A Fifteen Year Study of Essential Oil Production Throughout the World
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Reported by

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FOREWORD

SOME YEARS AGO, Mr. F. E. Watermeyer and Mr. F. H. Leonhardt, now president of Fritzche Brothers, Inc., initiated a long range program of study designed to provide complete, authentic knowledge of the scientific, technical and commercial aspects of essential oil production based upon first-hand investigations of original sources of supply. The background for this work—an investigation of the Grasse floral industry—originated in 1925.

The following report by Dr. Ernest Guenther, through whom this monumental task was accomplished, gives a running account of his work, from the early trial and error period up to the program’s completion in the fall of 1940. It points out the original need of such investigations to the American importer and user of essential oils. It tells of the obstacles encountered and of the effect these difficulties had upon his sponsors who realized now that the only sure means of supplying absolutely pure, fine grade essential oils and floral products for domestic consumption was to provide adequate manufacturing facilities of their own. This they proceeded to do with the establishment of factories, first in France, then in America.

The transition of Fritzche Brothers during this period, from that of reputable, old-established importer and supplier to leading producer of the world’s finest essential oils, is clearly shown to be a logical and highly important sequence in the evolution of these investigations. All in all, Dr. Guenther’s report tells a story imposing in scope and far reaching in its effects and accomplishments.
GENTLEMEN:

On this opening day of our 1940 Annual Sales Convention, it gives me great satisfaction to be able to tell you that a long and difficult task has been brought to its conclusion, a task which filled fifteen years with systematic, patient and intensive research. Field work throughout the world, combined with laboratory work on the vast amount of sample material collected abroad, complete the true story of essential oils in all aspects—scientific, technical and commercial. A great store of knowledge has been gathered during these long years, the gradual application of which will bear the fruit which our achievement deserves. For, indeed, we can claim with a measure of pride that the entire task was never before attempted by anyone in the history of our industry and that Fritzsche Brothers is the only firm to begin and successfully accomplish it.

Of course, we would have been perfectly justified in monopolizing this knowledge to our exclusive profit, but instead we have preferred to publish our findings in numerous authoritative articles in the leading trade papers. These have stirred the interest of wide circles and have benefited the entire essential oil industry as well as allied industries. The information given in these articles is being used increasingly for the revision of the United States Pharmacopoeia and the National Formulary, and the articles are recommended by the United States Department of Agriculture.

Yes, we realized from the outset that a long, tedious and costly educational campaign was required to spread our newly acquired knowledge, and we have carried on this campaign untiringly
during years of travel throughout the United States, through num-

erous lectures and by showing on the screen the actual scenes

associated with each oil.

Fifteen fascinating years of traveling across the seas and con-
tinents, always in quest of essential oils—known oils and new
ones. Their stories were gradually pieced together from the grow-
ing of raw material to the finished oil, as produced in different
sections, at different seasons and according to different methods.

ADVANTAGES OF FIELD SURVEYS

Today, we can talk with authority about essential oils. Innum-
erable genuine samples of the various types made us familiar
with their properties, their permissible limits and their constants
so that today we are in a favored position to differentiate between
pure oils and adulterated oils.

We have also profited from our field investigations in regard
to purchasing. We have established direct connections abroad
with the most reliable and important field producers, in many
cases connections based upon personal friendship—all of which
has advanced our house to a truly favored position. Many work-
ing agreements were concluded with actual producers in foreign
countries whereby we have first choice in regard to their output.

Thus, step by step, our firm developed from the position of
essential oil dealers into one of headquarters for products which
stand unmatched as far as beauty and purity are concerned.
Today, the content of every bottle carrying the Fritzschc label
"Extra Fine" is guaranteed by intimate knowledge of its story
from the plant to the finished oil. It makes little difference
whether the oil has been distilled or extracted in our own fac-
tories or whether it came to us through the cooperation of reli-
able field distillers.

During all our travels for essential oils, we did not neglect
investigating with equal thoroughness the sources, different qual-
ties and suppliers of all the raw materials we need for the dis-
tillation of essential oils in our European or American factories.
This part of our field work proved of extraordinary value in the
second and equally important chapter of Fritzschc Brothers' de-
velopment which started about twelve years ago and is now about
to come to a crowning conclusion.
In 1928, we purchased Les Parfumeries de Seillans in Seillans (Var) which is located in the heart of the flower producing regions of Southern France. Originally intended for the extraction of natural flower oils, the factory soon branched out into the distillation and extraction of plant materials which grow or are cultivated in neighboring sections of Seillans. As the years went on, we installed new apparatus, erected new buildings and finally constructed a very modern, large distillery which is ideally equipped for distilling essential oils from all kinds of plant material imported from tropical countries. The war has somewhat interrupted our plans in Seillans but, fortunately, through the foresight of our president, Mr. F. H. Leonhardt, we had some time ago acquired the factory of the late Dr. Kleber in Clifton, so that it was possible to transfer the extensive manufacturing program of Seillans to the Clifton factory. This flexibility has been of tremendous value to us since the outbreak of the present war which is so profoundly affecting the economic condition of our industry.

Today it is my privilege to tell you the full story of these last fifteen years, of my travels far and wide, of the birth of Seillans and its ascent to the most modern and efficient manufacturing unit of Southern France. A personal story, almost, because I was privileged to carry out not only the field investigations abroad but also the development work in Seillans. May I be permitted on this occasion to express my most sincere and profound gratitude to our leader, Mr. F. H. Leonhardt, for the unique opportunities accorded to me and for his boundless confidence which has always guided and inspired me during many difficult periods. I also want to thank my colleagues in the office and laboratories, as well, for their full-hearted cooperation in giving me every possible aid while far away from the home base. And last, but certainly not least, I want to thank my friends in the sales force, from our Mr. J. H. Montgomery to the youngest cub salesman, for all their help in introducing to the American market the pure oils, for all their courage and enthusiasm in the face of so much resistance. Yes, it is mainly because of your determined endurance that we finally emerged victorious and that our products today enjoy the highest reputation throughout the trade. From the beginning, we held the profound conviction
that we were pursuing almost an ideal, but its realization became possible only through the perfect team work which is characteristic of Fritzsche Brothers and of which we all are so proud.

OUR EARLIEST INVESTIGATIONS

The beginning of our world-wide investigations was quite casual, because no one familiar with the nature of our industry, which is scattered over the entire world, would have deemed it possible that such a survey could ever be undertaken. In 1925, a purely personal trip took me to Europe and within about twenty hours' distance of the flower regions of Southern France. Years before, I had been an assistant to Professor A. Hesse, the foremost authority on natural flower oils, and under the guidance of this eminent scientist, had participated in the investigation of the chemistry of jasmine and other flower oils. For all these years it had been my desire to visit Grasse and witness the actual manufacture of its floral products. Thus, it was an unexpected but nonetheless real pleasure when I arrived in Southern France just during the harvest of jasmine and lavender. Needless to say, our French friends received me with great courtesy and gave me every opportunity to travel through the producing regions of lavender, to witness distillation of lavender oil in large factories and in small field stills and to take samples. Finally we went to Grasse and in one of the factories I was given the opportunity to extract the pure concrete directly from the flowers. Back in New York, these samples were carefully analyzed and the findings submitted to Mr. Watermeyer and Mr. Leonhardt who, quite pleased with the results, decided to send me on another much more elaborate trip to Europe.

Let me pause for a moment to recall that in the United States at that time comparatively little was known about the properties of genuine flower oils, all commercial products being of different quality and no true standard sample being available. We were rather in the dark as to the real nature of genuine flower oils and our knowledge was based primarily upon book learning which we had to accept with little criticism on our part. This condition applied not only to floral products but to quite a number of essential oils as well. Like most oil dealers, we used to analyze incoming samples and compare our findings with the data given in text books on essential oils, especially with those
of the classical work of Gildemeister and Hoffmann. We had to allow for certain variations in the constants of those samples and also in the constants of the shipments because, aside from adulteration, the variations could be attributed to many factors, such as different regions, different seasons of production and different methods of distillation. The picture was frequently confusing because authentic information was extremely difficult to obtain. If the samples or the shipments did meet with the specifications of literature or with those which we ourselves had established during long years of dealing with essential oils, we would then select from among the different samples the one we liked best by odor. However, liking is a vague conception which must not be taken as the final criterion.

**ANOTHER SURVEY—SPAIN**

Mr. Watermeyer and Mr. Leonhardt realized the importance of genuine standard samples and of investigating the various conditions under which the oils could possibly be produced. They were most anxious to undertake a detailed survey of at least the more important essential oils, from the beginning of production to the finished oil. Thus, I set out again the following spring, sailing on a Spanish vessel toward Barcelona. It was my first trip through the Straits of Gibraltar, a trip later repeated dozens of times. Upon landing in Barcelona, having been given absolute leeway by my superiors in regard to the program of my work, I visited the environs of Barcelona where some Spanish essential oils were being produced. One of the producers there, well known at that time, took me to the fields, let me look at a few stills, gave me a lot of paper information and finally sent me off with a large sample case. Arriving in Southern France, I tried to work through the literature and compared the samples, only to find that the gentleman in question had taken me for a great ride. It was, however, an excellent lesson and taught me how not to proceed in future. From then on I conducted all my investigations on a very different basis. I learned not to trust anyone, not to take anyone's word for granted and to carry out all investigations in a very systematic and thorough manner. It was especially important not to believe any one producer, but to see all
of them, or at least as many as possible, and then deduct from
the findings only those facts which conformed. When compiling
the findings at the end of an investigation, it sometimes appeared
that a few questions were still not clear, in which case another
trip to the same regions had to be made, perhaps the following
year, in order to clear up any doubts or misunderstandings.
Thus, the work was carried out for fifteen years, patiently and
systematically covering one country after the other, sometimes
repeating the investigation of the previous year, with the result
that every winter we had new material to work out in our New
York laboratories.

In 1927, I stayed a long time in Europe, mostly in Southern
France. I covered the lavender regions again with my friend,
Pierre Chauvet, and worked in a number of factories in the
Grasse region, supervising the production of jasmine, rose, orange
blossom, mimosa, cassie, violet and a number of the rarer flower
types. Not only did we become intimately familiar with the actual
manufacturing methods but we also carried out experiments
with different solvents and new products so that finally hundreds
of samples were submitted to the New York laboratories. At the
end of 1927, I returned to Spain and penetrated the important
producing regions in the south of Spain, accompanied by one of
the largest producers who, incidentally, became my very best
friend. We traveled through the provinces of Murcia, Granada,
Jaen and so forth and observed at that time the different types
of lavender spike oil, i.e. the Guadalajara, the Quenca and the
Murcia types. A similar study was made with rosemary oil, in
an effort to find out why some rosemary oils are more soluble
than others.

SEILLANS FACTORY ACQUIRED

In the year 1928, Mr. Watermeyer went to Europe and purchased
Les Parfumeries de Seillans, of which my friend, Mr. Pierre
Chauvet, and I became directors. This gave us a new and very
large working field, about which I shall tell you later. But even
despite the great amount of new activities and responsibilities
which the organization of the new factory demanded, the work
on essential oils was carried on continuously.

In the fall of 1928, a visit to Sicily and Calabria offered an
opportunity to study the production of oil of bergamot, oil of lemon, orange and mandarin. That very winter, The American Perfumer published the first of my articles which dealt with the oils covered thus far. The spring of 1929 found me in Bulgaria, working in collaboration with my good friend, Robert Garnier, in his rose oil factory in Kara Sarli. Those days in the Valley of the Roses were fascinating and unforgettable. In this romantic setting, living with the rose distillers, eating their hearty food and making investigations on the various methods of producing rose oil, I remained a few weeks, returning to France for the rest of the summer. I then left for America, where another trip to Southern France and to the Valley of the Roses was approved for the spring of 1930.

DEVELOP NEW PROCESS FOR DISTILLING ROSE OIL

It was at this time that Mr. Garnier and I developed a new process of distilling rose oil which eliminated one of the chief disadvantages of the old method, i.e., too long a contact of the rose petals with large quantities of boiling water. He evolved what we called the “rotary distillation process” and obtained oils which stand unmatched in regard to quality and purity.

From Bulgaria I traveled to Turkey, Greece and then to Egypt where I met for the first time that lovable and venerable veteran of the natural flower industry, Mr. Charles Garnier, father of Robert Garnier and one of the pioneers in our line who had developed the rotary Garnier extractor for the extraction of natural flower oils with volatile solvents. Mr. Charles Garnier gave me every assistance in studying the jasmine oil industry of Egypt and also other flower oils, such as cassie, etc. From Egypt, I returned to Sicily for another survey of citrus oils and went from there to Southern France, to Spain and finally back to America.

In 1932, I visited Algeria, covering the production of oil of geranium. Thus, traveling every spring to Southern France and from there to various parts of Europe or North Africa, several years passed, with visits to the lovely and fragrant pine woods on the slope of lofty mountains in Tyrol, excursions to old Tuscany and the orris, juniper and oak moss producing regions of the Chianti Mountains. There very interesting observations
were made on the quality of raw materials, one of the main factors for the successful distillation of orris concrete. Important contacts with the most reliable orris root producers were established. From Tuscany to Dalmatia, with a study of the oils of rosemary, sage and helichrysum; various trips into the regions of dill and marjoram in Germany; into Belgium for a study of valerian root, angelica, chamomile, hops and others; a survey of the caraway oil industry in Holland and visits to the lavender fields near Sandringham in England. Thus, criss-crossing Europe every summer and the United States every winter, the years passed from 1932 to 1936 with intermittent visits to California and a study of the California citrus industry.

**PROGRAM BECOMES WORLD-WIDE**

By that time I had covered tremendous ground, and our president, Mr. F. H. Leonhardt, then decided that it would be most desirable to extend the work to the far corners of the world, thus including in our survey the African, Asiatic, Australian and South American continents. More definite plans were laid out for the years to follow, and in 1937 I set out again first to France and from there to the orange producing region in the Fouta Djallon, French Guinea, West Africa, where production of oil of orange had developed from 1 kilo in 1928 to 200 tons in 1936. The Guinea orange oil had been a keen competitor of the Italian and California oils, and it was advisable to know more about the origin and production of the oil and especially about its ever-recurring adulteration with kerosene. A stay right in the producing regions in the highlands of French Guinea soon revealed to me the true picture of actual conditions. Subsequent conferences with the Chamber of Commerce and with the Governor of the Colony were quite effective, I believe, in helping to bring about a stricter Government control of the outgoing merchandise. From French West Africa, I flew across parts of the Sahara into Morocco and in Casablanca met a very interesting gentleman, a former commander of the Foreign Legion, with whom I traveled far and wide through the interior of Morocco, studying the newly developed distillation of thyme, origanum, pennyroyal and other oils. From there a trip to Algeria to visit again the Mitidja Plains where geranium oil is distilled and then
back to Southern France for a few weeks in order to prepare for the long trip to East Africa. From Marseille, then, I flew across the Mediterranean to Egypt, up the Nile to Lake Victoria-Nyanza for an investigation of the newly started production of oil of mawah, a variety similar to geranium. Excursions into the big game territories and finally a flight across Tanganyika to Zanzibar, where I stayed in order to cover the clove industry of that famous spice island. From there by boat to the Comoro Islands, producers of vanilla beans, oil of ylang ylang, etc., and then to Nossi-Bé, where I made an extensive study of the production of oil of ylang ylang in all its phases.

**OVERCOMING OBSTACLES**

Here, may I be permitted to say a few words about the difficulty of making these investigations. In all the years of traveling, I had acquired considerable experience in observing quickly and in grasping basic situations, both technical and economic, which in the beginning of a new investigation so often seem hopelessly confusing. The greatest difficulty sometimes was the attitude of some producers abroad who were inclined to suspect that I had been sent by an American firm in order to observe as much as possible and then set up our own producing organization in the respective territory, thus becoming a competitor. Great diplomacy and tact were required to overcome this distrust and to be able to pierce the secrecy surrounding the manufacturing processes. While in most cases there is no such secrecy, there are certain oils, in the production of which every manufacturer uses very definite and special processes by which he obtains his own brands. A typical case is that of ylang ylang which, as you know, is marketed according to different fractions, each of them being a specialty of the different producers. One can easily understand that these producers hesitate to reveal such processes and, as a foreigner, I sometimes had great obstacles to overcome before I was actually permitted to work in their factories. My articles on the production of oil of ylang ylang prove that in this instance we were more than successful and today we can speak with authority on that interesting oil, about which the literature had been extremely meager.
Nossi-Bé was of interest not only in regard to ylang ylang but also for a number of other products, including champaca, pepper and also lemongrass oil on the adjoining main island of Madagascar. There were excursions along the coast of Madagascar into territories seldom visited, from the vanilla producing regions near Antalaha on the east coast to Fénérive and Tamatave, through the growing regions of Madagascar cloves and cinnamon, with a study of the distillation of Madagascar clove leaf and stem oil on the island of Ste. Marie. I was given every cooperation there by the French officials, especially those in the Department of Agriculture.

**USUAL PROCEDURE FOR CONDUCT OF INVESTIGATIONS**

Let us rest from our travels for a minute to hear how, as a rule, I used to carry out these investigations:

My aim was always to obtain the greatest wealth of reliable data from as many sources as possible in the shortest possible time. The first few days in the investigation of a new oil were always somewhat bewildering until a trail would open up which promised more concrete results. Visits to the chamber of commerce, to the American consul, to the local agencies of the government's agricultural service and calls on a number of exporters and leading banks gave a general picture and usually showed just how I had to go about in order to solve the problem. Thus, I arranged for excursions to the interior, visits to the more important producers and visits to native field distillers for detailed information and samples. Another problem consisted in taking still and motion pictures which were required for our work at home. The visits were usually rounded up with a number of social gatherings, and it was often there that I would find out and could check up on the most important facts. An evening in the company of a number of competing exporters or producers and a lively conversation about the industry in question usually brought forth an animated discussion among the various competitors, and any untrue statement would be quickly contradicted. Whenever I succeeded in having present also one or two officials of the government's service, I was even more fortunate in finding out the truth. Thus, my activities consisted not
only of field work but also of social entertaining which was often quite strenuous.

From Tamatave I sailed for Réunion, that lovely old French island in the South Indian Ocean which has for a long time been one of the main suppliers of important perfumers' raw materials, among them oils of geranium, vetiver, ylang ylang, concrete and absolute of ylang ylang and also vanilla beans. Our friend, Robert Garnier of Paris, has a factory on Réunion Island and, with the assistance of a business associate of Mr. Garnier, I was able to travel through the island, from the tropical lowlands to the wind swept high plateaus where the descendants of early French immigrants, now completely impoverished and working almost in serfdom, are distilling geranium and vetiver oils. A meeting with that remarkable and venerable Père Raimbault, founder of the ylang ylang industry in Réunion, Madagascar and the Comoro Islands, in his exile, a leper home, will always remain in my memory. From Réunion I started the long trip back toward the coast of Africa and all across Africa back to Marseille and Seillans where, while driving to our factory, I had an automobile accident which almost had serious consequences. From Cannes to Paris and London, and then I returned to New York to spend the winter traveling through the United States, calling on the trade and giving lectures. The early part of 1938 found me again in Southern France and soon in Paris where I had the pleasure and privilege of joining Mr. and Mrs. Leonhardt on a beautiful drive through the heart of France down to the south and to Seillans.

TOWARD A NEW FIELD OF STUDY—THE FAR EAST

After attending for some time the construction work going on at that time in Seillans, I started out on the long trip around the world, with the intention of covering the essential oils of Asia. A first stop was made in Aden, in southern Arabia, with an investigation of the situation in regard to gums such as incense, myrrh and opopanax, and then I crossed the Indian Ocean to Bombay, India. Calls on the important exporters of spices and condiments and then a visit to the producing regions of oil of palmarosa. From there by train across the tremendous expanse of India, across the arid, sun-parched plains and hills toward
Madras on the east coast. From Madras across India again toward Cochin on the west coast, the old port which for centuries has been an important shipping center for essential oils and spices. After a survey of the lemongrass oil industry in neighboring Travancore State, I traveled north along the coast to Tellicherry, the producing regions of pepper and cardamon, and finally made a most fascinating trip in an automobile which had a habit of breaking down occasionally through some of the world’s wildest and largest jungles toward the highlands of southern India. How well I remember that trip through the dense forests, the drenching rains and that dark night when the semi-wild inhabitants emerged from the jungles with torches as protection against tigers and elephants. Once arrived in the highlands, it did not take long to reach Mysore, capital of Mysore State, the greatest producer of sandalwood. I was received with every courtesy by the Mysore Government and given every facility to study production of sandalwood in the Government’s sandal oil factory. Dasara, which was celebrated with oriental pageantry during my stay in Mysore, lent color to those days, and only the war clouds overshadowing Europe during the days of Munich cast serious forebodings for the future. From Mysore I took the train again toward Madras on the east coast and from the southern tip of India by boat and train across the Straits to the Island of Ceylon. There followed days of extensive traveling along the west coast of Ceylon toward the producing regions of citronella in the far south and to the cinnamon districts around Negombo, north of and around Matara which is south of Colombo. Special attention was paid to the production of not only cinnamon leaf oil but especially to the native distilled cinnamon bark oils about which very little authentic information had been available. Distillation experiments were made which gave most gratifying results. A study of cinnamon bark, including quills, quillings, featherings and chips, proved of great value insofar as it was possible to select the most suitable raw material and establish the best sources of supply which from then on shipped cinnamon to our factories in France and in Clifton. That we have become a leading, perhaps the leading producer of cinnamon bark oil was made possible partly through the field investigation of this important raw material.
From Ceylon I went to Singapore where I spent considerable time unraveling the many mysteries of the patchouly oil industry which had been very strictly guarded by the Chinese producers. Almost a week of pourparlers was required before the leading Chinese distiller of Singapore permitted a visit to his plant. The family had guarded the secret of their manufacturing process for many years and very few people ever entered the plant. After visits to other patchouly distillers, I traveled to the state of Johore which is the main producer of patchouly herbs in British Malaya. My stay in Malaya was very interesting and profitable because for the first time it was possible to clear up the great confusion which has been underlying production of patchouly oil in general. I studied patchouly oil production in the various parts of Malaya and thus learned the actual situation regarding Penang, Singapore, Sumatra and Batavia oils, the results of this study being set forth in a very detailed article on patchouly oil commencing this month in *The American Perfumer*. It will be an interesting contribution to the knowledge of patchouly, the literature of which is so very confusing in regard to botany, origin and geography. From Singapore, I went to Sumatra and finally to Batavia, Java, where I made my headquarters for quite some time because that island is one of the most important essential oil producing countries in the world. I cannot pay enough tribute to the courtesy of the Dutch officials in Batavia who gave me every facility and all possible aid in studying exactly the production of essential oils of citronella, cananga, vetiver, patchouly and cajeput in the various parts of that fascinating island. The Government assigned one of the officials to act as my guide and interpreter so that I could obtain an absolutely unbiased picture of the actual facts. A similar tribute must be paid also to the many producers and exporters in Batavia who outdid one another in helping me in my task. I shall always remember Batavia also for the many social activities which proved of equal value in making personal contacts and establishing good relations with the most reliable exporters. As a result of this survey, we are today familiar with the differences between the various qualities of Java cananga, vetiver and citronella oils and the underlying reasons which are partly geographic and partly due to different methods of production. The chapter
on Java citronella oil, for instance, is extremely complicated and will form the contents of a detailed article. From Java I finally left with the good wishes of the Government and the advice to stop over in Bali, that fantastic island which has attracted so many tourists during the last few years.

TO AUSTRALIA BY AIR

Almost all the traveling in the Far East was done by air which saved a great deal of time. Thus, I also flew from Bali across the Torres Strait to Port Darwin, across the Australian continent to Brisbane and Sydney, where I called on Mr. Penfold of the Technological Institute, the foremost authority on Australian eucalyptus oils. Eighty per cent of Australia's vegetation consists of eucalyptus, of which there are more than 200 varieties, only a few being used for the extraction of oil. From Sydney I flew to Melbourne and went to the producing regions of eucalyptus, making a study of the different varieties which give the various essential oils of eucalyptus. From Melbourne to Adelaide and all across the continent to Perth, West Australia, for a study of oil of sandal and then back across the continent to Sydney and all around Australia back to Port Darwin, across the Torres Strait to Batavia, Java, for a renewed stay there and finally back to Singapore and to Bangkok, capital of Siam. From there I traveled by car to the ruins of Angkor Wat and then through vast jungles to Saigon, capital of French Indo-China. Proceeding along the coast to Hanoi in the province of Tonkin, I arrived in Langson, the center of star anise oil producing regions, where I studied the production of star anise oil not only in French Indo-China but also in the adjacent province of Kwangsi, China. From there to Haiphong and to Hongkong for a survey of the situation regarding oil of cassia. From Hongkong I traveled by boat to Shanghai where I studied production of menthol from Chinese peppermint oil. From Shanghai through Korea, I went into Japan, with the purpose of investigating production of oil of camphor, camphor and the different camphor fractions from which many synthetics are made today, especially in the Japanese essential oil factories. My stay in Japan was most interesting, and the powerful concerns dominating Japan's camphor oil industry accorded me every possible assistance. Accompanied by
some of the directors of the leading houses, I went into the
camphor oil producing regions where the natives distill the oil
in primitive stills from the camphor tree. Traveling widely
in Japan, I covered not only the industrial centers, with
visits to essential oil factories, but also the actual producing
regions in the interior. It was even possible to take motion
and still pictures of this industry and these pictures, together
with those taken in all the other countries, formed the theme
of numerous lectures given throughout the United States.
From Japan I went south to Manila and investigated the inter-
esting but declining ylang ylang oil industry. Years ago, Manila
used to produce the bulk of ylang ylang oil, but the war of
1914 to 1918 brought about such an increase in the cost of labor
that the Manila oils could no longer compete with the oils pro-
duced in Madagascar, including Nossi-Bé and the Comoro
Islands. The result was that most of the ylang ylang trees around
Manila were cut down and today the flower supply there is very
limited, with prices remaining high.

From Manila I took the Clipper and flew across the Pacific
to San Francisco and then back to New York. The following
winter was spent working up the tremendous amount of material
collected in the East and traveling all over the United States
lecturing on our field investigations abroad.

**SOUTH AMERICAN OILS STUDIED**

Early in 1939, Mr. Leonhardt sent me once more on a long
flight, this time to the West Indies, Central and South America.
In Jamaica I studied production of pimento leaf and berry oil
and the production of oil of limes and sweet orange. In Puerto
Rico I studied the production of bay oil and sweet orange oil,
in Dominica the distillation also of bay oil and especially the
production of oil of limes according to the methods of distillation
and coldpressing. The same subject was studied on the Island of
Trinidad which is a very important producer of lime oil. From
Trinidad I flew down the coast of Venezuela to Belém (Pará)
at the mouth of the Amazon River and from there up the Amaz-
on River to Manáos for the purpose of studying the situation
regarding oil of bois de rose and balsam copaiba. Back again
by air to Belém (Pará) and along the coast of Brazil to beau-
tiful Rio de Janeiro and finally to Asuncion, capital of Paraguay. In the suburbs of Asuncion, oil of guaiacwood is produced in a small distillery, but the main purpose of my visit was an excursion to the interior of Paraguay to the producing regions of oil of petitgrain. The findings of this trip have already been published, as have articles on most of the essential oils mentioned previously.

From Asuncion I flew to Buenos Aires, capital of Argentina, and then in a fascinating flight across the Andes to Santiago, Chile, and all the way along South America’s west coast to Lima, Peru, to Ecuador, Colombia and Panama. From there by air to Salvador, with an excursion to the balsam coast in order to investigate the production of oil of balsam Peru, the name “balsam Peru” being derived from the early custom of shipping the product to Europe in Spanish sailing vessels bearing mostly merchandise from Peru. From Salvador by air to Guatemala, with a most interesting study of the lately developed large-scale production of oil of citronella and oil of lemongrass. From Guatemala by air to Mexico City with a visit to Colima, main producing center of Mexican lime oil where I had occasion to contribute toward the development of new processes for the distillation and extraction of a quality of lime oil far superior to that previously available. Up to this point, the entire trip around the West Indies and South America had been kept absolutely within the planned itinerary, but a railroad accident on the way from Colima to Guadalajara, which almost had catastrophic consequences, upset the plans by twenty-four hours, and the plane from Mexico City to New York brought me back just one day behind schedule.

Soon after, I left by Clipper for Europe, flying as one of the first passengers, the Northern route via Newfoundland and Ireland to London, and finally to Paris and Southern France, where the extensive construction work and aggrandizement of our factory in Seillans had just been completed. The war caught Mr. Welcke and me while in Seillans and, fortunately, we were able to advise our Mr. Chauvet in regard to new dispositions which the situation required. Several weeks after the outbreak of the war I left France and traveled down to Sicily for a new investigation of the Sicilian citrus industry and also of the new jasmine
flower oil industry in that part of Italy. An Italian steamer brought me back to New York.

PROGRAM COMPLETED IN U. S.

Thus far our investigations had covered every essential oil producing country outside of the United States. We must consider ourselves extremely fortunate that we were able to complete the entire work before September 1939, because under present war conditions it would be impossible to do the same work. There remained nothing but a survey of the essential oil production in the United States in order to complete the picture and, therefore, the past summer was spent in undertaking this last chapter in our long task. It was an easy task which did not require much time because we were already quite familiar with our domestic oils which we had been handling for some time. I went to Florida for a survey of the Florida citrus industry, with a special study of oil of grapefruit, and also covered the Middle West, including the oils of dill, peppermint, spearmint, erigeron and wormwood, and through the producing regions of sassafras, cedarwood and wormseed, with a visit to our own distillery in Maryland. The last investigation was that of oil of wintergreen, less than 150 miles from New York. It was interesting to find so near New York even more primitive conditions of distillation and apparatus than I had often encountered in some far off countries in the jungles of Malaya or Africa.

Thus, we have finished our task, the only firm in the world to accomplish it. Most of the material has been published in the form of articles so that our findings might benefit our entire essential oil and affiliated industries, the perfume, soap and flavor manufacturers, the scientific institutes and especially our Department of Agriculture. We possess today reprints of almost fifty surveys which have appeared during the last twelve years in America's leading trade magazines, altogether an important contribution to the general knowledge of essential oils. Many more articles will follow before the complete story of essential oils can be written. Thus, we have concluded one chapter in the last fifteen years of Fritzsch Brothers' great history, a chapter which is intimately interwoven with another equally fascinating development.
THE STORY OF SEILLANS

It is the story of our factory in Seillans. Having been intimately associated with it from its unpretentious beginning to its present advanced state, I take modest pride in telling you the story, step by step, not forgetting the many difficulties we had to overcome. “Les Parfumeries de Seillans” was founded in 1883 by Madame la Comtesse de Savigny, Marquise de Rostand, member of oldest French aristocracy. The Marquise owned a beautiful country home above the village of Seillans, overlooking the wide, hilly country of old Provence, from Seillans to the Esterelle Mountains, with walled towns nesting on top of the surrounding hills; an old romantic region, its history dating back to the conquest by the Romans and the invasions of the Saracens. Long and bloody religious wars destroyed the prosperity which once, in happier days, reigned throughout that lovely country, and even today those little Provençal villages remain asleep in their thousand-year-old dreams. The distance from Seillans to Grasse is only about fifteen miles, the road winding between orchards of olives and flower fields. The Comtesse of Savigny erected beneath her exquisite home a small factory which originally served only to treat the flowers of the surrounding regions according to the old-fashioned methods of cold enfleurage and hot maceration. Madame la Marquise was a great saleswoman in her time; she used to visit the leading perfumers in Paris, London and Berlin and never had any difficulty in selling her products which were renowned for purity and the care with which they were manufactured. When, in later years, the methods of extracting flowers with volatile solvents was invented, “Les Parfumeries de Seillans”, too, installed a modest extraction plant. During my first summers in Southern France, dating back as far as 1925, I worked in the establishment of “Les Parfumeries de Seillans” collaborating with my friend, Pierre Chauvet, studying the production of natural flower oils and making many experiments. The results were pleasing to the directors of Fritzche Brothers, and in 1928 Mr. F. E. Watermeyer, the late president of Fritzche Brothers, made a trip to Southern France for the purpose of purchasing a factory in which we could manufacture our own flower oils. As already pointed out, it had been difficult to obtain in the United States absolutely genuine floral products. We in the
United States were never sure of what, among the great and confusing variety of samples, represented the true product. Mr. Watermeyer realized that there was only one solution, namely to own our own plant in the Grasse region where we could rely upon our own products for the purpose of introducing them in the United States under our own label. His idea was not only to market genuine products but to manufacture according to the most advanced technical methods. Among various offers, Mr. Watermeyer for several reasons selected "Les Parfumeries de Seillans". He was especially impressed by the relative isolation of Seillans which, although disadvantageous in certain ways, offered the great advantage of being alone in a place where we could work without interference from outside. For it must not be forgotten that it was unique in the history of the Grasse industry that a foreign firm should try to secure a foothold in an industry which had always been considered exclusively French. We realized that we had to overcome many obstacles, even of political nature, and we certainly were not received with open arms. There existed a great deal of suspicion and doubt about our intentions which were, fundamentally, very simple. Mr. Watermeyer founded the company, with Mr. François Chauvet as associate, and appointed Mr. Pierre Chauvet and me as acting directors. Early in 1928 a cable to New York called me to France where Mr. Watermeyer outlined to me his ideas regarding the new development. Of course, I welcomed this wonderful opportunity, especially the idea of working alone in a factory and being able to carry out all kinds of experiments. The original idea, however, was only to manufacture flower oils. For this reason we had to remodel the somewhat old-fashioned establishment and install new equipment. Thus, we worked for several years, years which I shall never forget because of the tremendous difficulties which sometimes seemed almost impossible to overcome. We had bought the factory just before the great economic crisis of 1929. Prices started to collapse from the dizzy heights of 1926-1928. There was an oversupply of all kinds of flower oils. Together with the factory, we had acquired contracts on jasmine flower deliveries for several years at the top prices of 1928 which amounted to more than 30 francs per kilo. Within two or three years these prices declined to 5 francs in the open market. Every-
thing seemed to be against us. My older friends in the sales force will remember the heartbreaking struggle of those first years I went out with them all over the United States trying to introduce a new line of flower oils which we knew were pure, a line which was extremely varied, comprising all kinds of products but for which we could find no buyers. At that time the United States had only very few perfume manufacturers who purchased appreciable amounts of flower oils, and all these perfumers had long established contracts with their French friends in Grasse. We had entered the picture too late, and in this spirit the years went by with no hope of improvement.

MANUFACTURING PROGRAM ENLARGED
In the meantime, the factory had to be kept busy. We had to manufacture at least a certain amount of flower oils each year, not only because of the old flower contracts, but also in order to keep the good will of the growers in the vicinity whom we would otherwise lose as suppliers for later years. By about 1931 everything looked extremely black and I realized that something drastic had to be done to alleviate the situation. Back in New York I revised a few of our most important formulas for synthetic flower oils and found at least a modest outlet for the products of Seillans. Still, it was not sufficient to manufacture in Seillans only flower oils, a task which requires but a few months of the year. It was necessary to evolve a manufacturing program which would keep the factory busy all year round, so that the current overhead expenses could be divided among many products instead of only a few flower oils. Examining the situation, we conceived of the idea of distilling in Seillans a number of essential oils which Fritzche Brothers required regularly, partly for resale, partly for flavor compound work. The raw materials were grown in Southern France, not very far from Seillans. Such oils were, for instance, sweet basil, sweet marjoram, estragon, Roman fennel, clary sage, hyssop and cypress. One of the fundamental conditions for creating outstanding flavors is the application of absolutely pure essential oils. By producing these oils in Seillans, we gave to the laboratories of Fritzche Brothers oils of unexcelled beauty, oils which are seldom, if ever, found on the market in pure form. A discussion of the merits of these oils
would lead much too far. Details can be found in the respective surveys which have appeared in the trade papers. Suffice it here to mention only one example:

Oil of cypress which is used as a remedy against whooping cough, owes its medicinal value to the high boiling sesquiterpene alcohols which distill over only after about sixteen hours of distillation. We have never seen on the market an oil of cypress which could stand comparison with the one we have been producing in Seillans during the past ten years. Most commercial oils are distilled from *Cupressus pyramidalis* and have, therefore, no therapeutic value, while our oil is guaranteed to be distilled exclusively from the leaves of *Cupressus sempervirens* and for such a long time that the oil contains all important constituents.

In those years we also developed other specialties, such as concrete and absolute of clary sage and concrete and absolute of lavender. These items are very valuable in the perfuming of soaps, for instance, because they are, to a far greater extent than distilled oils, powerful fixatives and retain their clean lavender odor long after the distilled oils have evaporated. Our concrete of lavender became such a success that we had to work day and night for many weeks in our extraction plant in Seillans, which at that time was still rather small, in order to treat the enormous quantities of raw material required for the large orders. At that time we also developed our concrete and absolute of labdanum which, too, are excellent fixatives, especially in soaps, and the distilled oil of labdanum which is one of the most important bases of modern perfumes. Slowly, we succeeded in extending the manufacturing program of Seillans, with the result that Mr. Watermeyer and Mr. Leonhardt permitted us to construct a new building for extraction with volatile solvents which we equipped with several batteries of modern extractors, stationary and rotating, and the apparatus necessary for concentrating. At about the same time, we took up the distillation of oil of neroli which also became one of the specialties of our house. The qualities we produced have found the approval of the most prominent perfumers in Paris and the United States. In conjunction with distillation of oil of neroli, we produced our own orange flower water and we also introduced oil of petitgrain French. This work soon required the construction of a special building for distilla-
tion, permission for which was granted to us by the directors of Fritzsche Brothers.

Yet, despite this marked increase in our manufacturing program, our yearly turnover was not large enough to absorb the overhead and permit amortization of the investment. It was necessary to expand further and, by so doing, we opened an entirely new and very important chapter in the development of Seillans and, coincidentally, in that of Fritzsche Brothers.

**NEW DEVELOPMENTS PROVE VALUE**

While in France, around 1933, I once made an experiment distilling oil of celery, the seed of which is produced in large quantities in Southern France, in St. Remy, not very far from Seillans. We drove to the producing regions, made a survey of the situation and ordered the quantities of seed necessary for distillation experiments. We obtained an oil which we thought was excellent and sent it to New York. Soon a cable reply told us that our oil was inferior to one which Fritzsche Brothers had been purchasing from a very well known and very large manufacturer and that our oil could not be accepted. This sounded strange to us and we repeated our experiment, taking every precaution to obtain an irreproachable product. Again a cable from New York told us that our oil was inferior and that it was probably incompletely distilled. This was even more puzzling and before making a third experiment in which we used every possible precaution, we asked Fritzsche Brothers by cable for a sample of the oil they had been buying. By the time we had our third experiment finished, the sample arrived and then we convinced ourselves that the competitive oil was nothing but a badly adulterated product, and it began to dawn on us that for a long time Fritzsche Brothers had been misled in regard to this oil. After we sent our third experimental sample and the full report to New York, the New York laboratories, too, realized the facts and were quick to introduce the new oil not only in their own flavor formulas but also on the American market. Most of you remember the splendid success we had with our Oil of Celery Extra Fine Seillans. Large orders for manufacturing followed which encouraged us so much that we also distilled oil of parsley. There we had a similar experience with the home office who would not believe that they
had been using an oil inferior to the pure oil. Greatly encouraged, Seillans planned to extend distillation to concrete of orris. For months and months, we experimented, until finally we evolved a process of distillation which gave us not only a good yield but also a product of highest quality. But real success came only after a special visit to the orris root producing regions in Tuscany near Florence, where I could study the production of the root from beginning to end and especially the quality and the condition of the root which is so important for a high yield of oil. The establishment of personal contacts with the most reliable producers in Florence soon enabled Seillans to receive shipments of aged orris root of best quality from which we produced an outstanding grade of orris concrete. It was quite different from that which Fritzscbe Brothers had been using but, here too, the New York laboratories quickly adopted the Seillans concrete which since then has become one of our greatest specialties. Today we can claim that there is no concrete of orris on the market which can compare with ours, most commercial products having an iron content of from 5 to 10 per cent at the most, while ours are much higher. My visit to Tuscany also permitted an investigation of the growing regions of oak moss (mousse de chêne) and, by the establishment of proper connections with reliable suppliers, we were enabled to manufacture in Seillans concrete and absolute of oak moss which, too, is unmatched in quality.

**FURTHER EXPANSION**

So far we had been quite successful in the introduction of new items and, thus encouraged, we planned to expand our manufacturing program still further. There existed in Europe a great quantity of raw materials which serve for the distillation of essential oils but which thus far Fritzscbe Brothers had purchased from other sources. Therefore, why not produce these oils in Seillans? In 1934, I made a trip to Northern France, Holland, Germany and especially to Belgium, where I investigated the growing of Roman chamomile, German chamomile, valerian root, calamus root, angelica root, angelica seed, and hops. Arrangements were made with reliable growers and herb dealers to ship experimental quantities and, after considerable experimental
work on distillation, we were able to offer to Fritzsch Brothers the corresponding oils, all so important in flavor work and all of which were soon marketed by Fritzsch Brothers with great success. Our firm thereby contributed greatly toward introducing to the American market essential oils which had hardly, if ever, been available in pure form. America's entire flavor, cosmetic and pharmaceutical industries profited by this pioneer work of Fritzsch Brothers. Needless to mention that our own perfume and flavor laboratories, too, derived much benefit from these raw materials which permitted the development of outstanding specialties.

It would lead too far to mention all the different oils which we started to produce in those years. Suffice it to name only oil of myrtle, oil of carrot seed, oil of lovage and oil of parsley leaves. Those were years of great activity in Seillans because it must not be forgotten that every oil has to be distilled according to a different process which can be evolved only after long experimenting. By 1931, we had established our processes of extracting with volatile solvents and we thought that the problem of distilling would be comparatively simple. However, we soon found out that distillation requires even more experience. There is little, if any, practical information available in literature. We had to evolve, within a few years, a great number of processes which our competitors in Europe had developed during generations of chemists. The year 1933 was still a comparatively black one in the history of Seillans because, after all, the depression in the United States had been continuing unabated. Despite all the progress we had made, Mr. Leonhardt, who had succeeded Mr. Watermeyer as president of Fritzsch Brothers, and Mr. Welcke could not yet be satisfied with the French factory which was still something of a burden on the treasury of the New York firm. As the representative or, let us say, the liaison officer between Seillans and Fritzsch Brothers, I had in those days a rather difficult position in New York. I knew that we were on the right track in Seillans; I knew with what enthusiasm my French friends had been working in Seillans, that to them it meant their life's ambition, that they were absolutely devoted to our cause. Fritzsch Brothers, on the other hand, had to consider the matter also from the financial point of view and that was none too.
brilliant. When Mr. Leonhardt assumed the duties and responsibilities of our late Mr. Watermeyer, he decided to take a trip to Europe and personally look into the matter. For just such a visit I had been asking for many years. In 1935, Mr. Leonhardt finally arrived in Seillans and I shall never forget the moment when he stepped out of the car, looked around and, impressed by all the beauty, expressed his deep satisfaction with what had been accomplished so far in Seillans. From then on, Mr. Leonhardt had his heart and soul in our French enterprise, and from then on, thanks to Mr. Leonhardt, things started to move rapidly. While Mr. Leonhardt was in Seillans we could submit to him our further plans of expansion which included an enlarged manufacturing program, requiring larger manufacturing facilities. Mr. Leonhardt quickly arrived at his own conclusions and, after his return to New York, the Directors’ Meeting granted us funds for the construction of a new office building and especially a very large new distillery.

WORK ON NEW FACTORY BEGINS

The ground on which the Seillans factory stands is hilly, sloping into a canyon and, therefore, the new construction could be undertaken only after filling in a brook and leveling the ground. The work started early in 1936 and continued, without interruption for more than a year. The difficulties were tremendous, and the task was accomplished only through the enthusiasm and the devotion of our French employees. I cannot praise enough our friend, Mr. Pierre Chauvet, and also our Mr. Henri Lantelme, engineer and chemist in Seillans, and I must also mention our mechanics and working men, some of whom risked their lives on several occasions while transporting the heavy boilers from the village of Seillans up a dangerous road which caved in twice during the transport. At that time the entire village of Seillans watched the men struggling with the truck and the heavy boilers on top, and down in the village the women attended a Mass which was said at that moment of danger while the men were lying beneath the truck.

Slowly the new distillery took shape. The old road was improved and the apparatus were installed into the buildings. Here again, I must praise our friends in Seillans because almost
every part of the new equipment was designed according to our own ideas. For instance, the condensers, the Florentine flasks, the automatic water scales by which distillation water and, therefore, steam consumption can be calculated exactly. Our new distillery today is undoubtedly the most beautiful, most modern and most efficient one in the entire Grasse region. It consists of a large concrete building with storage rooms on top and grinding machines beneath so that the ground raw material can fall from there directly into the stills on the main and first floors. We possess a great variety of stills, from very large ones to small ones, so that we are equipped for the treatment of all kinds and quantities of herb, seed, flower and root material.

In 1937 the construction work was completed and we could start on our latest extension of the manufacturing program. The idea was to distill in Seillans a great variety of essential oils, the raw materials for which originate from tropical Africa and Asia. The transport of these materials to Seillans was feasible via Marseille, Marseille being a very important stopping port of practically all ships sailing from the Far East or from Africa to Europe. We thought of oil of cloves, nutmeg, cinnamon and others, all very important to Fritzsche Brothers, but all highly competitive, a difference of a cent per pound being decisive in regard to success or failure. The difficulty consisted in developing not only the proper manufacturing processes which would give us the highest yield at lowest cost but especially in establishing connections with reliable shippers abroad who would supply us with the most suitable raw material at competitive prices. Soon we developed, after considerable experimenting, the processes for distilling oils of myrrh, opopanax and olibanum from gum material imported from Arabia, furthermore oils of patchouly, vetiver, costus root, cardamom and especially oil of ginger. Success came when Fritzsche Brothers in New York began to use them in their own formulas and also market them throughout America.

Closely interwoven with this work in Seillans were my field investigations from 1937 to 1939 in the various parts of Africa and Asia. As already mentioned, I studied at that time not only the production of essential oils but also the growing of those raw materials which serve for the distillation of essential oils in
European and American factories. Among others, I investigated production of cloves in Zanzibar and Madagascar, of ginger and cardamom in India, of nutmegs, pepper and cubeb in British and Dutch Malaya, of gum elemi in Manila and especially the production of cinnamon in Ceylon. Contacts with reliable exporters assured us of best service in supplying these raw materials directly to France. Soon we were able to produce an oil of pepper which was received enthusiastically in New York because it became possible to reproduce in flavors the true odor of pepper. We had never been able to do this with the old type of pepper oil we used to purchase from one of the leading essential oil houses in Europe.

A very typical example also was that of cinnamon. For two years we had been experimenting in Seillans with all kinds of cinnamon which we obtained through some brokers in Marseille from the various cinnamon producing countries abroad, for instance French Indo-China, Java, China, Madagascar and the Seychelles Islands. In most cases we obtained oils with properties characteristic of cassia. Needless to say, that all this experimental work in Seillans was accompanied by much analytical work in our New York laboratories. We finally decided in Seillans to experiment only with Ceylon cinnamon, but whatever raw material we tried, whatever distillation process we applied, our yields were always so inferior that the cost prices were far above normal. It was only during my extensive field work in the cinnamon-growing regions in Ceylon that I made most interesting observations about the proper raw material and the condition in which it should arrive in Seillans so that we might be able to extract the oil successfully. The expenses incurred during these field investigations abroad were amply repaid by our results. As you know, we succeeded in developing a pure cinnamon oil which stands unequaled in purity and beauty. It has met with such approval in the United States that today we have become one of the largest, if not the largest cinnamon oil distillers in the world. A similar development is taking place at present in regard to oil of nutmeg. Here, too, as in the case of cubeb, it was necessary to investigate first the raw material sources before the oil could be successfully produced.

Aside from all this vast program of distilling essential oils
from imported tropical raw materials, we also planned on manufacturing another line of specialties which some day might prove very profitable for Fritzsche Brothers. It is a series of oleoresins extracted from all kinds of plant materials with different volatile solvents. The history of this development reaches back several years when we first developed a manufacturing process for oleoresin ginger, oleoresin vanilla, oleoresin celery, oleoresin parsley leaves and others. All of these have become most successful specialities of Fritzsche Brothers, but their list is far from being exhausted.

WAR COMES—SEILLANS CONTINUES

These were the conditions prevailing in Seillans at the outbreak of the present war in September 1939, which came as a terrific shock to us. For years we had planned, labored and toiled in Seillans and spent the best years of our life in its development and promotion. After overcoming the tremendous handicaps in the early development, after emerging from the world depression, after having perfected so many processes in years of experimenting, after having won the full and enthusiastic cooperation of our Directors in New York, after having enlarged and perfected our factory, we suddenly saw all our ambitions and plans collapse. Fortunately, our first vice-president and treasurer, Mr. W. A. R. Welcke, happened to be in Seillans during those trying days and his presence greatly helped to uphold our spirits.

More than a year has passed since. Gigantic chapters have been written in the history of Europe, but despite all the upheavals, despite the breakdowns of France, our factory has been continuing, I am proud and happy to report. When the war started, most of our personnel, among them our chemist, Mr. Lantelme, had been called to the colors. Mr. Pierre Chauvet was left alone with a few old men. No one can realize the tremendous difficulties he had to undergo, especially under the peculiar conditions prevailing in our rather isolated factory. In normal times we are prepared to deal with any emergency and a breakdown in the factory can be quickly repaired by our own skilled masons, mechanics and carpenters. The mobilization of these men put the entire burden on the shoulders of Mr. Chauvet who was already suffering under incredible handicaps such as
lack of transportation, lack of communications, scarcity of fuel and solvents, innumerable new laws, regulations and confusing “red tape” and, most of all, by difficulties in the transfer of funds.

I am more than proud to say that throughout the past year, work in our Seillans factory has been continuing, even during the most tragic days of the French collapse, day and night in twenty-four hour shifts, and today we have in Seillans a great wealth of flower materials and essential oils which only await shipment to the United States. No one knows how the political events will develop in future, but we can say that our factory has been saved during the worst days of the present war and there is every hope that it will continue to prosper also in the future. All our mobilized men are back in Seillans except two prisoners of war. We have suffered no loss in life or material and surely our friends in Seillans will continue to work with the same enthusiasm they have shown during all these past years.

It is true that we cannot at present carry out in Seillans the full manufacturing program which we envisaged before the outbreak of the war. Connections with Africa and the Far East are severed and we cannot import to Seillans raw materials such as cloves, cinnamon, nutmeg, etc. Nevertheless, we are able to continue in Seillans the entire program of manufacturing natural flower oils and essential oils distilled from plants grown in France.

THE CLIFTON PLANT

This leads me to the story of another development which is of the utmost importance in the history of Friztsche Brothers. Thanks to the foresight of our directors and especially of our president, Mr. F. H. Leonhardt, Fritzschte Brothers some time ago purchased the former factory of the late Dr. Clemens Kleber. The recent decision of Mr. Leonhardt to enlarge this factory with several new buildings and weld it into a modern and efficient manufacturing unit dovetails perfectly with the development of Seillans and alleviates Seillans’ present difficult position. The Clifton factory is under the able direction of Dr. A. Nicolaus, collaborator of the late Dr. Kleber for many years and one of the most experienced chemists in our industry. As mentioned, we have developed in Seillans, after years of experimental work,
a complete line of essential oils produced partly from French
grown, partly from imported plant material. Most of those prod-
ucts which under present conditions cannot be manufactured in
Seillans are now being manufactured in Clifton, for instance, oil
of pepper, oil of nutmeg and especially cinnamon oil. Having
two factories, one in France and one in America, we are in a
very flexible and very fortunate position because whenever neces-
sity requires we can switch our orders from one factory to the
other. This advantage will remain even after normal conditions
have returned. There will always be some products which will be
manufactured more advantageously in Seillans and some more
profitably in Clifton. There will always remain a close coopera-
tion between the two factories and an exchange of processes
and experiences.

Thus, Fritzische Brothers can look into the future with con-
fidence. We have developed during all these past years from
essential oil dealers into actual large scale manufacturers. We
have acquired tremendous knowledge in regard to essential oils
distilled in the far corners of the world. We have an intimate
knowledge of the raw materials required for the production of
oils in our own factories. We have developed our own processes
of manufacturing. Thanks to the untiring efforts of our sales
force, we have succeeded in introducing to the United States
products of outstanding quality, and there is no doubt that we
shall be successful in the continuation of this interesting and
fascinating work.