a system of free enterprise, the superior product which can be produced and sold at the lowest price is able to take the place of competing products inferior in quality or higher in price. Under a cartel system inferior or more expensive products are allowed to hold a share of the market which they would lose on a competitive basis.

This is well illustrated in the case of titanium pigment and an inferior product called lithopone. The latter is a pigment in the manufacture and marketing of which duPont has taken a leading part for many years. Since 1933 National Lead and duPont have maintained identical prices for titanium compounds. There have been changes in market prices on the average of twice a year on all grades of pigments and in every instance the effective date of price change of each party has been the same. With respect to lithopone which is competitive with the calcium sulphate composite pigment, there has been maintained a constant differential. Unless the lithopone were priced below the titanium compound, it could not sell. Therefore, ir-

respective of costs of production the titanium compound has been priced 2 cents a pound above the price of lithopone. An honest technologist who knows that a better product can be made at a profit to undersell an inferior competing product cannot be expected to be happy in a situation which holds back the better and aids the poorer.

One of the worst features of cartel control lies in the overlapping of fields which is found in the case of large companies such as duPont and I. G. Farben. These companies are largely concerned not only with the production of pigments but also many other chemical products.

It is difficult to believe that the public interest has been adequately served by having the most valuable of white pigments subjected to complete control in this country and throughout the world by a cartel. What steps a free technology unfettered by cartel restrictions might have taken one cannot say with certainty. One may be quite sure that when the cartel shackles are broken, titanium will take its rightful place as not only the most important and useful of all pigments but also for a wide variety of other industrial uses.

10

Optical Instruments

How was it possible for Nazi Germany to emerge as a fully armed aggressor nation when she had been so thoroughly disarmed as a result of the Versailles Treaty? What can be done to prevent German technology from being utilized in preparation for another war? I propose in this chapter to discuss a particular cartel situation which sheds much light on the first question and will, I believe, be of value in finding an answer to the second.

There were, of course, many factors which contributed to the failure of the Versailles Treaty to accomplish the permanent peace which was contemplated at the time of its execution. It is my purpose to show herein that there was a definite program to sabotage the effectiveness of the Treaty and that that program was conceived in Germany almost as soon as the peace was made and many years before Hitler came into power. Furthermore, I shall prove, on the basis of documentary evidence, that evasion of the disarmament provisions of the Versailles Treaty was facilitated by a cartel agreement between a German firm and an American corporation. The agreement was between Carl Zeiss of Jena, Germany, and the Bausch and Lomb Optical Company of Rochester, New York.

In March, 1940, Bausch and Lomb and Carl Zeiss were indicted for violation of the antitrust laws. Pleas of *nolo contendere* were made, fines paid and thus trial of the indictment was avoided. A civil complaint and consent decree were filed in July 1940. The investigations in connection with this case revealed the following:

(1) Action was taken in 1921 to nullify the provisions of the Versailles Treaty which prohibited Germany from large scale manufacturing of military equipment.

(2) The parties caused Zeiss patents in this country to be taken out in the name of Bausch and Lomb, thus giving an appearance of American ownership and consequent protection against seizure by an Alien Property Custodian.

(3) Secret United States military information was given by Bausch and Lomb to Germans not only before but after Hitler came into power.

(4) Unknown to the Navy a secret commission to Bausch and Lomb was included in prices paid by the Navy for equipment furnished by Zeiss.

(5) Public declarations were made as to a policy of not selling military equipment to England and France for fear it might be used against this country, when the reason such policy existed was because of the provisions of a secret agreement with a German concern.

(6) Threats of patent infringement were used to frighten competing firms bidding upon military equipment for the United States Army.

(7) The cost to United States users of binoculars was greatly increased by reason of the efforts of Bausch and Lomb to protect itself from competition in that field.

No one factor is of greater importance in the waging of modern mechanized warfare than the precision instruments which

indicate the exact location of a target and permit the accurate aiming of the gun or other device which will throw the projectile. The instruments which come in this category include periscopes, range finders, height finders, boresights, bombsights, telescopes, torpedo directors, gunsights, searchlight lenses and reflectors, as well as others. The glass which is used in making such instruments is of extremely high quality, it being absolutely essential that it be free from striae or streaks, bubbles, cloudiness and other defects which would impair its transparency or refractivity. At the outbreak of the first World War practically all such glass was made in Germany at the Schott glass works at Jena. Moreover, practically all first quality military optical instruments were also made in Germany, at Jena, in the factory of the Carl Zeiss Stiftung. The latter is a foundation created by bequests from Carl Zeiss and Dr. Ernest Abbe for the purpose of perpetuating the instrument business which their research had founded. By the time of the first World War it had grown into a tremendous establishment employing something like 10,000 people and supplying most of the Kaiser's war machine with optical-gunfire control instruments. Its continuance as a large scale producer of war instruments was entirely inconsistent with the aims and provisions of the Versailles Treaty.

Prior to the first World War Bausch and Lomb had been manufacturing military optical goods from glass imported from Germany. This had resulted from an agreement made in 1907. Carl Zeiss had threatened to establish a factory in the United States and sent a representative, Professor Tschopski, to this country in that connection. Apparently frightened by this threat, Bausch and Lomb entered into a series of transactions intended to eliminate any such competition. This was the so-called Optical Triple Alliance. The Fauth Instrument Company of which George Saegmuller was president was absorbed

by Bausch and Lomb, and Saegmuller became vice-president of the latter firm. Carl Zeiss acquired one-fifth of Bausch and Lomb's capital stock and representation on its board of directors. Zeiss abandoned its plan to establish a factory in the United States, and Bausch and Lomb agreed to buy its glass for military optical instruments exclusively from Zeiss. In 1915 Zeiss refused to continue to supply Bausch and Lomb with glass, under their arrangements of 1907, because the Rochester firm had been supplying military instruments to countries which were at war with Germany. The Zeiss interest in Bausch and Lomb was purchased by members of the Bausch and Lomb families. Upon our entrance into the war in 1917 it was found that one of the most badly needed war materials was military optical goods. Neither the glass itself nor the instruments had been produced in this country in adequate quantities prior to the war. The Geophysical Laboratory, the Bureau of Standards, Bausch and Lomb, the Spencer Lens Co., and the Pittsburgh Plate Glass Co., worked strenuously on a program to produce adequate quantities of proper quality optical glass. Between April 1917 and November 1918 over 600,000 pounds of usable optical glass were produced, 65 per cent of it by Bausch and Lomb. Under the stress of war, the manufacture of military optical-gunfire control instruments was increased to the extent necessary to supply the fighting arms of the service.

Confronted with the restrictions imposed by the Versailles Treaty the heads of Carl Zeiss were more than glad to work out, in 1921, a secret agreement with Bausch and Lomb. To summarize this agreement, Zeiss placed its know-how at the disposal of Bausch and Lomb. The latter agreed to pay Zeiss a royalty starting at 7% and gradually diminishing for 25 years on all its military optical business except field glasses. As indicated quite plainly by the third paragraph of the agreement, the

two companies divided up the world insofar as the sale of military optical goods was concerned:

“B. & L. obligate themselves not to sell, directly or indirectly, *Military instruments to countries outside of the United States of America*, and vice versa Carl Zeiss obligate themselves not to sell such instruments, directly or indirectly to the United States unless the parties have come to an agreement regarding the conditions of sale and the respective territories of distribution.”

In the fourth paragraph, Zeiss was given the power to pass upon who should become the heads of the Bausch and Lomb “Military Department.”

“In furtherance of the aims of this agreement B. & L. in Rochester will create a new Department solely responsible to the Board of Directors, which is charged with the independent development of all scientific and technical tasks within the Military scope and the maintenance of connections with Jena. The parties will come to an agreement as regards the heads to be placed in charge of this department.”

In non-military fields the parties, while competing, were to give due regard to each other's interests. In the military field they agreed to full exchange of know-how and to rights under inventions acquired by them. The eighth paragraph anticipated the possibility of a conflict between the obligations to each other under the agreement and those owing to the nation: “The mutual obligation regarding the exchange of Military designs shall be void whenever the highest home Government of one party expressly demands that they be kept in confidence in the interest of the nation.”

As will be shown, Zeiss subsequently demonstrated a very keen awareness of the privilege thus accorded it to obey Hitler's edicts and to keep its know-how in Germany. Bausch and Lomb on the other hand on more than one occasion weighed the de-

mand for secrecy by our Army and Navy against the obligation to keep Zeiss informed and decided in favor of the latter. Both parties were fully aware of the fact that such an agreement had to be kept secret. It was intended to give Zeiss a new lease on life and actually made it possible for that concern to continue its existence in spite of the disarming of Germany and its war partners. The contract bluntly stated: "The contracting parties agree to keep the foregoing agreement in strict confidence as regards a third party and to guard silence concerning this agreement also with their own employees as far as this may be practical under the circumstances."

In contending that the contract was not secret, Bausch and Lomb states: "The original contract was shown to the U. S. Naval Observer in Berlin within a month of its execution, and through him the Bureau of Naval Intelligence and the Bureau of Ordnance were informed." As a matter of fact it seems clear that what was shown to our Naval representative in Berlin was not the "original contract" but only a portion of it with a certain other part withheld. The explanation for withholding part was that it related to matters which did not concern the Navy. The Navy representative was told that the Bausch and Lomb connection with Zeiss must be kept strictly confidential to protect Zeiss. The latter was not permitted under the terms of the Versailles Peace Treaty to continue the manufacture of military optical goods. In this connection a letter from George N. Saegmuller to Bausch and Lomb, sent from Jena on May 6, 1921, is of interest (Saegmuller was the vice-president of the firm who had gone to Germany to execute the agreement with Zeiss):

"I hope you rec'd our cable via Frankfurt in regard to the signing of the agreement Apr 29th and also my letter of even date in which I entered into the subject more fully. In that let-

ter I stated that Capt. Bechler, Naval representative of the Am. Commission, telephoned for me to come to Berlin. This I intended to do but upon reflection I thought it best for him to come here as the various instruments in which they are interested are here. He assented to this and was to come yesterday but was taken sick so in place sent his aid, Lieut. Culbert, U. S. N., who was also accompanied by the Military represent. of the Am. Commission. What the Navy wants at once are: [enumerating range-finders, periscopes, sights and other similar instruments].

“For these instruments they are in a hurry and most probably we will have to import the optics from here as it would be impossible for us to produce them in time even with Zeiss opticians. I thought it best to go with Fred to Berlin to see Comdr. Bechler & impress upon him the importance of finding out how many of the various instruments are wanted, so as to receive the optics in time.

“The Navy Department wants to obtain a copy of the agreement as a kind of a guarantee that if they order from us they will really receive Zeiss instruments or rather Zeiss quality. I told Lieut. Culbert that in my opinion there would be no difficulty in giving them a copy of the agreement which relates to military instruments. An entire copy we could not give as it relates to matters which does not concern the Navy; I wrote out what I thought and gave it to Dr. Fischer who will consult with the others; I don't think there will be any trouble on that score. I told both officers that our connection with Zeiss must be kept strictly confidential, chiefly on acc't of Zeiss; this they understand.”

The reason it was necessary to keep the agreement secret is quite obvious but it need not be left to inference. On Dec. 27, 1930, Bausch and Lomb wrote to Interflash Signal Corporation

of New York in reply to an inquiry concerning a range finder for the Grecian Navy Department. The letter contains this language:

“Our activities in the military line of instruments in general are concentrated in supplying the requirements of our own Government. While we have occasionally supplied foreign Governments with a few of these instruments, this has only been by chance as far as our facilities have permitted. We appreciate very much the offer of Admiral Dedes to become our special representative, but under the circumstances above stated we are unfortunately not in a position to accept this offer. We would suggest that he communicate with our friends, the Nederlandsche Instrumenten Compagnie, Den Haag, Holland, who manufacture the military line of optical instruments formerly made by Messrs. Carl Zeiss of Jena, Germany, *the latter not being permitted under the terms of the Peace Treaty to continue the manufacture of these products. . . .*”

On October 20, 1926, Bausch and Lomb wrote a letter to one of its representatives in the New York City office. J. A. Scheick of that office had quoted a price on two range finders to a New York firm which intended to ship them to Laredo, Texas for the ultimate use of the War Department of Mexico. The letter states:

“We have, on previous occasions, explained to Mr. Scheick that we must know the customer for whom this Military equipment is ultimately intended and we have also withdrawn our previous quotations stating that by reason of the limited supply of instruments on hand, it would be best to refer all such inquiries first to us, to find out whether or not we can take care of such an order. *The real reason, as you are aware, is our agreement with Zeiss, which, of course, we cannot explain to Mr. Scheick, as we are not only required to keep the nature of*

the agreement confidential, but the very existence of such an agreement. As you are probably aware, this prevents us from making sales in the Military line, directly or indirectly, outside of the United States, unless by previous agreement with Zeiss on the price question; the price agreed to by Zeiss will be higher than their direct quotation. Obviously, we cannot accept the inclosed order intended for the War Department of Mexico.”

The 1921 agreement was to run for 20 years with Bausch and Lomb obligated to continue to pay royalties for 25 years on all its military business whether based on Zeiss patents or not.

To carry out its agreement with Bausch and Lomb, Zeiss used the device of a corporation organized in Holland called N. V. Nederlandsche Instrumenten Compagnie—or Nedinsco, for short. It is a wholly owned subsidiary of Zeiss with its principal office at The Hague and its plant at Venlo, a town on the German border. Thus, in the years which passed before Hitler came into power in the face of the disarmament provisions of the Versailles Treaty, Carl Zeiss was enabled to continue in the production of military optical equipment by merely moving its plant across the border. It was assured of and received royalties from all sales of such equipment in the United States by Bausch and Lomb, and assured of and received for Nedinsco freedom from competition in all the rest of the world so far as Bausch and Lomb was concerned. The survival of Carl Zeiss and its ability to provide at Jena one of the most important cogs in the Hitler war machine is clearly understandable and is in large part the result of the secret agreement of 1921.

The following paragraphs from a letter from Bausch and Lomb to Zeiss dated February 10, 1939, substantiates this statement:

“We are uncertain whether your reference to the more dis-

tant past is intended to cover the period between 1907 and 1915, during which time we freely admit that you were of assistance to us in the establishment of our military department, or to the period following the resumption of our cooperative endeavor after the World War.

“On the assumption that you are referring to the earlier period, we believe that you were completely compensated by the dividends which you received on the stock held in our company and by the appreciation in the value of this stock which you realized at the time of its sale.

“If, on the other hand, you are referring to the later period, *we believe that inasmuch as the arrangement made accomplished the primary objective of keeping your scientific staff intact at a time when you could not manufacture war materials, you were adequately compensated, particularly in view of the fact that, as you then knew, our Government was at that time very little interested in the development of, and made but very small appropriations for, fire control apparatus. In other words, we believe that the development work which you did during this period was primarily for your own benefit and not of great value to us here.*”

Here we see quite clearly how an American company aided a German company avoid both the spirit and the letter of the Versailles Treaty. Although Germany was prohibited from manufacturing and exporting military equipment, Bausch and Lomb “accomplished the primary objective of keeping your scientific staff intact at a time when you [Zeiss] could not manufacture war materials.” In response to the letter just quoted, Zeiss replied on July 22, 1939:

“*In reference to 2.* In the reference to our letter of January 3, 1939, page 2, to a more remote time, that is, the time further back than 5 years, we have had reference to the first decade of

the operation of the agreement as it now exists. Your assumption that during that time the development work done for you was above all to our advantage and had served the purpose of maintaining our design force is absolutely misjudged. *We had at no time the intention to allow our experience and knowledge of the military business to rest but have, as you know, established the Nedinsco branch for the express purpose so as to keep our place in the world market.* If the Nedinsco was a successful competitor where high grade equipment of our sphere of activities was in demand, this success is due to the work and efforts of our scientific staff and technicians who building on experiences before and during the war have explored all kinds of military spheres for our designs. The fruits of this successful, constructive labor has of course been reaped in general by Nedinsco. Surely we could not have continued the development work of even a small part of these activities from the small royalties received from you. From this follows definitely that you were the one who profited, without merit of your own, from the advantages of our complex and expensive development work, and that you unfortunately, notwithstanding repeated urging on our part, did not sufficiently make use of the given possibilities, a fact with which we found fault repeatedly verbally and in writing."

The sentence which I have italicized is a positive statement by Zeiss of its utter disregard of the conditions imposed by the Peace Treaty.

On June 27, 1925 a supplemental agreement was made which slightly changed the royalty provisions of the 1921 agreement. The division of world territory remained as before, except that the parties undertook to protect each other in bidding on government contracts by overbidding.

Subsequently on October 28, 1925, a further supplemental

agreement was signed by Zeiss at Jena and on December 11 by Bausch and Lomb at Rochester. After repeating the provisions of the supplemental agreement of June 27, 1925, it added:

“In case the inquiries referred to in paragraph 2 and 3 should not come to Bausch & Lomb from a Government, but exceptionally from a commercial house of a country outside of the United States, the firm of Bausch & Lomb is to communicate immediately with the firm of Nedinsco, and, depending on the situation at Nedinsco, either to make the protective offer named to her by the latter firm, or to decline the inquiry under pretense. The information in question will be given to the firm of Bausch & Lomb by the firm of Nedinsco.”

The second supplemental agreement also contained the following provision:

“If the firm of Bausch & Lomb is furnishing to American shipyards, optical instruments as equipment for a ship of a country outside of the United States, all instruments in which the ideas of construction of the firm of Carl Zeiss have been used, shall, besides the trade name of Bausch & Lomb, be engraved with the designation, “System Nedinsco-Zeiss.” Instruments according to the construction of Bausch & Lomb shall bear only their name. On instruments furnished by Nedinsco the name of Nedinsco will appear next to the name of Bausch & Lomb.”

Thus, as early as 1925 there is evidence of the determination to place the Zeiss name back in the consciousness of the world. One more step was thereby taken to nullify the effect of the Versailles Treaty and to reestablish Germany in her place in the sun.

In 1926 Bausch and Lomb caused the 1921 agreement and its supplements to be modified because its counsel declared them to be wholly invalid as violating the antitrust laws. In place

of the division of territory provision in the third paragraph, as quoted previously, the following language was inserted: "The license hereby granted is exclusive, the firm of Carl Zeiss agrees that it will grant no license to another American manufacturer."

This was a change in the language of the agreement to give an appearance of legality. Actually, after 1926, as well as before, the parties maintained a definite and illegal division of territory. The following sentences from a memorandum of Edward Bausch, dated January 27, 1927, show that no change in the actual relationship took place in the previous year: "It is my understanding, in accordance with the opinion of Carl Lomb, that we are not to bid on any military instruments for use anywhere outside of the U. S. The agreement is that if such inquiries come to us we are to refer them to Zeiss."

Paragraph 9 of the 1921 agreement, quoted above, providing for strict secrecy as to the agreement was dropped out as being (in 1926) unwise and unnecessary. In its place was inserted an innocuous provision that neither party has any claims against the other arising from previous agreements. This agreement of 1926, along with the early agreements which it purported to supersede was declared in violation of the antitrust laws by the decree entered by the court on July 9, 1940.

The 1921 agreement and also those which were subsequently executed contemplated an exchange of information and experience between the parties. This included the right of each party to send confidential representatives to the workshops of the other. Bausch and Lomb was more than anxious to have Zeiss employees visit its plant and its only complaint in connection with the visit of one such employee was that he had not been of great help to Bausch and Lomb while in this country. When Hitler came into power the American company found the door to the Zeiss designing rooms closed to it.

In a memorandum of April 19, 1938 Carl L. Bausch, Vice President of Bausch and Lomb, quoted paragraph VII of the contract providing for exchange of experience and access to the workshop and then stated: "In 1934, although they allowed me to go through their plant at Venlo, I could see none of the work that was being done at Jena, although all the design, part work and optical work was being done there at that time." In the same memorandum Mr. Bausch stated:

"My contention is that over the past five years we have paid out \$139,000 without receiving any benefit from it except for the fact that our contract might have kept Zeiss out of this market. I doubt very much whether our government would have purchased any Zeiss range finders, even if Zeiss was allowed to solicit business."

In a letter from Carl Zeiss to Bausch and Lomb dated January 3, 1939 referring to the period of the past five years, i.e., since Hitler came into power, Zeiss said: "It certainly cannot be denied that we have been restricted in many respects in the execution of the agreement out of national interests particularly as far as visiting our plant is concerned."

In the matter of knowing what Zeiss was building for Hitler, of course, there was no passing of information to Bausch and Lomb. On the other hand, Zeiss was kept informed at least until well into the Hitler regime as to what was being ordered by our military departments. This was done not by sending the information directly to Zeiss but through Bausch and Lomb's German representative. August Lomb of Bausch and Lomb G.m.b.H. Frankfurt-on-the-Main acted as the conduit for the information. On July 9, 1929 Bausch and Lomb wrote to August Lomb as follows:

"We are appending our report which will bring the Military transactions up to date.

"We have nothing further to say at this time than what has already been stated in our report as regards the confidential nature of this information. Heretofore, the Government has merely been insistent that none of the details as regards the design of these instruments be made public, but lately it seems as if the quantities, prices, etc., and the amount of equipment purchased, etc., are also considered secret. *Obviously, our agreement with Messrs. Carl Zeiss cannot work satisfactorily unless, at least the latter information, becomes common knowledge to both parties, but some arrangement must be made whereby we are assured this information will be kept in strictest confidence.*"

The accompanying report is headed "Statement of Military Department to Mr. August Lomb, For the Months of April, May and June 1929." It gave the number of antiaircraft range finders, 26½ ft. range finders, periscopes, telescopes, and bomb-sights which it had delivered and discussed the items for which other bidders had been successful. Near the end of the report was this paragraph:

"It will be noted from the foregoing statements that not much information can be further obtained regarding competitive prices. While these bids are supposed to be public, it has lately become the practice to withhold the information from the public. Every letter and envelope from the Government is marked 'Confidential' and we are held accountable that the information will not become public, and that it will be treated in strictest confidence."

On December 20, 1932, Bausch and Lomb sent August Lomb a letter marked Military Department 8430 and enclosed a pamphlet dealing with submarine periscopes which he was to give to Zeiss and make sure that it was returned to him and by him to Bausch and Lomb. On the following day Bausch and Lomb wrote Zeiss this letter:

"We confirm having written you the letter stated in the above reference. The pamphlet referred to in it has been sent to Mr. August Lomb, via registered mail.

"It occurs to us that we were not sufficiently specific regarding the caution that must be exercised for our protection in keeping the loan of this pamphlet a secret, and particularly as regards the inspector. If any question should arise with regard to the pamphlet which you are preparing, *please do not admit to any one that this has been prepared analagous to our copy.*

"By reason of the great importance which we attach to the secrecy of this question, the copy has been sent via our Frankfurt office, and please make sure that after it has served its purpose it is again safely returned to our Mr. August Lomb."

The year 1933 — the year Hitler became Chancellor — brought a greatly enlivened interest on the part of Zeiss in the military secrets of our country. The following is a translation of a letter from Nedinsco to Bausch and Lomb dated April 7, 1933:

"Your last monthly report has given cause to the consideration that we surely would be better in a position to assist you *if you would report to us what kinds of instruments are under trial and in use by your military service.* There must be a great many questions regarding instruments for airplanes, tanks, and ships which demand special optical instruments.

"We would ask that you intensively *find out at the proper places and that you communicate to us the different problems,* so that we are placed in a position to name you the necessary instruments which we also make new to satisfy the actual demands.

"We believe that thereby the business could be enlivened and also work could be created for you as well as us."

A month later on May 11, 1933 Nedinsco again wrote to Bausch and Lomb as follows:

"We find, much to our regret, that the agreement during the course of the last few years has materialized exclusively in Rangefinders and Periscopes for the Navy and that also in this respect it has lost more and more in intensity, whereas all other instruments for Army and Navy have completely ceased.

"It may be assumed with great probability that the many other kinds of military instruments would find interest in the United States and that there would be a demand for these so that also for these there should be certain business chances.

"Notwithstanding that we transmitted to you information regarding many of our products, you have recently made a demand upon us for our constructive help only to a very limited extent.

"Business possibilities for foreign countries have never been mentioned which may result from American credits to foreign countries or from building contracts of American shipyards, gun factories, etc., and for which you might be considered as subcontractors. *Such business would according to Paragraph 3 of the agreement need a special understanding between us but is not excluded.* In view of the extremely serious economic situation in the world it would seem most urgent in our mutual interest that we endeavor to bring about a more intensive cooperation between us in the frame of our agreement and we therefore ask that you make known your position and make proposals as to how far and in what manner these relations could be furthered and the possibilities of business could be more rationally exploited.

"We would also be thankful for a comprehensive economic report which would enable us to judge conditions."

It can hardly be mere coincidence that these repeated re-

quests for military information came so soon after Hitler's accession to power.

On December 14, 1933 Bausch and Lomb wrote to August Lomb as follows:

"We are sending you herewith our report which unfortunately had to be delayed by reason of the pressure of work which had to be taken care of in this department, due to the sudden activity brought about by the N. R. A.

"By reason of special secrecy clauses of late attached to each bid and contract, these reports, as harmless as they are considering that they have a commercial purpose only, are contrary to these clauses. We cannot very well eliminate them under the existing agreement with Carl Zeiss; however the regulations are so stringent that particular care must be exercised to keep these reports in strictest confidence and they should be kept in a separate file under lock and key.

"We would ask that you be governed accordingly and that you bring these facts to the attention of Messrs. Carl Zeiss."

August Lomb answered this letter on December 29, 1933. The first three paragraphs of his reply were as follows:

"Since writing you December 5th, your letter Nr. 8909 of December 14th was received. It just arrived before the writer went to Jena and could therefore be discussed there.

"Monthly report. That enclosed in your letter Nr. 8909 was therefore transmitted personally, impressing again the necessity of considering this information strictly confidential and secret. This is fully understood by the management as well as their Mil. Department and we were again assured that these reports are locked up and only accessible to a few people who are fully responsible so that you can depend on your instructions being carried out.

"The contents of this report were very pleasing so far as the

important orders are concerned which you were able to secure. It is to be regretted that the thirty-four 11 ft. R.F. were lost, but evidently other firms also have to expect part of the business."

It would no doubt have been very reassuring to our War and Navy Departments to know that these reports were "only accessible to a few people" in Hitler's Germany.

On October 16, 1934 Bausch and Lomb wrote to August Lomb as follows:

"We are very sorry to find that we neglected to send you our report for a considerable length of time. *As you know, we are not free to give you these reports.* This is about the best excuse that we can offer; *the less reports we make the less the chance of any going astray.*

"We shall try to keep you informed more regularly having your assurance that these matters will be treated by you and Carl Zeiss in strictest confidence."

The report of October 16, 1934 entitled "Statement of Military Department to Mr. August H. Lomb" lists the number and kinds of range finders delivered each month and also the total number of various types of instruments, orders for which Bausch and Lomb has booked since their last report. There is also the remark that they lost an order for four 13½ ft. height finders awarded to Keuffel and Esser (another American firm). This report contains the following remarkable statement in connection with designs for submarine periscopes:

"Our design force now consists of thirteen men all occupied on present contracts so that it cannot be assumed that we want to throw the burden of the design work on Carl Zeiss. *As a matter of fact we could not do this under the secrecy clauses of the 'Recovery Act,' but surely we ought to be able to rely on Carl Zeiss for support when and where it is most important.*

We are hopeful that the promise made in letter of October 5 to give us this design by next spring can be considerably improved, in fact that every effort will be made to bring the solution of this problem to a point which will enable us to enter into competition in the next bid."

On October 20, 1936 Bausch and Lomb wrote the following letter to Carl Zeiss:

"With your letter in reference we received from you a new optical layout in the form of your drawing A 33 08 65/Opt. L. No. 2 for the altiperiscopes of 34 foot optical length.

"We recently learned that our Government is now contemplating the use of 40 foot submarine periscopes and that bids for these will soon be submitted for consideration. These periscopes will be built according to the identical specifications as those you have in your possession with the exception that, as already stated, the optical length has been increased from 34 feet to 40 feet and the reduced section has been increased in length as shown on our drawing Mil. 458 sent herewith. Moreover, the inner diameter of the main body tube now measures 6,500 inches diameter for a distance of 11 feet from the eyepiece and while its remaining length has an inner diameter of 6.375 inches as shown on our drawing Mil. 458.

"We would ask that you kindly prepare for us immediately a new optical layout conforming to these changes and that you give us this information at the earliest possible date. As stated this question will soon need our consideration and unless we have the data available by that time we shall have to forego bidding on this new proposition."

August Lomb realized the situation in which Bausch and Lomb was placed in sending written reports of secret military information to Germany. In a letter of July 9, 1937 to Bausch and Lomb he made this very helpful suggestion:

“Prior to the years 1935 and 1936 Zeiss have always received a list of numbers, kinds and prices of the instruments furnished during one year when the commission statement for the respective year was rendered. *Since 1935 such a statement was not received, probably because you did not want to furnish any such data in accordance with your letter Nr. 9383 of October 16th, 1934. Zeiss, however, would be satisfied with very brief and condensed information, for instance Range Finders abbreviated to R.F. etc., if possible.*

“Of course you will have to consider this with the Executive Office and may let us know occasionally whether feasible or not.”

In a letter of March 24, 1939—the week after Hitler invaded Czechoslovakia—Carl Zeiss made this demand upon Bausch and Lomb:

“For this purpose it is *absolutely necessary*, and that is why we ask you for it, *that you supply us*, before we arrive at our final decision, with a *precise statement of those patents of ours which you use in your manufacturing processes, designating at the same time those instruments in whose manufacture these patents are used, also indicating the turnover you have had in these instruments during the last two business years, and the volume of orders which you have at present on hand for such instruments.*

“We take it for granted that your Administrative Division can make up such a statement without trouble and loss of time so that we *may expect it within a month at the latest.*”

Instead of the detailed reports which had formerly been sent, Bausch and Lomb complied with this demand by giving a statement of the aggregate amount of sales of instruments covered by Zeiss patents in 1937 and in 1938, designating the patents. They stated they had orders for future delivery of

instruments covered by Zeiss patents totaling approximately \$1,000,000 and giving the patent numbers.

From the foregoing quotations it seems rather clear that Bausch and Lomb put their own interpretation—and a strange one—upon their obligation to keep military information secret and confidential.

The supplemental agreement of June 27, 1925 contained the following provision:

“In the case of inquiries, received by Bausch & Lomb from authorities outside of the United States of America, by Carl Zeiss from the authorities of the United States, one party informs the other of the inquiry and is obligated to make the protective offer named by the other party. The increase of the protective offer over the normal price for the corresponding quantity of instruments in question shall not be higher than 20%. Both parties are obligated to treat such inquiries as promptly as possible. If the party, that has made the protective offer should, nevertheless, receive the order, it is obligated to cede in full to the other firm the excess price representing the protection. The firm of Bausch & Lomb besides, has to pay to the firm of Zeiss the royalty on the normal price according to paragraph 2, in case Bausch & Lomb is awarded the order.”

This arrangement served the purpose of making a governmental authority—United States or some other—believe that bona fide bids were being made in response to requests. Such collusive bidding is a fraud upon the government and while a similar provision was included in the supplemental agreement of October 28, 1925, it was omitted from the agreement of 1926. And yet in 1932 there is evidence of willingness on the part of Bausch and Lomb to be less than forthright in dealing with the Navy Department. The following excerpt is

from a letter from Bausch and Lomb to Carl Zeiss dated February 24, 1932:

"From the copy of the above contract which we have sent you with our other letter of today, Mil. Dept. 8077, you will take notice that the contract provides that customs entry will be taken care of by the Government. *In view of this, and in order not to divulge to the Navy Department that we earn a commission of 10% on this transaction, it will be necessary that the consular invoices and export declarations which you will have to make out be higher in this particular case than your net invoice prices to us. Your shipping papers, consular invoices, and export declarations, etc., accordingly should state the following prices, f.o.b. Venlo:*

<i>Item</i>	<i>Unit</i>	<i>Total</i>
1 —The unit price to be declared by you will be	\$7,400	\$14,800.00
1a—The unit price to be declared by you will be	470	470.00
2 —The unit price to be declared by you will be	6,780	20,340.00
(Note: The repeater motor is here included)		
2a—The unit price to be declared by you will be	470	940.00

"The difference between the above prices and those stipulated in the official contract are satisfactorily explained by shipping expenses, etc.

"It goes without saying that you will bill us for these periscopes in accordance with your letter of December 29, 1931 (N XIII/6661), less 10% commission."

The provisions of the 1921 and 1925 agreements prevented

Bausch and Lomb from selling to any purchaser outside the United States unless such sale was approved by Zeiss. That the omission of this provision from the agreement of 1926 did not mean a change in policy is clearly shown by the following memoranda exchanged by two Bausch and Lomb officials:

“From: Mr. M. H. Eisenhart Date: Jan. 11, 1927.

“To: Mr. Edw. Bausch.

“I have read the following paragraph in August Lomb’s letter of December 20, 1926:

“‘We note that you have decided to give up all military work in connection with foreign countries, thus doing away with the supplementary agreement of October 28th, 1925. Its second paragraph on page 2 treats of instruments which you might be called to supply for foreign vessels built or equipped on American ship yards, as was the case for Argentine. We understand that, as this entire agreement is now canceled, you will renounce to bidding for such instruments hereafter.’

“Is it your understanding from this that in the future we will not bid on any military instruments for use anywhere outside of the United States? As this is a change over our present procedure, I think we want to be sure of the definite understanding.”

* * *

“From: Mr. E. Bausch Reply Date: Jan. 27, 1927.

“To: Mr. M. H. Eisenhart

“It is my understanding, in accordance with the opinion of Carl Lomb, that we are not to bid on any military instruments for use anywhere outside of the U. S. The agreement is that if such inquiries come to us we are to refer them to Zeiss. If, on the other hand, any inquiries come to them which belong to this territory, they are to be referred by them to us. A condition may arise, as has been the case before, where a foreign

government might want to place an order with us, this to be under supervision of Army and Navy officers and the inspection as well. The procedure then would be—I should think—that we defer giving any definite answer until we had submitted the matter, according to agreement, to Zeiss, and await their disposition of it.”

The Edward Bausch who wrote the latter memorandum is the same gentleman who was quoted in the *Literary Digest* of December 12, 1936 in the following item:

“Millions of dollars of foreign Government orders for military optical instruments have been rejected by the Bausch & Lomb Co., of Rochester, New York, because they might conceivably be used against the United States or its interests in another War.

“Proudly last week, vigorous, eighty-two-year-old Dr. Edward Bausch, founder and chairman, declared that to be his company’s settled policy, developed ‘through a close understanding with the Departments of the Army and the Navy of our Government.’ . . .

“Chiefly, Bausch & Lomb’s rejected orders have been offered by England and France, have been for range-finders, periscopes, gun-sights, binoculars, artillery fire-control instruments. Business from those two Governments would have exceeded \$1,500,000. Various smaller nations have also sought to make contracts and have been refused. Self-sufficient Germany, however, has shown no needs.

“*War-Time Seller*—During the World War, encouraged by Washington, Bausch & Lomb made large sales to the Allies, built up an extensive business with Great Britain. Promptly with the reappearance of European war-scares several years ago, however, the policy of no supplies to potential combatants abroad was adopted. ‘They are not prepared for war over

there,' a company officer gravely explained last week, 'and if we refuse to help them prepare, it puts it off just that much.'

In the documents taken from Bausch and Lomb's files there are dozens of letters in which inquiries from foreign buyers of military optical instruments were answered by Bausch and Lomb with an expression of disinterest and a reference to Nedinsco. On March 30, 1938 Bausch and Lomb wrote the British Military Attache in Washington as follows:

"In reply to your letter of March 24, 1938 we wish to inform you that the instruments that we manufacture for the U. S. War Department are 4 meter Stereo Height Finders.

"Unfortunately we have to inform you that we are not in a position to take British Government orders at the present time."

On June 20, 1938 the International Standard Electric Corporation of New York wrote Bausch and Lomb with regard to procuring manufacturing equipment for its English associate, Standard Telephone and Cables, Ltd., to manufacture certain lenses and optical systems from British optical glass. After some conferences and consideration, Bausch and Lomb wrote to International Standard Electric Corporation on July 1, 1938 as follows:

"One of the first steps I took in giving consideration to your proposition which we discussed yesterday was to look into the contractual arrangements to which we are already obligated which I spoke to you about in my conversation.

"Our attorneys tell us that we are absolutely tied up in a way that will prevent our giving you the type of assistance you need to get into the manufacture of optical fire control instruments. My thought was that events over the last few years had changed our foreign relationship in a way that might allow us to work with you, but I am definitely satisfied now that

such is not the case. Because of this situation, there is no need for us to delay you any further in your plan.

"I enjoyed very much your visit here and perhaps at some future occasion I may have the opportunity of meeting you again."

In the October 1940 number of *Fortune Magazine* which contained an article about Bausch and Lomb there was a two-page spread devoted to "The Critical Geography of Industries Essential to U. S. Rearmament." With reference to optical goods, this statement appeared: "After aircraft engines, armor plate, and machine tools this little industry (range finders, aircraft height finders) stands fourth among defense bottlenecks."

There are undoubtedly many factors which contributed to defense bottlenecks. It seems quite certain that the Zeiss-Bausch and Lomb restrictive arrangement has had a substantial part in bringing about this condition. There is no way of ascertaining how many times competitors were intimidated by threats from the combination of the two companies which were the largest in the world. The following quotation is taken from a letter from Bausch and Lomb to Carl Zeiss dated June 12, 1932 and referring to a new order for Height Finders for which the Frankford Arsenal was contemplating asking bids:

"Bids for this new prospective order have not yet been received by us. It is at present our intention after the bids have been received to *wait until a few days before the opening of the bids* and then call the attention of the Keuffel & Esser Company to the fact that we are controlling patent No. 1638190 which prohibits their furnishing the Height Finder in question. *In this manner we hope to be able to make them afraid of touching this business.* You will understand, therefore, how anxious we are to receive your opinion that the arrangement of

four compensator wedges on one side of the Range [sic] Finder infringes your patent.”

The foregoing quotation indicates one of the reasons for the arrangement by which all Zeiss inventions were to be patented in the United States by Bausch and Lomb. There can be little doubt that American patentees of competing military optical instruments would have much more to fear in infringement litigation initiated by the American firm of Bausch and Lomb than would be the case if the real owner of the patents, the German firm of Carl Zeiss, were the patentee. The other reason for this arrangement was the fear that Zeiss-owned patents would again be confiscated by the United States Government as had been done in the first World War. For the two reasons and possibly others it was clearly understood that all Zeiss inventions patented in the United States should result in patents issuing to Bausch and Lomb. What was just as clearly understood was that at the expiration of their contract all these patents were to be reassigned to Zeiss. This was stated in many documents one of which, a letter from Bausch and Lomb to Zeiss, dated January 17, 1936, should suffice to substantiate the point.

“We have given consideration to the suggestions which you have made for further clarification of the interpretations of the existing contract which was the subject of our letter of October 14, 1935. We are, therefore, restating the points covered in that letter, as follows:

[Par. 1 and 2 deals with termination of the contract]

“3. You are to assign to us all unexpired United States patents and all pending applications for United States patents in the military field now standing in your name or the name of any company controlled by you through stock ownership or otherwise, or in the name of any individual in the employ of

your company or any company so controlled by you. You are also to assign to us all applications for patents in the military field which are filed prior to October 31, 1940, on inventions made by any individual or individuals employed by you or any company so controlled by you. You are to file and prosecute such applications and pay all expenses and fees therefor. With respect to such pending and future applications we suggest that you execute the proper assignment and send it to us as soon as you receive the notice of allowance in an application. We will promptly record the assignment in the United States Patent Office and notify you so that you may pay the final fee in due time so as to have the patent issued in our name as assignee. *We shall assign to you or your nominee all your United States patents or pending applications which have been taken out in our name, or caused to be assigned to us under the provisions of said agreement prior to April 30, 1941, reserving to ourselves only the license to manufacture thereunder upon the payment to you of the royalty as agreed under 2 hereinabove.*"

Field glasses or binoculars were expressly excepted from the cartel arrangement between Zeiss and Bausch and Lomb. In 1931 Bausch and Lomb bid \$39.50 each on a United States Navy request for bids on 600 binoculars. Zeiss bid \$26, and this angered Bausch and Lomb to the extent that they brought about a greatly increased tariff rate on imported binoculars. The correspondence between the two firms over a period of years refers to this episode. Edward Bausch of Bausch and Lomb wrote to August H. Lomb in Frankfurt on November 18, 1932. The last two paragraphs of his letter are as follows:

"In all other departments we find the Zeiss competition keen and aggressive. Zeiss have established themselves in this country and have been for years making more and more intensive efforts to get business. As an instance of their efforts we

will cite the circumstance of their having put in a bid for Field Glasses to the government at such ridiculously low prices that we cannot understand how there can be any profit in it for them, but leaves us with a feeling that they are aiming to put us out of competition and acquire the business for themselves.

“Such efforts as they are making in this territory will surely lead to more aggressive action on our part and will certainly lead to anything but friendly feeling, and ultimately, to a more serious situation.”

On February 6, 1934, Zeiss wrote Edward Bausch as follows:

“I received your letter of January 25, and at the same time, a report from our Dr. Bauer about his interview with you and your associates on January 15, 1934 in Rochester. First of all, I wish to thank you for having gone to the trouble to write down the sequence of events, which brought about the change in duty calculation on our prism binoculars, with the result that the duty, which will actually have to be paid, comes very close to doubling the present rate. I expressed myself to Mr. Lomb in a very general way, and had pointed out merely the effect of the change of duty, which was probably caused by your initiative, and I used the expression that the sixty per cent rate had, in reality, been doubled.

“The essential consequence is that quality binoculars—and only those of more than 5x magnification, and of foreign net value of more than \$12—have been affected by this measure. In reality, only Zeiss Binoculars fall under this arrangement, whereas all the cheap French prism binoculars, which are not negligible in quantity, are exempt.

“From your letter, I have noted that the steps taken by you were prompted by our offer and that of Carl Zeiss, New York, of six hundred 6 x 30 prism binoculars at \$26 each, which we made in 1931 to the Navy. I believe that I do not have to

add anything to the explanations which our Dr. Bauer has given you concerning this matter. The thought occurs to me, however, whether it would not have been appropriate, in view of the friendly and long relations between our respective houses, if one of your gentlemen had communicated with our Dr. Bauer and had pointed out the low prices to him in order to bring about a satisfactory solution of the question for the future, and this by means of a friendly understanding. Such an understanding would have been readily possible at the time, for we have always been ready to recognize justified wishes or requests of other houses, especially of those friendly to us.

“I would consider it to our mutual interests if this duty arrangement, which, as I admit frankly, has caused great bitterness on our part, would disappear again. As you know from several negotiations on other matters here and there, we and Dr. Bauer are always ready for a price agreement, which protects your just interests.”

On February 28, 1935, Bausch and Lomb wrote to Dr. Bauer of Carl Zeiss, Inc., New York. The first paragraph of his letter is as follows:

“Although I enjoyed my visit with you last Saturday morning very much, I have not been able to get out of my mind your statement that you have not confidence in the younger generation here in Rochester. Since this is predicated, I believe, entirely upon the binocular situation, I just want to repeat again what I told you in New York, that I believe whatever action we took in regard to the tariff on binoculars was prompted entirely by the fact that you bid a figure on a Navy contract for binoculars which was absolutely out of reason and made it look to us as if you were going to get this binocular business from the United States Navy at any price. When we saw there was no possibility of getting business from our own

Navy at a reasonable figure, we took the only step that was open to us and made a complaint to one of our senators that started a Senate Investigation and finally culminated in an executive order that resulted in changing the method of figuring tariff to the basis of American valuation.”

On March 8, 1935, K. A. Bauer of Carl Zeiss, Inc., wrote Bausch and Lomb. The first three paragraphs of his letter are as follows:

“I thank you for your letter of February 28, referring to our conversation of February 23rd. I wish to correct your impression of my having made the general statement ‘that I have no confidence in the younger generation in Rochester.’ I said: ‘How can we have confidence, that an agreement regarding Contact glasses—if possible at all—will turn out satisfactorily, after the experience we had in the binocular matter?’ I also said that under the management of the older generation, such a thing, as this binocular case turned out to be, would not have been possible. But I do not wish these words to be generalized to the above blunt statement, and I am sorry, if I may not have expressed myself clearly enough.

“Now turning to the binocular matter, you know that I have had conversations with your firm in which I found a certain degree of understanding for the untenability of the present tariff situation and a willingness not to resist a reasonable solution. Due to the political constellation and to tariff negotiations pending in Washington with other countries, the flexible tariff clause is at present petrified and nobody can say, when this may change. In the meantime, importation of highgrade binoculars continues to be impossible. As long as this condition lasts, we shall naturally feel irritated and we cannot but resent the fact that it was brought about by methods which we must condemn. The nature of the tariff action was camouflaged by

the wording of the Senate Resolution, in order to deceive the importers of prism binoculars. We ourselves as well as other importers were deprived of what little right we had under the tariff law to state our side. If you personally have any doubt as to who engineered this whole affair, I suggest that you read the stenographic report of the so-called 'Public Hearing' which took place in Washington on October 18, 1932.

"You say that we quoted on 600 binoculars 6 x 30 such a low price that it was 'out of reason.' Admitted that our price of \$26—was low. Your quotation of \$39.50, however, seems to be exorbitant. It is also true that the quality specified by the Navy was of a higher grade than that of commercial binoculars. But this fact is more than compensated by the large number of 600 glasses involved, which were to be manufactured, shipped and delivered at one time to one party, whose credit is beyond doubt. The large number called for a special low price. Instead you quoted to the U. S. Navy—your best single customer—considerably more than what you asked from a dealer for one single glass. At that time you sold your 6 x 30 model (with central focusing device) at \$66 list, and at \$35.18 and even at \$33 net to the trade; a few months later at even lower prices. If you deduct from these prices an adequate amount for the central focusing device, which the Navy did not require, your net trade price for one single 6 x 30 binocular with individual focusing would have come rather close to our price of \$26. What difference remained might have been cut down further by the quantity factor as explained above. Had your firm quoted as one should have expected, considering all that has been said above, we would have had no chance whatever to get the order under the Budget Law even at a lower price. In our opinion you bid too high, expecting that under the Budget Law you would have the monopoly anyhow."

One recalls the urgent plea which was made about the time of Pearl Harbor for all private citizens to make gifts of their binoculars for use by the armed service. To the extent that a shortage of such material can be traced to the squabbles among cartelists it is a condition which should certainly never be allowed to recur.

One of the most serious problems which will confront our government and the United Nations in connection with the termination of the war with Germany is that of eliminating for the future the German war machine. The relations of Carl Zeiss and Bausch and Lomb show what may be expected when private business concerns are permitted to handle such a problem as though it were a matter of private concern. Surely it is to be hoped that the policy of our government as expressed in the peace which will be made with Germany will not be rendered ineffectual because of the private international policy of certain business concerns. The decree of July 9, 1940, enjoined Bausch and Lomb from further carrying out any of the provisions of its agreements with Carl Zeiss. This alone is not sufficient to insure that the public policy expressed by government action shall not be thwarted by the machinations of private cartels.