

THE FLAVOR INDUSTRY

FROM 1945 - 1995

1945

1950

1955

1960

1965

1970

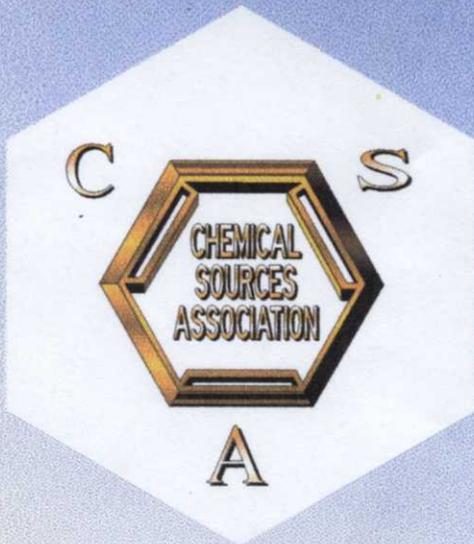
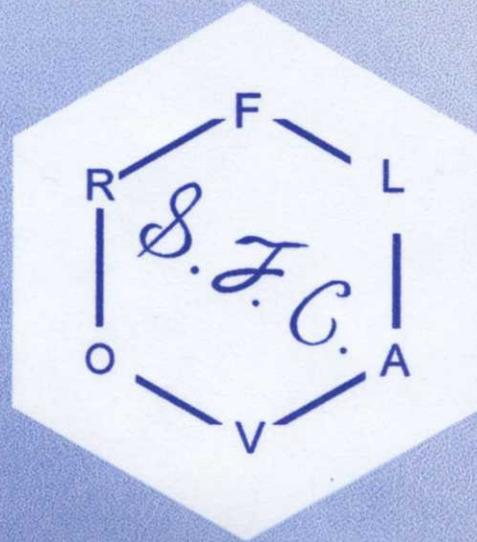
1975

1980

1985

1990

1995



A. SHORT HISTORY OF THE FLAVOR INDUSTRY

With emphasis on the USA and the past fifty years

Prepared for the Society of Flavor Chemists Inc., and the Chemical Sources Association Inc., who retain all rights to the information.

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A SHORT HISTORY OF THE FLAVOR INDUSTRY

A. AN INTRODUCTION

This book was written by the people who make up the flavor industry and its allied industries, with emphasis on those who create and manufacture flavors and their ingredients. It was started in 1993, when many people were retiring. We had so many stories to tell, and there was no written record. We wanted the young people to know who the people were who preceded them. It has taken longer than anticipated. Every so often it seemed as if it was almost finished, only to find out that there was more to be done. A list of the names of people who have helped in this task is long. It's amazing how many "savers" there are in the flavor industry. Individuals like Al Saldarini, Frank Fischetti, Tony Filandro, to name a few, supplied memos and articles. The pictures in section F were taken by Al Saldarini and made suitable for this publication by Dolf DeRovira.

Because of the time that has passed since the first submissions were received, we have gone back over the book to update what we knew had changed, and hope that we have discovered all necessary changes.

The cover was designed and produced by Dolf DeRovira. The information has been compiled with a minimum amount of editing by Earl Merwin. The styles of the presentations differ because the people differ. In order to reduce spelling and typo errors, proof readers included Al Saldarini, Dave Straus, Leslie Blau, Carl Holmgren, Dolf DeRovira, Dennis Kucharczyk, Dennis Kujawski, Joan Johnson, Dick Heinze, Tony Filandro, Ed Albaugh, Bob Maleeny, Mike Bloom, Bipin Khara, Yunus Shaikh, and others.

The emphasis of the publication is on the past fifty years. It focuses on the industry in the USA, but does not ignore the industry in Europe and in Japan. Today's flavor manufacturers in the US have evolved from a wide variety of firms ranging from spice processors and dealers; essential oils brokers and manufacturers, botanical and household extract manufacturers; organic chemical manufacturers; fountain syrup manufacturers; suppliers of minor ingredients for bakers and confectioners; and food and beverage manufacturers with in-house flavor capability.

Several important Dutch, German, French and English flavor manufacturers have entered the US market by establishing sales offices before committing to factories for production. More recently, several Japanese Flavor Manufacturers have done the same.

Most flavor manufacturing companies were small businesses prior to World War II. Some were individually owned and operated. Some were family businesses, some ingredient dealers, and many were reselling others' flavors blended or with minor additions. Some, known as basic flavor houses prided themselves in only using the basic raw materials, aromatic chemicals, essential oils, and adjuncts. Often a business may have relied heavily on one man (or woman) - at least part owner of the company, who knew flavors, plus a particular flavor-using industry, and the key people in his customer base in the industry which he targeted for his sales. He guarded these trade secrets very carefully.

The flavor industry still does regard this information highly confidential, but advances in instrumentation have made more information available today concerning the composition of flavors and the extent of their use in different industries. The art of flavor creation is still essential, and it has been made easier with the availability of instrumentation, which permits the isolation, and identification of flavor ingredients present in trace quantities, and the advances that have been made in organic chemical syntheses that makes more ingredients available.

Some flavor manufacturers confine their business to domestic customers. Of those that are international, some were founded in Europe, some in the USA, and some in Asia. There have been many mergers of

companies, especially in the last decade, so that the bulk of the business is concentrated in about ten companies.

Some of the present flavor manufacturers limit their sales efforts to supplying flavors to a particular industry, such as the beverage industry or the confectionery industry. Some of the present flavor suppliers have other product lines that consist of flavor raw materials. These include essential oils, oleoresins, spices, seasonings, extracts, and perfumes. Other suppliers may handle flavor adjuncts - ingredients used in small percentages along with flavors, and sold separately or together, as a convenience to the flavor user. These could include natural and certified colors, non-nutritive sweeteners, gums and other emulsifiers, bitters and flavor enhancers.

There is wide diversity among today's "flavor companies". Even though our population has expanded significantly and flavors are added to more of the wide variety of processed foods, only a small percentage of the cost of a family's food can be attributed to the use of concentrated flavors - natural or artificial. Whether an ingredient supplier or flavor manufacturer is large, medium sized or small, is not of major importance. Flavors must be tailored to specific products, and must survive the processing in the food to be flavored, the packaging, and the storage until the food is consumed.

Because the flavor industry is relatively small, and relies on maintaining its confidentiality of its formulations, there is very little uniformity defining its components. At times, a report on the industry will include syrups, at times, it will include spices, or essential oils, or sweeteners. The list of flavor companies at the end of this section was based on the list of companies in the *IFT Annual Program and Food EXPO Exhibit Directory* for the 1995 meeting. They were categorized as suppliers of "flavors, essential oils, aromatic chemicals (natural/synthetic)". We have not included the company addresses, which are available elsewhere, nor have we included monographs on all, or only, those companies listed. We wanted the stories of and from the companies and people who were members of the CSA and the SFC. We have attempted to cite the sources of our information, and have asked contributors to check with the management of the company for permission to use them in our limited distribution story.

Two things are certain. Creative flavorists and the companies they work for are here to stay. They will continue to need reliable sources of existing flavorful raw materials to prepare a wide variety of flavors in forms that will continue to satisfy the food manufacturers search for new and improved flavors.

This book is an attempt to record the recent history of the industry, and its members, individual and corporate. It is about how they became involved in this industry, where they operated as the industry grew, and where they are today. The industry has gone from regional distribution to global. It now produces flavors that are truly characteristic in an ever-increasing number of products. We hope that some of the anecdotes will help the old timers remember some of the events that have taken place, and that newcomers to the industry will learn about the people who have shaped the industry in recent years.

The authors are the people that we are talking about. The People Section contains accounts of deceased former members, Emeritus Members and Honorary Members of the Society of Flavor Chemists, plus Presidents of the Society, including those who are still active in the Society. It also contains accounts of retired and deceased representatives of member companies of the Chemical Sources Association, and those representatives who have served as President of that Association. Reports on some retirees were written by people who knew them well. We did not knowingly overlook anyone. We hope that these reports will be useful to the younger generation of flavorists, and those who follow in showing them the satisfaction of being a successful flavorist. You will see why it takes time to become a flavorist. A few people are included who do not fit the definitions above. They add to the theme.

This is not intended to be a handbook for getting or filling a job. It is intended for the information of the members of the SFC and the CSA; to show the reasons they should be proud of their organizations, the traditions that are worth carrying on, and an attempt to pass them on to the next generation.

The first section presents a short history of several professional and trade organizations that are important to our members. They include: The (US) Society of Flavor Chemists; other Flavor Chemist Societies; The Chemical Sources Association; The Flavor and Extract Manufacturing Association; The National Association of Fruits, Flavors and Syrups; and The American Chemical Society.

The Society of Flavor Chemists began in 1954 and was incorporated in New York City in 1959. Before then there had been few contacts of the technical and creative personnel in the industry. Indeed, even the managerial staff and the owners kept aloof from one another. We have begun our Time Line in 1945 to keep this a report of the recent events. Dorland and Rogers covered the early days very well in the *Flavor and Fragrance Industry*, 1977.

Company profiles in our history were contributed by members of those companies whenever possible. Others, including those companies which have disappeared from the scene or been absorbed by others, have been put together by accounts from former employees, newspaper, magazine and journal articles. They did a good job. We carry on from there and concentrate on the Flavor Industry and its suppliers.

Dorland and Rogers made a comparison of the 71 Suppliers of Essential Oils and Aroma Chemicals in 1927, against the companies on that list which still survived fifty years later (1977). There were only 18 left then. Today there are only 6 left. The other 12 from 1927 have been merged into one or more of the remaining 6 without their names surviving (Dorland & Rogers, Ch 5). We hope that our publication will serve to continue to keep their contributions in mind.

At a cocktail party in about 1948, I described my job in flavors to an IBM salesman I had just met. He proceeded to tell me I was wasting my time. He told me that his company had just installed a system that guaranteed uniformity of flavor of the sausage products of a nationwide processed meat manufacturer. 'Flavor companies will be out of business in five years', as all manufacturers can avail themselves of computer technology. He had included the variables of fat and protein content, color, salt, cost, and many other factors, but I'm sure that he had not factored in what effect a hurricane might have. Sure enough, it wasn't long before a hurricane came through the West Indies and severely reduced the availability and cost of one or more of the major flavor ingredients for his customer. Computers, gas liquid chromatography, and flavor profiling all have had an impact on flavors and flavorists. But they did not eliminate the need for the flavorist. They all made the job a bit easier, and enabled the flavorist to expand the list of new and improved natural and artificial flavors.

Flavors are not only necessary to maintain present flavor profiles; they have been the cause of improvement in many products that needed improvement. Do you remember the quality of the flavor of instant coffee? Wilbur A. Heyman had been researching the preparation of instant coffee before World War II, and had a product ready to sell to the US Quartermaster for use by the Army (PennRR Employee Newsletter). Its flavor was good enough to meet the wartime needs, but it was several decades before the processes were available and cost effective, to have a flavor that could compete with the traditional product as a matter of choice. Flavoring instant and regular coffee and tea in recent years has increased the popularity of these beverages

Do you remember what canned orange juice tasted like? It was sweet and it had a pleasant acidity, and the color was about right, but it wasn't "orangey". Processes such as vacuum concentration and volatile essence recovery, freezing and blending with unconcentrated juice produced a passable concentrate for dilution before drinking that made a potable orange drink throughout the USA all year long. Improvements continued to be made and the process produced low cost natural flavor ingredients for flavors that are used in a wide range of citrus flavored foods and beverages.

There was Kool Aid™, too (Perkins Products), which they say was born and made popular in Chicago because the flavor of the city's water was so bad. Flavored? Sure! They probably even used "dry" flavors, but originally the flavors weren't encapsulated. The number of flavors of Jell-O™ was small - limited to six for a long time. Many people ordered the dessert by color rather than by flavor.

Do you remember Southern Comfort? It was one of the few high proof alcoholic beverages that could be bought legally during WWII, reportedly, because it wasn't whiskey. Its flavor wasn't very good either. More flavor isn't always better.

That should be enough reminders of how far *flavors* had to go fifty years ago. Flavors are so much better today because of better science, better technology, and a wider selection of safe and suitable flavorful raw materials, better manufacturing processes, and flavorists who learned the trade. All of these make for better flavors and a wider variety of shelf stable foods. But there are still many more flavor challenges for the flavorists of today and tomorrow.

B.

A TIME LINE

1945-1995

The date of an event that occurred in the USA will be at the left margin. If it was in Europe, the date will be centered, and if it happened in Asia, the date will be at the right margin.

USA

EUROPE

ASIA

1945 - - - The War is Over - - - - - 1945 - - - - - The War is Over - - - 1945

There was not much printed information available in English about the composition or use of commercial flavors and fragrances in 1945. Here are a few: H. Bennett's "The Chemical Formulary", published by the Chemical Publishing Company Inc., NY for many years starting 1933. Volume 1 had 22 pages on beverages and flavors and a 45 page addenda on alcoholic liquors and their flavorings. A glossary at the end of each volume told you the sources of each trade-named ingredient named in a formula. "Flavours and Essences: a Handbook of Formulas" by M. H. Gazan 1936 London, Chapman & Hall, "Manual of the Essence Industry" Erich Walter, 1916 John Wiley & Son, New York, and William C. Poucher's "Perfumes Cosmetics & Soaps - with especial Reference to Synthetics" in two volumes, Third Edition. D. Van Nostrand Company, Inc., NY, 1929. Poucher's lab was in Mitcham, England, home of the best peppermint oils of the day, and the book was actually printed in Scotland. In addition to the named applications of perfumes, with appropriate formulae, there are formulae in Volume II for dental preparations and tobacco products (cigars, cigarettes, snuff and chewing tobacco).

E. C. Crocker of A. D. Little published a book in 1945 on "Flavor" because his "search for books on flavor was so barren that the need of a comprehensive book on the subject became obvious". It was printed by McGraw Hill Book Company, Inc., NY and London.

1945

The second annual review showing the "Progress in Perfumery Materials", written by Paul Bedoukian, PhD, was printed in Cosmetics and Perfumery. He continued this report for fifty years. Perhaps inspired by this, other similar reviews were begun. Robert Swaine, Sr. et al, from A. D. Little, produced "Flavoring Materials Update - a Continuing Review", in the early 1960's. And, at least one review and bibliography on "Food" appeared in Analytical Chemistry by K. L. Sloman, A. K. Foltz and J. A. Yeransian of the General Foods Technical Center at White Plains in 1981, covering the two years 1978-1980. It contained over thirty pages and included "Flavors and Volatile Compounds" among the eighteen topic headings.

Average annual income in the US was less than \$2,500. A new car could be bought for \$1,000; a gallon of gas was \$0.15, taxes included. An ounce of gold was \$35.00, but you could not legally own any. And the Dow Jones Average stood around 170.

1947

The Council of Europe was formed with 26 country members. It had no regulatory authority. They were to evaluate the safety of food ingredients and additives. They put more faith in mutagenicity tests than in animal tests that are preferred in the US. The Council meets in Strasbourg.

1947

Researchers at Firmenich and Givaudan solve the structure of Irone at about the same time.

1948

Volume I of The Essential Oils by Ernest Guenther made its appearance. The first of six volumes, it included a history of the essential oil industry; the origin and function of the oils in the plants (by A. A. Haagen -Smit); the methods of production of the oils (by E. Guenther), and the then current methods of

analysis of essential oils (by E. Langenau). This set would replace the three-volume Gildemeister & Hoffmann standard published in 1931.

1949

Volumes II and III of Guenther's Essential Oils were released. Volume II covered the constituents of the oils and the preparation of the derivatives by which they were chemically identified. Only 21 pages were required to cover identified ingredients that contained nitrogen and or sulfur. One small paragraph covered all comments on "other constituents", and that included oxides and furans in addition to sulfur components. Volume III covered individual essential oils under the two major plant families Rutaceae and Labiatae. These include the citrus oils and many common spice and herb oils.

1949

Justus G. Kirchner of the USDA contributed a 30-page review of The Chemistry of Fruit and Vegetable Flavors in Volume 2 of *Advances in Food Research*, Academic Press, edited by E. M. Mrak and G. F. Stewart. The references that followed the article filled seven pages, covering the years from 1874 to 1947, researchers in Germany, Japan, Switzerland, the UK, and the USA. Fruits, from apples to strawberries were covered. Vegetables from carrots to watercress (including miscellaneous), and coffee, tea and cocoa were included.

This paper is worth reading today in order to get an idea of the distance that we have come in instrumentation and analysis; of the effort that Haagen-Smit and his group exerted to get more knowledge on pineapple; starting with over 4000 KG of fruit; checking the aqueous and oil phases as the flavor was concentrated; analyzing both summer and winter fruit, obtaining 190 mg/ kg from the former and 16.6 mg/kg from the latter. And the two major (95%) components were Ethyl Acetate and Ethanol. Less than 0.5% of the volatiles of the summer fruit were sulfur-containing compounds. Methyl B-Methyl thio propionate was identified by 1945.

1951

Volume IV of Guenther's Essential Oils: Contains monographs of oils in six other plant families that include the spices clove, bay, cinnamon, celery, anise, dill and parsley. It also covers the source oils for many aromatic ingredients including citral, geraniol and linalool.

1952

The last two volumes, V and VI, of Guenther's Essential Oils were published. Volume V contained oils of Rose, Nutmeg, Pepper, the Balsams, Styrax, Jasmine, Violet, Carnation Davana and Tagettes. Volume VI contained oils such as Wintergreen, Valerian, Mustard, Onion & Garlic, Orris, Hops, Pine and Juniper.

1952

A. T. James and J. P. Martin reported their work with a gas chromatograph. *Biochem. Journal* 50, 679, (1952)

1952

Fritzsche Bros, Inc. bought Dodge and Olcott from Industrial Solvents, National Distillers. The two companies operated independently for a while, eventually forming Fritzsche D & O.

1953

Society of Soft Drink Technologists Organizational meeting in Washington, DC

1954

The first meetings of the Society of Flavor Chemists were held in New York City. The best estimate of the number of people from the start until incorporation in 1959 was 14. Early meetings were held at restaurants in Little Italy, and the New York Times Restaurant.

1955

Virginia Dare Extract Co. acquired Drew Co., a flavor company in New York City.

1956

1956

An article in the American Perfumer, March 1956, *Origin of Powdered Flavors*, explained how spray dried volatile flavors were invented and manufactured in quantity in England in 1932. F. Wilkinson and G. N. Revie, working for A. Boake Roberts & Co. (ABRAC), discovered the process and the preferred carrier while developing improved depectinized fruit powders. The process was not patented, but the rest of the industry apparently did not compete for many years. MM&R were authorized to sell the powders in the USA for ABRAC in the 1940's.

1958

The European Common Market was established, consisting of six nations. It expanded to nine in 1973 and to 12 in 1980.

1958

The Food Additive Amendment (HR 6747) to the 1938 Federal Food Drug and Cosmetic Act was passed. It had been in the development stage for six years. It recognized the increased use of non-food ingredients, and provided for the separation of existing and future ingredients that are generally recognized as safe from those that may require testing to assure that they are used only at levels and in those foods where they pose no hazard.

1958

International Flavors and Fragrances (IFF) formed by the merger of Polak and Schwarz and van Ameringen and Haebler. Stock was issued to the public in 1961.

1959

The Society of Flavor Chemists was incorporated in New York -- A professional society. There were about 14 original members of the group, and 23 Charter members who signed the papers of incorporation.

1959

The 50th Anniversary of the FEMA was celebrated at its annual meeting in the Hotel Roosevelt in New York City. The association consisted of 175 members. That was up from 74 members at their first annual meeting in 1910. (There were men from nine firms who had signed the certificate of incorporation in 1909). Topics of concern in 1959 were Food Additives, Color Additive Legislation and vanilla research.

1959

It was also the 50th anniversary of the Perfumery and Essential Oil Record, edited by W. R. Littlejohn, B. SC, A. R. I. C, F. C. S. The special Golden Jubilee number contained 62 pages of review articles on the essential oil industry and the aromatic chemical industry, and segments thereof by researchers who included Naves, Stoll, and Bedoukian. You are lucky if your library has a copy of this issue. There were also 160 pages of the development of individual companies in the industry during the preceding 50 years, interspersed with advertisements of interest to the trade.

1959

Virginia Dare Extract Co. acquired Theal and Pile, a New York beverage flavor company.

1961

T. Hasegawa Co. Ltd established in Osaka, Japan.

1960

Stephan Arctander published and sold his "Perfume and Flavor Materials of Natural Origin". He described many natural ingredients known to only a few in the trade at the time. It took a long time for some of them to become generally available. Printing and distribution were continued after his death first by his widow, and then by Allured Publishing.

1960

Around this date, Chemists from Fritzsche Brothers began publishing periodic articles in the ACS Journal *Analytical Chemistry* under the heading of "Essential Oils and Related Products". Ed

Langenau started it off, usually co-authored by one of more additional co-authors. Sometimes one report covered two years. In 1981, the authors were Gil Gilbertson and Roman Koenig

1960

The Color Amendment to the Food, Drug and Cosmetic Act was passed. It contained a Delaney Clause that prohibited the approval of any color shown to produce cancer in any animal at any dose.

1961

Paul Bedoukian, through Company Parento, Inc. offered cis-3-hexen-1-ol (leaf alcohol) to the flavor and fragrance industries. This was to be followed by esters of that alcohol, and a series of unsaturated aldehydes.

1962

Red Star Yeast changes name to Universal Foods.

1963

The First edition of "The Volatile Compounds in Food" was published by TNO, The Netherlands Organization for Scientific Research. The editor was van Straaten.

1963

Robertet adds Flavors to their lines of perfumes, floral oils and extracts.

1964

The first steps were taken to enlarge the international flavor organization started by Belgium, the Netherlands and Luxembourg.

1964

The Executive Secretary of the FEMA, John S. Hall, died after thirty-two years in that position. He was replaced by attorney Daniel R. Thompson.

1965

L. Appell (of Norda Schimmel International) began a series of articles in the *American Perfumer and Cosmetics* entitled "The Physical foundations of perfumery" that lasted through 1970 in that journal.

Titles of the various parts were Volatility, Odor Intensity, Vapor Intensity, Absolute intensity of odor and olfactory equilibrium, Volatility of essential oils, Odor tonality (and at least two others - parts VIII and IX) whose subtitles I do not have.

1965

Food Technology published the first list of flavor ingredients that had been surveyed concerning the extent of their past use in food flavors in the US, and the knowledge of their effects on ingestion, had been evaluated by the FEMA Expert panel. The list was called "GRAS 3" because this was the third of three articles, under the title "Progress in the Consideration of Flavoring ingredients under the Food Additives Amendment". The first two articles in that series -unnumbered - contained all of the materials reported to have been in use, and a report of the results of the panels request for more information about several ingredients that they thought was needed.

1965

The Flavor Subdivision of the American Chemical Society was organized with an initial meeting in Atlantic City NJ. It sponsored a symposium on Flavor Chemistry for the Detroit ACS meeting April 1965. Active were Irwin Homstein, Emily Wick, Roy Teranishi and Anne Neilson.

1966

Gentry bought Magnus Maybee and Reynard (MM&R).

1968

The Research Institute for Fragrance Materials (RIFM) was established on April 12 as a non-profit scientific organization under the presidency of Dr. T. D. Parks. The purpose was to gather scientific data and other information on the properties and use of fragrance ingredients, those used and commercially available to the industry. It was a successor to the Essential Oil Association (EOA), which had established monographs on essential oils and aromatic chemicals used for fragrances and flavors. Cooperation with IFRA developed by having the president of IFRA on the RIFM Board.

1968

The FEMA made a slight change in its name to **The Flavor and Extract Manufacturers Association, Inc.** in order to reflect its membership more accurately than the original name.

1968

Monsanto Chemical bought George Leuders, Essential Oil supplier. The name was changed to Monsanto Flavor Essence.

1969

The International Organization of the Flavor Industry (IOFI) was organized under Belgian law as a non-profit scientific organization on August 11, with headquarters in Brussels

1969

Fritzsche Bros Inc. buys Dodge and Olcott (D&O).

1970

Fries and Fries Inc. bought by Mallinkrodt. President Bob Fries Jr, to remain president for 5 years

1970

The 7-Up Co acquired Warner Jenkinson.

1970

American Brands, a tobacco company, bought Albert Verley. They were strong in dairy flavors and once very innovative in flavor/fragrance aromatic chemicals.

1972

Virginia Dare Extract Co. acquired V&E Kohnstamm, a NY concern selling flavors and oils.

1972

Chemical Sources Association, Inc. formed. It is a trade association.

1972

Hoffmann LaRoche bought 51% of Roure Bertrand Dupont.

1973

Hercules bought Polak Frutal Works¹.

1973

The International Fragrance Association (IFRA) was established with headquarters in Belgium, with major fragrance manufacturers from all over the world as members. Membership was open to fragrance related consumer product companies as well. The latter had not been eligible for membership in the Essential Oil Association.

1974

During the twentieth anniversary year of the SFC, a Symposium "The Multi-faceted Nature of the Flavorist" was held at Rutgers University, New Brunswick, NJ. The papers were published in the last three issue of the British *Flavour Industry* journal, who also provided reprints of all of the papers.

1974

The bimonthly British Journal *Flavours*, Editor, Wm. Littlejohn, started to publish articles by Jim Broderick. There were ten fruit flavors covered alphabetically, from Apple to Strawberry, which appeared over a span of about two years. The journal's name changed to The Flavour Industry in 1974 and to International Flavours in 1976. The articles were short and concise - one or two pages, and would help lone flavorists - or those in larger companies in improving the fruit flavors of that day. Jim brought some of the references on fruit flavors up to date since Kirchner's publication.

1974

IFRA published its first Code of Practice describing good manufacturing practices for the fragrance industry.

1975

RJR tobacco bought Aromatics International, a flavor manufacturer of Atlanta Georgia.

1975

Crompton & Knowles bought the Gentry International Flavor and Fragrance Divisions.

¹Flavors & Fragrances Industry Faces Season of Consolidation" P. L. Layman, C&E News July 30, 1984, p 7 ff

1976

Nestle bought Synfleur Laboratories.

1976

The American Chemical Society celebrated its 100th Anniversary. There were 100 founding members, and 110,000 members in 1976.

1976

Naarden International bought The Universal Oil Products (UOP) fragrance division.

1977

Felton International bought Elan, manufacturer of flavor and perfume aromatics.

1978

ITC bought Davis and Lawrence, bakery supply house.

1978

T. Hasegawa, USA, Inc established in Lawndale, California.

1978

The International Life Sciences Institute (ILSI) was established to enhance the sciences of nutrition, toxicology and risk assessment. A non-profit, public foundation. Branches have been established in Australia, Europe (1986), Japan and North America. They have done an excellent job of gathering technical, toxicological and historic information on natural and synthetic colors. ILSI headquarters are in Washington, DC, USA.

1978

Philip Morris acquires the 7-Up Co. (including Warner Jenkinson), making it a subsidiary. Set up a beverage flavor lab in Richmond, VA.

1979

ITC bought Neumann, Buslee and Wolfe, small Midwest general flavor house, heavy on vanilla products.

1979

McCormick & Co. bought Stange, based in Chicago.

1979

ITC bought American Food Labs, an eastern flavor house serving the ice cream and bakery trades, Neumann, Buslee and Wolfe, a Chicago flavor manufacturer; and Davis and Lawrence, a bakery Supply House in New York.

1979

BBA bought Monsanto Flavor Essence from Monsanto.

1979

Universal Flavors and Fragrances (flavor businesses of Universal Foods) was formed and expanded by the addition of the purchase of Aromatics International, Atlanta Georgia from RJR Industries (specializing in tobacco flavors); and Aromanescence Inc (formerly Albert Verley Inc.)

1980

Fritzsche Dodge and Olcott bought by BASF, Wyandotte. Germany.

1980

F&C International Inc acquired Felton Worldwide Fragrance from Harrison & Crossfield, and Felton's USA Flavor business. This doubles F&C's sales to about \$50 million.²

1981

Florasynth, Inc. purchased Lautier SA, of France. Flavors and Fragrances.

1981

Annual Worldwide sales of perfumes and flavors estimated to be \$4200 million.³

1981

Annual Worldwide sales of perfumes and flavors estimated to be \$3,600 million. (\$1,450 for flavors).⁴

1982

Union Camp (US) bought Bush, Boake Allen from Tenneco's Albright & Wilson subsidiary.

1983

The Chamber of Commerce and Industry of Versailles, France took over an institute, which had been training perfumers for thirteen years. They modified it to include sections on cosmetics and flavors. The "Institute Superieur International du Perfume, de la Cosmetique et de l'Aromatique Alimentaire" presents a solid foundation in these fields to screened applicants consisting of a full time student work program of 35 hours per week for two years.

1983

Annual Worldwide merchant sales flavors, fragrances and aroma chemicals. \$4,500 million.

1984

The thirtieth anniversary of the SFC was marked with a symposium on flavors jointly with the American Association of Cereal Chemists, as a short course in Flavors in Chicago, Illinois. The papers were published in the same year by Allured Publishing, Wheaton, IL. There were 114 pages, paper covered. It was available for several years.

1984

Universal Foods bought Warner Jenkinson.

²The Cincinnati Enquirer May 26, 1990

³"The World Flavor and Fragrance Industry 1979-1981" L. Unger, Perfumer & Flavorist
Vol 7, 1062 pp51 ff

⁴A. D. Little estimates.

1984

PPF International (a UK Unilever group of PPL, Food Industries and Bertrand Freres) bought Norda. This gave PPF total sales of \$215 million.⁵

1984

Annual worldwide merchant sales of flavors and fragrances (Essential oils & other natural products, aroma chemicals (Natural & synthetic \$4,650 million.⁶

1984

Adron Co., formed by Bob Amaducci who purchased the Boonton essential oil plant of Norda when it was purchased by Naarden, soon to be Quest.

1985

Florasynth, Inc. purchases ICOSA, Italy Flavor and Fragrance producer.

1985

Annual Worldwide merchant sales of flavors, fragrances, aroma chemicals-- \$4,900 million.

1985

Pauls & White (a UK Company) bought Felton International. Sale did not include Elan. Including Glentham Essence Ltd. P&W business is estimated at \$70 million.⁷

1985

Firmenich purchased an interest in Chemfleur, fragrance chemical manufacturer (USA) adding \$15 million to sales.⁸

1985

Sanofi French F&F businesses bought by French company Sanofi-Holding (Elf Aquataine) includes Benard & Honorat, Sisa-Chiris, Mero, Sebalce, Sordes and Tombarel. Worldwide sales about \$50 million (larger than Robertet and Mane Fils).

1986

Total sales in Japan of Flavors, fragrances and related chemicals estimated to be about \$700 million (just over 900 billion yen). About 50% flavors.⁹

1986

Total Worldwide merchant sales of flavors, fragrances and aroma chemicals \$6,000 million.¹⁰

1986

Universal Foods purchased Universal Group Ltd. (Hurty Peck).

⁵ L. Unger, Perfumer & Flavorist Vol 11, 1986, pp 63 ff

⁶ "Worldwide Merchant sales of Flavors and Fragrances, 1984-1990, L. Unger, P&F Vol. 11, 1986, pp63 ff

⁷ Unger ibid 1986

⁸ Unger ibid 1986

⁹ L. Blau, 6/19/87, Talk to the Society of Flavor Chemists.

¹⁰ L. Linger "Basic Business Trends in ... Industry "1987- 1990, P&F vol.?

1986

Florasynth purchased Fabrique De Laire, France. Fragrance Materials and Fragrances.

1986

Quest was formed when Unilever bought Naarden International, included some of their other flavor and flavor possessions, and chose the name it now bears.

1986

Ingredient Technology (ITC) purchased Gama Foods from Winsome Industries, and made it one of five divisions. The others were Specialty products, Spice and Seasoning, Flavor and Fragrance, and Ingredient Systems.¹¹

1986

Felton Worldwide was formed with the merger of Felton International with Paul's PLC. This was resold to Harrisons and Crosfield, PLC with parts going to Haarmann and Reimer, F&C International, Universal foods, and Champlain Industries.

1986

F&C International formed from an infusion of capital, youth and know how of ex- Fries and Fries personnel and others into Cino. President Jon is a fourth generation Fries in the flavor business. The business grew tenfold in the first five years. The fastest growing privately held company in 1989, 90 and 91.

1987

Robertet, Worldwide Over 400 million Ffrancs 23% France, 67% Foreign.

1988

Warner Jenkinson of Universal Foods buys H. Kohnstamm color businesses, and Clark Colors. Universal Flavors gets H. Kohnstamm Flavors in New Jersey.

1988

Crompton and Knowles buys Ingredient Technology Corp. for \$55 million. They expect their flavor and fragrance business to reach \$100 million in 1990.¹²

1989

Globe Extracts (Long Island, NY, USA) was purchased for \$15 million by Barnett and Foster (UK), who specialized in natural flavors. B&F is a subsidiary of Borthwicks. The first year's sales under the new owners were reported to have been about \$30 million, with operating margin in excess of 11%.¹³

1989

Alex Fries and Bros., was purchased by Land O'Lakes (USA). Vic Levey remains in charge. Chemical manufacture remains separate.

¹¹ Standard and Poor's Report, April 7, 1987

¹² C&K: The Edge in Mature Markets"--K. Heller Chemical Week May 2, 1990, p 16

¹³ IFI No. 4, 1991, p 63 ¹⁴ C&K ibid

1989

Warner Jenkinson Div of Universal Foods buys Dyeco Ltd, Canada, then the color business of McCormick & Co flavor division, formerly part of Stange.

1989

Netherlands' NEA estimated that their flavor and fragrance industry amounts to Dfl 800 million (5% of the total world turnover), with only 2.5% of the world population. They export 85% of their production.

1990

Universal Flavors buys the International Flavor business of Felton Int'l.

1990

The US Market for "flavors" is estimated at \$1.3 billion.¹⁴

1990

Quest sales worldwide \$842 million, R&D Expenses \$55 million. (includes process and product development, creation and application.)

1990

BBA bought Food Materials Corp.-Chicago based flavor company, strong in vanilla and in the Midwest.

1990

F&C International purchases the US Flavor business and the worldwide Fragrance business as well, from Felton Worldwide, which was owned by Harrisons and Crosfield, PLC (UK).

1990

IFF Worldwide sales \$963 million - about 40% flavors.

1990

Givaudan combined with Fritzsche D&O bought from BASF by Hoffman La Roche. Total sales (Fragrances and Flavors) \$900 million, \$120 from FD&O¹⁵

1990

Sanofi Bio-Industries Purchased California based Continental Flavors and Fragrances.

1991

Jim Broderick took his pen in hand again after his retirement and wrote another set of articles on flavors. These appeared in the Perfumer & Flavorist. They were short. Each had a message and fit under the heading of "Reflections of a Retired Flavorist Before he Forgets". They were developed around fruit flavors.

1991

Blue Pacific Flavors and Fragrances, Inc. was formed in Santa Monica, California by Donald F. Wilkes (son of David Wilkes of Globe Extract management), and Kraus & Co. of Michigan, run by Jerry and Eva

¹⁴ C&K ibid

¹⁵ 1991 Annual Report Roche Group

Kraus (husband and wife flavorists! Rare, but not alone. There are Bill and Yola Downey, Tom and Ladonna Giel, and John and Bonita Scire.)

1991

Universal Flavors bought Fantasy Flavors (Dairy flavors). It was later combined by UF with Blanke Baer, another acquisition owned by UF, to serve that industry segment.

1991

Givaudan-Roure Worldwide Fragrance, Flavor Div. formed by Roche Holding Ltd., Switzerland, by combining two of its parts. Hoffman la Roche annual report says sales 1, 305 million Swiss francs, and (\$963 million).

1991

Mallinckrodt's Fries and Fries Inc., Hercules' Polak Frutal Works (Flavors), and Citrus Specialties flavor operations were combined, to be renamed Tastemaker. This was a joint venture on a scale not before seen in this industry. Fries & Fries is a part of Mallinckrodt Specialty Group, which is a part of IMCERA Group, Inc. (NYSE). PFW and Citrus Specialties are a part of Hercules. Fragrances and aromatic chemicals businesses of each parent company are separate from the venture. Initial annual sales of the group were reported to be \$170 million.

1991

Haarmann and Reimer GmbH, (H&R) Holtzminden, Germany (a wholly owned subsidiary of Bayer AG of Leverkusen, Germany) acquired the worldwide fragrance business of the Hercules PFW Division.¹⁶

1992

IFF acquired Auro Tech, a biotechnology company based in Wisconsin. To be run as a subsidiary.

1992

Ungerer and Co., Lincoln Park, NJ, forms a joint venture with IGI of Buena, NJ to develop food flavors using lipid vesicle technology to encapsulate Ungerer flavors.

1992

Firmenich Worldwide 2,600 employees, \$600 million.

1992

Tastemaker Worldwide \$195 million.

1992

Champlain Industries (Canada) purchased Felton International Flavor business.

1992

Western Europe flavor and fragrance markets estimated at \$3, 655 million.¹⁷

¹⁶ 1991 Annual Report Roche Group

¹⁷ W. Storck, C&E News, Sept 21, 1992, p 11

1992

Worldwide sales of flavor compounds and essential oils estimated at \$4,500 million¹⁸

1993

Globe Extracts New owners changed the company name to Borthwick USA.

1993

Bell Flavors & Fragrances (USA) acquired Miltitz Duft und Aroma GmbH, Miltitz, Germany, making it their new European headquarters and manufacturing facilities for flavors fragrances and aroma chemicals.

1994

The fortieth Anniversary of the SFC was celebrated with a Symposium, "Flavors '94", in Princeton New Jersey. Held on the date of the worst winter weather for the East Coast for the year, speakers and participants made successful efforts to attend an excellent program. Several of the papers were reproduced and made available to SFC members.

1994

Universal Foods Inc. acquired Champlain Industries Inc. making it a part of their Specialty Bio-Products Division.

1995

1995

1995

Worldwide sales of flavors

2000

2000

2000

Worldwide sales of flavor compounds and essential oils projected to be \$7, 500 million¹⁹

¹⁸ Food Ingrid. & Proc., Intl. 5/4/92 p 24

¹⁹ ibid

C. PROFESSIONAL AND TRADE ASSOCIATIONS

1. **The American Chemical Society (ACS)**
2. **The British Society of Flavourists (BSF)**
3. **The Chemical Sources Association, Inc. (CSA)**
4. **The Flavor and Extract Manufacturers Association, Inc. (FEMA)**
5. **The Mexican Society of Flavor Chemists (SMS)**
6. **The National Association of Fruits, Flavors and Syrups (NAFFS)**
7. **The Society of Flavor Chemists, Inc. (SFC)**
8. **Women in Flavor and Fragrance Commerce, Inc. (WFFC)**
9. **Flavor Companies 1995**

1. The American Chemical Society (ACS)

Chemistry in the US marks its beginning with the discovery of oxygen on August 1, 1774 in Northumberland, Pennsylvania by Joseph Priestley. More than 100 years later, as the industrial expansion of the US was increasing rapidly in 1876, and US Universities were just beginning to grant PhD degrees in chemistry, a group met in a lecture room of the New York College of Pharmacy in Washington Square, New York City to meet the needs for a national organization for chemists. There were 133 founding members. In 1976 there were more than 110, 000 members. Today there are 155, 000.

The Society's first publication was its "Proceedings" in 1876, followed by the Journal of the ACS three years later. Many more periodicals have been added, along with magazines and secondary publications such as Chemical Abstracts, and modern access to electronic data sources.

While many of the early investigations were helpful to the flavor industry, their applications to flavors were minimal. Divisions were eventually formed until there are now thirty-three. The division of most interest to flavorists is the Agriculture and Food Chemistry Division that has its own publication, and prepares sessions for one of the two national ACS meetings each year. The collected papers of symposia on single subjects are quite often printed soon after their presentation at a meeting, and are available to division members at reduced rates.

The Ag and Food Division has four subdivisions, each with a chair, chair elect, vice chair and secretary. The subdivisions are Flavor; Food and Nutritional Biochemistry, Agricultural and Natural Products Chemistry; and Food Safety.

There are over 1000 local sections of the ACS, some of which cooperate to meet on a regional basis (Chemical & Engineering News "Centennial American Chemical Society -1876-1976" April 6, 1976)

2. The British Society of Flavourists (BSF)

(Information supplied by Roger Levicki, Honorary Membership Secretary. Secretary of BSF is Christine Hale, at BBA, Stafford works, Long Melford, Suffolk, England, CO 10 7HU).

The British Society of Flavourists was founded in 1970 to promote the interests of the individuals working within the Flavour Industry, including flavourists, technologists, marketing and sales as well as company managers and directors. It has grown over the years and can now claim a total membership of 542.

There are six classes of membership:

Fellow	for flavourists with a minimum of ten years.	106 current members
Associate	for flavourists and technicians with a minimum of five years experience	203 current members
Affiliate	for those from the commercial side.	141 current members
Student	for flavor trainees with less than five years	55 current members
Honorary		5 current members

They are Dr. A. W. E. Downer, Henry Heath, J. G. Meredith, C. J. Redgrave, and Dr. M. Seidman. All live in the U. K. except Mr. Meredith, who is in Spain.

Retired		32 current members
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A series of lectures is held during each year with presentations on a wide range of subjects of interest to the membership. Included within this lecture program were the Bill Littlejohn Memorial Lecture, given by a senior figure in the Industry, and the Bill Waygood Memorial Lecture, presented by a student. Attendance at these lectures is free and a buffet is provided afterwards, or a tasting.

There is also an Annual Symposium, a suppliers Day where companies can present new materials, and a four-day training course aimed at new entrants to the Industry, jointly organized with the Leatherhead Food RA.

We have recently endowed a bursary (college scholarship) at Reading University to encourage the study of flavour related subjects.

A quarterly Newsletter is published to keep members informed of our activities and of other news from around the Industry. It provides a perfect forum for members to air their views.

The social programme concludes a Golf Day and the very popular Gala Night. The BSF Gala has become a "must" for many, and apart from the wonderful atmosphere we always seem to create, we also raise a substantial sum each year for charity through our raffle.

3. The Chemical Sources Association, Inc. (CSA)

On February 6, 1969, an informal meeting of representatives of interested flavor firms at the Chemists' Club in New York. Present were representatives from Fries and Fries, Felton, Florasynth, McCormick, Stange, Virginia Dare, Ungerer, and Warner Jenkinson. Food Materials had expressed an interest, but were unable to attend. The initial discussions were to address the problems of attending satisfactory sources for GRAS materials. Several possibilities were discussed, and a second informal meeting was proposed at the annual FEMA meeting a few months hence. (From Jim Broderick's resume of the meeting). The group was held together with round robin letters in lieu of formal meetings.

After several informal meetings, there was enough interest to call an organizing meeting for June 3, 1971 at the Chemists' Club. At this time, the group had as a temporary name: Flavoring Materials Association. Eleven were in attendance, including Hy Kaplan of Elan, and Mr. M. Zoran of Palestine Frutarom, who offered to make initial quantities of a pyrazine. Mr. Zoran's offer was accepted, with the group having agreed to finance the initial production. Rus Schay was the secretary *pro tern*.

Most active in the startup of CSA were: (alphabetically): Jim Broderick, Kohnstamm; Bruce Durling, Stange; Tony Filandro, Virginia Dare; James Ingle, Food Materials; Paul Perry, Warner Jenkinson, Richard Pisano, Sr, C. A. Aromatics; Abner Salant, Monsanto, and Rus Schay, Cino. These seven constituted the first Board of directors. Twenty-seven members were included by the end of the first year. The group was incorporated on July 26, 1972, and continued to grow. In 1974, the budget included \$4000, to cover the synthesis of GRAS chemicals for evaluation. There are currently 84 member companies. CSA published its first Source List in 1978. CSA contributed to Allured's *Flavor & Fragrance Materials* -1981 edition, by supplying information from committee work, which updated and expanded the two prior CSA listings (1978 and 1980). Dave Straus chaired that committee (*Flavor & Fragrance Materials-1981-Allured Publishing*, pp xiii-xvi).

We were fortunate to have the assistance of legal advice from Dan Thompson's law firm. The purpose of CSA was, and is: To advance the technology of the flavor industry, to broaden the variety of materials available for commercial use, and to encourage the development of new and better flavors using the most modern technology.

It was important to the founders that CSA provide a forum where manufacturers and suppliers of flavors, fragrances, extracts or related raw materials could meet to advance the technology of the flavor industry.

Membership is by companies. Each company member is allowed one voting representative and up to three technical representatives at any time. It was hoped by most of the founders that the officers and directors of the CSA would continue to be selected so as to have management employees and technical employees equally represented. The Board of Directors is elected annually by the membership.

The list of projects initially selected, included the location of sources of manufacturers who would make research/sample quantities of flavor ingredients not currently available; locate analytical expertise for the analysis of flavor raw materials; develop a directory of all natural and synthetic materials and their sources of supply; develop a library of chemical samples (currently at the facilities of Manheimer, and available to members on given notice); and investigate the legal restrictions which might exist on the use of GRAS materials, flavors and fragrances, including patents.

To encourage membership and attendance at meetings, the association early on scheduled its meetings on the same dates and locations as the Society of Flavor Chemists' meetings. The original schedule called for four meetings a year. Each member company has one voting member who votes at the annual meeting, and at least one technical member who attend the more frequent technical meetings. An Industry Merit Award was begun in 1982 for the person who has made extraordinary contributions to advancing the science and technology of flavor and fragrance chemistry. It was most appropriate that the first award was give to Dr. James Ingle, co-founder and first President of the CSA in 1982. The CSA prepares internal publications useful to its members based on the work of its committees.

Presidents of The CHEMICAL SOURCES ASSOCIATION, INC.

1972-1974	Dr. James D. Ingle Food Materials Corporation	1986-1987	Mr. Richard Lane St. Louis Flavors
1974-1976	Mr. S. Rus Schay The Cino Company, Inc.	1987-1988	Mr. Richard Mangiere Ottens Flavors
1976-1978	Mr. Earl J. Merwin McCormick & Co., Inc.	1988-1989	Mr. John E. Baranowski Firmenich, Inc.
1978-1979	Mr. S. Rus Schay The Cino Company, Inc.	1989-1990	Ms. Veronica McBurnie Florasynt, Inc.
1979-1980	Mr. Robert T. Maleeny Monsanto Flavor/Essence.	1990-1991	Mr. Richard F. Heinze Bush Boake Allen, Inc.
1980-1981	Dr. Paul Perry Warner-Jenkinson Co.	1991-1992	Mr. Dolf DeRovira Flavor Dynamics, Inc.
1981-1982	Mr. Frank Fischetti Fritzsche Dodge & Olcott	1992-1993	Mr. Robert T. Maleeny Flavor & Fragrance Specialties
1982-1983	Mr. Harvey Farber Ingredient Technology Corp.	1993-1994	Mr. Philip I. Parisi David Michael & Co.
1983-1984	Mr. Gerard Mosciano Food Materials Corp.	1994-1995	Dr. Yunus Shaikh Aroma & Flavor Specialties
1984-1985	Mr. Michael Mandel Reynaud Ltd.	1995-1996	Mr. David Straus Comax Manufacturing Corp.
1985-1986	Ms. Dale Eskin Florasynt, Inc.	1996-1997	Mr. Michael Bloom Flavor & Frag Specialties

4. THE FLAVOR AND EXTRACTS MANUFACTURING ASSOCIATION (FEMA)

Formed in 1909 after a meeting in Cincinnati, Ohio of representatives of eight US companies. Half of the names of those companies should still be recognizable. They were Blanke Baer Chemical Company, Ulman Dreyfus & Co., Foote & Jenks, Frank Tea and Spice, Jones Brothers, McCormick & Co., C. F. Sauer Co. and Sherer-Gillette Co.

The founding followed closely on events of the previous three years that included the publication of Upton Sinclair's "The Jungle", and the passage of the 1906 Federal Food & Drug Act. The three purposes of the new organization are included in the Mission Statement and Vision Statement that were circulated recently to answer questions of potential new members. Members are flavor manufacturers, flavor users, flavor ingredient suppliers and others with an interest in the US flavor industry. (From "FEMA — the First 75 Years" anon. Perfumer & Flavorist Vol 9, No. 3, 1984 and the current membership directory)

Mission Statement:

The Flavor & Extract Manufacturers' Association is a US based organization whose membership is comprised of companies taking a leadership role in the flavor industry.

The mission of FEMA is

To collectively protect and promote the welfare of its members,

To encourage and promote ongoing ethical standards of conduct within the flavor industry.

To foster scientific understanding and advantage relative to the flavor industry. To assure end-users of flavors of safety, quality and value, while promoting laws and standards that deal justly with the rights of consumer goods manufacturers and their customers.

To encourage and foster understanding and cooperation among domestic, foreign and international legislative, regulatory and trade organizations.

Vision Statement:

FEMA, through its pro-active leadership will create and maintain productive relations with US legislative bodies and regulative agencies and promote the unification of the flavor industry worldwide on matters of common interest and responsibility.

The FEMA has a Board of Governors and an Executive Secretary, Mr. Daniel R. Thompson. Its headquarters are 1620 I Street, NW, Suite 925. Washington, D. C, 20006

Organizations similar to FEMA include:

BEMA, The British Essence Manufacturing Association; JFMA, The Japan Flavor and Fragrance Manufacturers' Association; and NEA, Association of Flavour & Fragrance Manufacturers in the Netherlands; IOFI, The International Organization of Flavor Industries, whose members are the national Associations mentioned here, and others from around the world.

**PAST PRESIDENTS OF THE FLAVOR AND EXTRACT MANUFACTURERS'
ASSOCIATION--1909 to Date**

1909-1911	Mr. W. M. McCormick	McCormick & Company
1911-1913	Mr. S. J. Sherer	Sherer-Gillette Company
1913-1914	Dr. S. H. Baer	Blanke Baer Chemical Company
1914-1916	Mr. F. L. Beggs	The Styron-Beggs Company
1916-1918	Mr. F. P. Beers	C. L. Cotton Company
1918-1920	Mr. Charles D. Joyce	The A. Colburn Company
1920-1921	Mr. Robert E. Heekin	The Heekin Company
1921-1923	Mr. Gordon M. Day	Day-Bergwall Company
1923-1925	Mr. Fred S. Rogers	McMonagle Rogers Company
1925-1927	Mr. D. T. Gunning	Arbuckle Brothers
1927-1929	Mr. George H. Burnett	Joseph Burnett Co.
1929-1931	Mr. E. L. Brendlinger	The Dill Company
1931-1933	Mr. Bernard H. Smith, Sr.,	The Virginia Dare Co.
1933-1935	Mr. W. F. Meyer	Warner-Jenkinson Company
1935-1937	Mr. George M. Armor,	McCormick & Co., Inc.
1937-1938	Mr. Leland P. Symmes	Baker Extract Company
1938-1939	Dr. Clark E. Davis	The Virginia Dare Extract Co.
1939-1941	Mr. John H. Beach	Seeley & Company, Inc.
1941-1943	Mr. Lloyd E. Smith	Virginia Dare Company
1943-1945	Mr. Garret F. Meyer	Warner-Jenkinson Mfg. Co.
1945-1946	Mr. William B. Durling	Wm. J. Stange Co.
1946-1947	Mr. George M. Chapman	Liquid Carbonic Corp.
1947-1948	Mr. Leslie S. Beggs,	Styron-Beggs Company
1948-1950	Mr. John N. Curlett	McCormick & Co., Inc.
1950-1952	Mr. W. G. Grant	National Nu Grape
1952-1954	Mr. Wm. H. Hottinger, Jr.	Company Bowey's, Inc.
1954-1956	Mr. Don C. Jenks	Foot & Jenks, Inc.
1956-1957	Mr. Myron J. Hess	S. Twitchell Company
1957-1959	Mr. E. N. Heinz, Jr.	Food Materials Corp.
1959-1961	Mr. C . P . McCormick, Jr.	McCormick & Co., Inc.

PAST PRESIDENTS FEMA, Cont'd

1961-1963	Mr. S. M. Kleinschmidt	General Dynamics Corp.
1963-1966	Dr. A. S. Wendt	Fred Fear & Company
1966-1968	Mr. Howard Smith, Sr.	Virginia Dare Extract Co.
1968-1970	Mr. Robert H. Pulver	H. Kohnstamm & Company
1970-1972	Dr. Richard L. Hall	McCormick & Company, Inc.
1972-1973	Mr. Gene D. Kielhofer	Neumann — Buslee & Wolfe
1973-1974	Mr. William T. Miller.	Royal Crown Cola Co.
1974-1975	Mr. Oliver W. Hickel, Jr.	Warner-Jenkinson Co.
1975-1976	Mr. Bruce L. Durling	Stange Company
1976-1977	Mr. Eugene Grisanti	Int'l Flavors & Fragrances
1977-1978	Dr. J. Frank Perkins	Firmenich, Inc.
1978-1979	Mr. Robert W. Koch, Sr.	Food Materials Corp
1979-1980	Mr. John G. Adams	Adams Extract Company
1980-1981	Mr. Anthony S. Filandro	Virginia Dare Ext. Co.
1981-1982	Mr. Robert M. Hughes	Dragoco, Inc.
1982-1983	Mr. Lewis A. Enkema	Universal Group Limited
1983-1984	Dr. J. Allen Brent	The Coca-Cola Company
1984-1985	Mr. Ira B. Kapp	Felton International
1985-1986	Mr. James J. Broderick	H. Kohnstamm & Co.
1986-1987	Mr. William J. Downey, Jr.	Fritzsche D & O
1987-1988	Mr. Robert G. Fries, Jr.	F&C International
1988-1989	Dr. Paul F. Hopper	General Foods Corporation
1989-1990	Mr. Richard C. Pisano, Sr.	Citrus & Allied Ess, Ltd.
1990-1991	Mr. Johannes A. Buchel	PepsiCo, Inc.
1991-1992	Mr. J. Wayne Wheelor	The Foote & Jenks Corporation
1992-1993	Dr. James M. Adams	Haarmann Reimer Corporation
1993-1994	Dr. Charles H. Manley	Takasago Int'l. Corp. US A
1994-1995	Dr. James L Emerson	The Coca-Cola Company
1995-1996	Mr. James H. Heinze	Bell Flavors & Fragrances
1996-1997	Mr. Robert Amaducci	Adron Inc.

5. THE MEXICAN SOCIETY OF FLAVORISTS (SMS)

The society was formed in 1985 and established in 1986 by a small group (mainly flavorists) from the Mexican flavor industry who felt the need for an organization of professionals in this field. The aims were to share experiences, issue opinions about regulatory and other government concerns; organize meetings to update, comment on, and spread industry news, world news related to the business, and promote and encourage the art and science of Flavor technology in Mexico, creating, in that form, the first "friends group". As in the case of the Society of Flavor Chemists in the USA, initial meetings were held in restaurants and in an informal mode. Initial activities were led by the SFC's activities and ethical basis. It is important to note that, in those years, members were from multinational flavor houses, that they were inspired by the solid basis and professional behavior of the SFC, Inc., and those of the equivalent BSF in England. When interest from the academic area was perceived, members were invited to participate, as some of the founders were at University posts.

In 1986, the group decided to make their activities public, due in part to the great interest developed in industrial, academic and social related fields. They became an "officially" integrated non-profit Society according to Mexican laws. Support of companies was obtained and good relationships with other Mexican associations were established. Flavorists, related technical personnel and others joined the society. Thus formed, the society has remained small in terms of the number of flavorist members, because the Mexican flavor industry is small, comprised of branches of large multinational flavor companies which have settled in Mexico. They have a very dynamic activity (including activity for some Central and South American countries) for 65 or more years.

Meetings of the SMS were held to vote proposed candidates for the presidency for one-year terms. The Presidents of SMS from the start, and their affiliations at the time were:

1986, 1987	Angel Garcia Prado	Firmenich
1988	Jorge Lara Sabido	Mane Fils
1989	Victor H. Givaudan	Tastemaker
1990	Bertha Falcon Herrera	Takasago
1991	Hugo Carreno Ortiz	Takasago
1992	Alejandra Campos Flores	Consultant
1993, 1994	Javier Perez Baez	Florasynth

The main activity of the Society has been the promotion of flavor technology from a scientific view rather than commercial, and the professional development of members within a highly ethical sense. Conferences, lectures, round-table discussions, participation in other associations, and short courses were held each year. Of special importance was the organization of a "Flavor Technology Week" each year from 1991 to 1994, which were four-day programs of technical sessions with lectures by honorary members, specialized conferences with recognized guests and speakers from industry and academia, some short courses, and a Social Night. An annual dinner meeting was also held each year for the presentation of the New Year's president and to stimulate friendship among attendees and members. Cooperative meetings have been established with The Mexican IFT (ATAM) which is a section of The Institute of Food Technologists; The National Association of Aromatic Chemicals Manufacturers (ANFPA) which is our access to IOFI; The Simon Bolivar University of Mexico, The LaSalle University of Mexico, and Government agencies.

SMS and ANFPA assisted in the publication of a handbook "A Book of Sensory Evaluation". The authors were Daniel Pederro and the late Rose Mary Pangborn. Both were from University of California (Davis). This was the first such book in Spanish related to food products, and is now in use throughout Latin America.

SMS is seriously interested in continuing its contacts with the SFC that were begun with the visits by some of its members to the SFC Meetings held at Annual IFT Meetings.

No activities were developed for 1995. This limited activity of our society has been the result of several events in the last few years. There has been a consolidation of many members' companies. Universal Flavors bought several small companies. Several US flavor companies have begun operating in Mexico, have grown, and are expanding their operations. These include BBA, Bell, and Ungerer. There has been a difficult economic situation that had been plaguing our country since the middle of 1994. The pressure of the demands of our jobs has left little time for outside activities.

Former members will be contacted in the near future in an effort to resume planning activities for a meaningful program for the society. One of the first orders of business will be the selection of candidates for the election of a President.

(This description of SMS was provided by Javier Perez Baez, most recent president of SMS, now with McCormick Pesa.)

6. THE NATIONAL ASSOCIATION OF FRUITS, FLAVORS AND SYRUPS (NAFFS)

NAFFS was founded in 1917. It is a broad based trade association open to all companies of all sizes that provide products and services to the food industry. It is proud of the large firms who are members because they have never sought to dominate its policies and activities. There are two classes of Full Membership (Class A and Class B), depending on the annual sales of the member), and an Associate Membership. Full membership is for those who manufacture, process or supply the products covered in the organization name. Associate membership is for those who proved a product or a service to those companies in the full membership category.

The association sponsors an Annual Convention, (a YEARBOOK is published which contains the proceedings of the convention), a mid year Technical meeting, and Dinner Business Meetings to explore emerging technologies in food processing, changing management systems; legislative and regulatory matters; market requirements; and personal development. A newsletter keeps members up to date on industry issues and government policy. It is called NAFFS *Newswire*.

Their current directory indicates 91 member companies from most of the lower 48 states.

NAFFS' mission is:

to provide a forum for the exchange of technological and marketing information;

to keep its membership aware of legislative and regulatory developments which impact the trade and commerce of the members:

to respond to the needs of the membership; and

to take a proactive role that generally promotes, protects, and extends the welfare of the industries represented.

The membership includes many companies who are also in the CSA and/or the FEMA, but also contains smaller or younger companies. Meetings are generally held in the New York/New Jersey area. It is directed by its seven elected officers, and a Board of 15 Directors drawn from a cross section of the industry. Its executive director is Richard Sullivan, located at 5 Ravine Drive, P. O. Box 776, Matawan, NJ, 07747 Phone 908-583-8272.

The membership, from its founding until about 1970, consisted mainly of companies who depended, to a great extent, on primary flavor manufacturers for the concentrated flavors made from aromatic chemicals and the rarer essential oils. They were companies such as Cleveland Fruit Juice Co., Fox Syrup, etc. After 1973, more of the basic flavor houses of all sizes also became members, and supplied help to the group that included providing officers to the board. The following are on the list of presidents since that date: Edgar Kohnstamm 1972-73 and 1980-81; Willis Steinitz, 1974-75; Tony Filandro, 1978-79; Tom Bonica, 1984-85, John Cassens, 1990-91; and Ken Burkhard, 1992-93.

7. **The Society of Flavor Chemists, Inc. (SFC)**

"The Society of Flavor Chemists was formed:

to promote professional discourse,

to foster and encourage the art and science of flavor technology,

to encourage, assist and promote sentiments of friendship and common interests among the members of the Society, and

to promote and maintain a high standard of professional conduct. "

The SFC was formed and still exists because Jim Broderick was convinced that such an organization was needed to increase the stature of the people involved and to show them what the future could bring if it were properly structured. The group was not to be just a club. Jim convinced about a dozen flavorists working in the New York New Jersey area that they should try to form such a group. The first meetings were held every other month in downtown Manhattan restaurants. Two meetings a year were for members only.

The number of people committed to the idea grew until 1959, when a charter was obtained for the corporation that was formed. There were 23 people who became "Charter Members" by signing the papers of incorporation, and receiving certificates of membership signed by the then president, Dr. David Jorysch. Those certificates also had the words "Charter Member" typed conspicuously on the face. The first nine presidents of the SFC were charter members. On June 29, 1973, another Certificate of Incorporation was obtained by the Society under section 803 of the Not-For-Profit Corporation Law.

The association developed a Code of Ethics early in its history. This is included in the publication "By-Laws and Membership Roster of the Society of Flavor Chemists", issued to each member in loose-leaf form, and kept up to date. It reads as follows:

"For the maintenance and advancement of the honor and dignity of my profession, I, as a member of the 'Society of Flavor Chemists, Inc.', pledge that the following Code of Ethics defines the principles which will guide and control my professional conduct. I have the duty

"1. To maintain my integrity as an individual, to live up to the highest ideals of personal honor, to keep in active contact with the progress in my profession.

"2. To my employer, to serve him undividedly and conscientiously on the basis of a clear, mutual understanding of our respective interests, guarding his concerns, reporting fully on all technical matters and recommending only honorable and legal manufacturing, merchandising and advertising procedures.

"3. To my profession, to uphold its dignity, to enrich it by my own contributions, to exchange ideas through its societies and publications, to give full recognition to the work of others, to be factual and completely truthful in all technical reports. But in doing so, to faithfully guard against the willful and wrongful disclosure of trade secrets of former employers, and not to act so as to remind my co-employees and my employer of their duty to honor the confidentiality of others.

"4. To refrain from associating with or allowing the use of my name by any enterprise I have reason to believe would not be guided by the foregoing principles."

Speakers were arranged for the open meetings and guests were welcome. Speakers included researchers Dr. K. P. Dimmick, Dr. J. Kirchner, Dr. P. Bedoukian, Drs. Mackay, Hunter, Chang, and Teranishi. Joint meetings were held with The American Perfumers' Association and IFT Sections.

The first issue of the Society News Letter was mailed in August 1973, and reported on the 100th meeting of the Society. A dinner meeting at the Sheraton on 39th Street cost \$4.00. The President's Reception was planned with the SFC subsidizing 50% of the \$40.00 cost per couple!

We had a home for our dinner meetings for a while at the Chemists' Club on 41st Street, which was also our mailing address. With more of our members working in New Jersey, we left the City, and held all but one meeting a year in New Jersey, and eventually had them all there.

In 1976, we began having one meeting a year in the mid-West. Chicago and Cincinnati, both homes of several flavor manufacturers, were chosen as the specific cities. At about the same time a breakfast meeting, featuring a speaker, was scheduled and held each year on the Tuesday of the Annual Meeting and Expo of the IFT. The Society established a scholarship through the IFT for a graduate student in Food Science. Each selected student has attended a Society meeting, often to make a presentation.

The following Symposia were held:

1974 "The Multifaceted Nature of the Flavorist" at Rutgers Univ., NJ. Papers published in The Flavour Industry, July to December 1974.

1976 "The Safety and Regulation of Flavor"

1978 "Natural VS Artificial Flavors"

1980 "The Future of Flavor Ingredients"

1984 "The Development and Applications of Natural and Artificial Flavor Systems", Joint symposium with the Amer. Association of Cereal Chemists. Chicago, IL. Papers published by Allured Publishing.

1994 "Flavors '94" Princeton, NJ. Held on the day of the worst storm of the winter, yet speakers and attendees made the effort to make this a memorable event. Most of the papers or slides were printed by the society and made available to attending members.

At the 25th anniversary of the SFC, just over half of the charter members had retired or died. Today only one is active, but seven are alive and active in non-commercial pursuits. Listed below are the charter members with their present status. This list is taken from a letter Jim Broderick wrote to Tom Bonica when Tom was Secretary (1959 or 1960). The letter was recently returned to Jim by Phyllis Bonica. It differs from the list included in the Program of the first SFC symposium, which included Al Dittrick, but had omitted Raymond Thompson.

Sven Andersen	D	Art Kirsten	D
Thomas J. Bonica	D	David Lakritz	R
John A. Bouton	D	William Lasthuysen	D
James J. Broderick	R	Earl J. Merwin	R
Jerry DiGenova	R	Marvin Preiser	A
Al Dittrick	D	Peter D. Sarris	D
Charles Dwyer	R	Fred R Schumm	R
Charles Fricke	D	Harris Shore	D
W. D. Graham	R	Louis J. Strasburger	D
Charles H. Grimm	R	Raymond Thompson	D
Harold L. Janovsky	R	Albin Wilco	D
Carl Jensen	D		

Jim's letter lists the first officers and directors and their affiliation then, as follows:

Jack Bouton	President	Synfleur
Charles Fricke	Vice President	Polak & Schwarz
Louis Strasburger	Treasurer	Van Ameringen Haebler
Charles Dwyer	Secretary	Dodge & Olcott
W. D Graham	5th Board Member	Firmenich

In 1955, Jack Bouton was reelected; Doug Graham was transferred to Geneva and was replaced by Fred Schumm, D & O, and Charles Dwyer resigned for reasons of health, being replaced by Jerry DiGenova, Givaudan.

In 1956, Charles Fricke was elected President, Strasburger, Vice President; Jerry DiGenova, treasurer; Fred Schumm, Secretary, and Dave Lakritz, 5th Board Member. During Charles' presidency, the process of incorporation was begun with the help of legal advice from a D & O attorney at the request of Ray Thompson.

In 1958, Louis Strasburger was elected President, Dave Jorysch, Vice President, Ray Thompson, Treasurer, Tom Bonica, Secretary and Earl Merwin, fifth Board Member. Due to illness, Louis did not assume his office, and Dr. Jorysch assumed the presidency, with Fred Schumm being appointed to the vice presidency.

The By-Laws define criteria for Honorary membership in the Society. Three charter members were also voted Honorary membership. When Doug Graham left the US to work in Switzerland, we had no precedent for foreign membership. Honorary Membership was made official, so that "he (Doug) would provide some companionship for the next member elected to that category". Lou Strasburger may have gained the same distinction on his retirement because of his very early and devoted interest to the Society. He served in several offices, but not as president. (Jim's letter mentioned above does not verify this.)

Those who were elected to honorary membership are believed to be:

Paul Bedoukian, PhD	(D)	Organic Chemist, Executive
Horace W. Gerard, PhD	(D)	Member FEMA Expert Panel
W . D . Graham	(R)	Charter member, Transferred, to Switzerland
Ernest Guenther, PhD	(D)	Author of "The Essential Oils" VP Fritzsche Bros.
Richard L. Hall, PhD	(R)	Key person in the industry program for GRAS
Edmund Hamman, PhD	(D)	Headed Fritzsche Flavor Labs
Walter Jennings, PhD	(R)	Professor, Organic Chemist, Entrepreneur
David Jorysch, PhD	(D)	Headed H. Kohnstamm Flavor Labs Active FEMA
William Littlejohn	(D)	Editor <i>Perf. and Ess Oil & Flavour Industry</i> journals.
James McGlumphy, PhD	(R)	Lab Director, Van Ameringen Haebler
Bernard Oser, PhD	(D)	Led the Expert Panel (FEXPAN)
Ernest Polak, PhD	(R)	Director PFW/Mentor to many flavorists
Neil Revie	(R)	Co-discoverer of the application of spray drying to encapsulation of flavors
Gary Reineccius, PhD	(A)	Professor Food Science, Specialty Flavors, Author
Louis Strasburger	(D)	Flavorist at Van Ameringen, Charter Member SFC
John Wenneis	(R)	WWI Monsanto Chemist who made significant technical contributions to Norda and the industry

A=still active in industry D=Deceased, R=Retired.

In 1966 and 1967, a committee was actively working on the development of a reliable list of newer flavor organic chemicals. It was headed by Al Saldarini at Norda, with Frank Fischetti and Ed Kata, both then at Warner-Jenkinson. Potential suppliers were contacted and asked to verify the availabilities of those chemicals. A softbound list was published with the information that had been verified. 500 copies were produced which were distributed to SFC membership for a total of \$500. Further work on this project was taken up by another group of flavorists and others whose efforts created the Chemical Sources Association. Frank recalls that he and Ed developed and presented the design of "FLAVOR" replacing the carbons in a benzene ring for the symbol of the SFC.

The first "Man (Person) of the Year Award" plaque for a member of the Society on record was presented by Marion Sudol in 1984. The criteria for this award are not outlined in the Society membership list. It has not been presented every year since its inception. This list is as complete as I have found.

Year	President	Awardee
1984	Marion Sudol	Tom Bonica
1986	Kent Zeller	Earl Merwin
1988	Joseph Cipriano	Jan Stofberg, PhD
1989	Nicholas Feuerstein	James Broderick
1990	Greg Lima	Al Saldarini
1991	Denise McCafferty	Jerry DiGenova
1993	Carole Pollock	Robert Erickson, PhD

Presidents The Society of Flavor Chemists, Inc.

1954-56	Mr. John A. Bouton	D	1977-78	Mr. Clifford E. Desch
1956-58	Mr. Charles E. Fricke	D	1978-79	Mr. Michael Mandel
1958-60	Dr. David Jorysch	D	1979-80	Mr. Alfred Goossens
1960-61	Mr. Fred Schumm		1980-81	Mr. Dieter Bauer
1961-62	Mr. Thomas Bonica	D	1981-82	Mr. Thomas I. Ulinski
1962-63	Mr. Harris Shore	D	1982-83	Mr. John Baranowski
1963-64	Mr. Jerry DiGenova		1983-84	Mr. Frank Fischetti, Jr.
1964-65	Mr. James J. Broderick		1984-85	Mr. Colman Goldhammer
1965-66	Mr. Peter D. Sarris	D	1985-86	Mrs. Marion Sudol
1966-67	Mr. William J. Downey		1986-87	Mr. Kent Zeller
1967-68	Mr. Earl Merwin		1987-88	Mr. Gerard Mosciano
1968-69	Mr. Anthony Clemente		1988-89	Mr. Joseph Cipriano
1969-70	Mr. Carmine Donnarumma		1989-90	Mr. Nicholas Feuerstein
1970-71	Mr. Eugene Buday		1990-91	Mr. Gregory Lima
1971-72	Mr. Paul J. Samulenas		1991-92	Mrs. Denise McCafferty
1972-73	Mr. Richard H. Potter		1992-93	Dr. Robert Peterson
1973-74	Dr. Manfred Vock		1993-94	Ms. Carole Pollock
1974-75	Mr. Albert Venutolo	D	1994-95	Mr. Leslie Blau
1975-76	Mr. Klaus Bauer		1995-96	Mr. Richard Heinze
1976-77	Mr. Albert Saldarini		1996-97	Mr. Carl Holmgren

8. WOMEN IN FLAVOR AND FRAGRANCE COMMERCE, INC. (WFFC)

WFFC is a professional organization for career-oriented women in the Flavor and fragrance industries. It provides information and collective support to its membership, promotes education and is dedicated to the career success of its members.

It was started in 1982 by a small group of women at a breakfast meeting of purchasing and sales personnel, and it has grown rapidly. In 1985, the membership was opened to other professional women in the Flavor and Fragrance Industries. WFFC is now international in scope. Its office is in Teaneck, New Jersey.

Annual events include a spring educational seminar, selection of a Woman of the Year, honoring a member who has distinguished herself, and a fall annual dinner.



9. FLAVOR COMPANIES IN THE UNITED STATES 1995

This list includes those companies exhibiting at the 1995 IFT Expo, categorized as dealing in Flavors/essential oils/aromatic chemicals (natural/synthetic), as printed in the 1995 EFT Annual Meeting Program & Expo Exhibit Directory, with additions indicated by an asterisk * which includes non-exhibiting CSA members, and some of the newer West Coast Firms in similar businesses reported by Stephen Pisano (private communication), and by Nick Bellanca (Chemtech 8/95 pp 50-54).

Joseph Adams Corp	*Creative Flavors
Aerchem, Inc	Crompton & Knowles Corp
Aldrich Flavors and Fragrances	Crystals International Inc
*Alfrebro, Inc.	Cumberland Packing Corp
Alex Fries	*Custom Flavors, Inc.
*Alpine Aromatics	Dairychem Laboratories *Diehl
American Fruit Processors	Flavors, Inc.
AMPC, Inc	Dineses Trading Co.
* Aroma & Flavor Specialties	Dragoco, Inc
Armour Food Ingredients	Ecom Mfg. Corp
Battle Creek Flavors	The Edlong Corp
Beck Flavors	Encapsulation Systems, Inc
Bell Flavors & Fragrances *Belmay	F&C Wild Flavors, Inc
Company	FIDCO
Blue Pacific Flavors & Fragrances, Inc.	Firmenich, Inc
Borden, Inc.	Flavex Naturextrake GMBH
Borthwicks Flavors, US A	Flavor Consortium, Inc
Britannia Natural Products, Ltd/BCI	*Flavor Craft
Henry Broch & Co	Flavor Dynamics, Inc
Bush Boake Allen	*Flavor & Fragrance Specialties *Flavor
California Brands Flavors, Inc	Producers
Carlos Cramer Prod. Aromaticos, SACI	*Flavor House
*California Custom Fruits and Flavors	Flavor Specialties, Inc
Carmi Flavor & Fragrance Co., Inc	Flavor Systems Int'l. Inc
*Carubba, Inc.	Flavorite Laboratories Inc
*Chef Master	Flavors of North America, Inc
Classic Flavors, Inc.	*Flavtek, Inc.
Commodity Services Intl., Inc	*Flavurence
Concord International Group, Inc.	Florida Treat
Consolidated Flavor Corp	Folexco

Fruitsource Assoc
 *Foote & Jenks Company
 Frutarom, USA, Inc
 FUL-FLAV-R Food Products, Inc.
 Gamay Flavors
 *Genarome International, Inc.
 General Spice/Hega Food Prod.
 Geneva Ingredients
 Givaudan-Roure
 Glidco Flavors
 *Global Aromatics
 Gold Coast Ingredients, Inc
 Golden Peanut Co
 Gourmet Club Corp
 *Greenspot
 *Griffith Laboratories
 *Grindsted Products, Inc. (Danisco)
 GSB & Assoc., Inc
 Haarmann & Reimer Corp
 Hagelin & Co., Inc
 Chr. Hansen, Inc
 T. Hasegawa Flavors
 Hickory Specialties, Inc. /Zesti Smoke Div
 IDF, Inc
 *Imperial Flavors, Inc.
 Indian Gum Industries Ltd. & Imp Svc.
 Industrial Deshidratadora, S. A. DE C V
 Industrias J. Matas, S. C. A
 Integrated Ingredients
 International Flavors & Fragrances, Inc
 International Frutarom Corp
 Jogue Inc./Northville Laboratories
 Kalsec, Inc
 *Kato Worldwide
 Kerry Ingredients
 Kikkoman International US/Senba, USA
 Kraft Food Ingredients
 Libenn Aroma, Inc
 *Lockhead
 Madis Botanicals. Inc
 Mafco Worldwide Corp
 Mane, USA
 J. Manheimer, Inc
 *Marshalls Flavors House
 Maruzen Pharmaceuticals Co., Ltd
 McCormick Flavor Div
 McIlhenny Co/Tabasco Brands
 Meer Corp
 Metarom Corp
 David Michael & Co., Inc
 E. A. Miller. Inc
 Milne Fruit Products, Inc.
 Minn-Dak Growers, Ltd
 *Mission Flavors
 Mitsui & Co. USA, Inc
 *Mother Murphy Labs
 Mutual Flavors
 Natural Flavors, Inc
 Naturex
 *Newport Flavors
 Newtown Foods USA. Inc
 Nichimen America, Inc
 Nikken Foods Co
 Nutrition Prod. Co./a Brown-Forman Co.
 O. S. F. Corp
 Ogawa & Co., Ltd
 Oscar Mayer Ingredients
 Ottens Flavors
 Pacific Foods Inc
 Parman Kendall Corp
 Perlarom
 Pfizer Food Service
 Progressive Flavors & Fragrances
 Quest Int'l
 Red Arrow Products Co. Inc
 Robertet Flavors. Inc
 *St. Louis Flavors
 Scan American Seafood Co. Inc
 Sealfa, Inc
 *Sethness-Greenleaf Inc.
 *Shade Foods
 SKW Chemicals, Inc
 Southwest Research Inst
 Spectrum Chemical Mfg. Corp.
 Sunkist Growers Inc
 Sunpure Ltd
 Super Extractos S. L
 Superior Quality Foods
 J. M. Swank Co
 Systems Bio-Industries, Inc. (SBI)
 Takasago Int'l Corp., USA
 Tastemaker
 *Target Flavors, Inc.
 H. B. Taylor Co
 Ungerer & Co
 *Union Flavors
 Universal Flavors
 *US Flavors and Fragrances
 Vegetable Juices. Inc
 Vie-Del Co
 Virginia Dare
 Edgar A. Weber & Co
 *Western Flavors & Fragrances
 Wixon Fontarome
 Wynn Starr Flavors Inc
 Zapata Protein, USA. Inc

Klaus and Dieter Bauer**Certified Members, SFC****President, SFC 1975-1976
and 1980-1981 respectively**

Our career paths were influenced by being exposed to Flavor Chemistry in the family. Our father Erich, held the position of Technical Director, Flavor Division at Dragoco Germany. In the 1950's flavor chemistry was still tightly kept and guarded formula "secret", apparently our father felt more inclined to convey his knowledge to family members he felt he could trust.

Being the elder of the two, I, Klaus had a head start on Dieter. Following formal education in Germany, I started at Dragoco Germany, worked one year at Dragoco Vienna, Austria, and have been working at Dragoco Totowa, USA since 1961. My positions have been Chief Flavor Chemist, Technical Director and Vice President, R&D Flavor Division.

I, Dieter, followed a very similar path starting with several years working for Dragoco Germany after formal education in Germany. I worked one-half year in Dragoco Vienna, Austria until relocating to Dragoco Totowa, USA in 1967. My positions have been Flavor Chemist and Manager, Flavor Department.

Our reflections and our advice: A certain talent to remember odor and taste is a prerequisite. But most important to the success in this field is hard work, a creative mind, the ability to make decisions, (otherwise tests won't progress), a good attitude, and lately, the willingness to be part of an effective team. A good flavor chemist has, in addition, the characteristics of a good teacher manifested through training in a one-on-one setting, or by conveying acquired knowledge to a larger audience.

John H. Beach**Deceased****President FEMA 1939-1941**

John headed up Seeley and Co. before and during World War II until about 1948. The company was very successful. He was president of the FEMA in 1940-1941, during which time he was instrumental in securing the rebate of the alcohol tax for the flavor industry. He was also influential in obtaining approval for propylene glycol as a food grade solvent. In 1948 when a serious case of glaucoma rendered him blind in one eye, Beach sold his interest in Seeley and moved to California. He soon became active there and formed John H. Beach & Son. John's son operated it for a while, but is now deceased. The business was, eventually bought by Naarden.

John moved back to the East to a house he had built on the edge of Peconic Bay, Southold, Long Island, complete with a flavor laboratory. He never got to use it as he went completely blind. Beach died in the early 1960's. He is survived by his widow, Lillian Beach, who nursed him in Southold during his final sightless days. His nephew, Arthur J. Beach is still active in the flavor business, representing the Virginia Dare Extract Co. AF

Paul Z. Bedoukian, PhD**Retired****Honorary Member, SFC**

An extraordinary chemist who served the industry over the past fifty years by keeping them informed of the "Progress in Perfumery Materials", by the publication of an annual review with that title. In addition to that, he prepared the most promising chemicals as interest developed in them; first on a small scale, then on larger scale equipment.

The early reviews appeared in the American Perfumer, then its successors: American Perfumer and Cosmetics, Cosmetics and Perfumery, and most recently, The Perfumer and Flavorist. He also was author of "Perfumer and Flavoring Synthetics" in two editions, which had monographs on the most important synthetic aroma chemicals at the time of publication. Many of his publications are still available in compilations by and from Allured Publishing.

Companies that Paul helped to grow, or that he established were Compagnie Parento, Inc. (Croton-on-Hudson, NY), Maumee Flavors and Fragrances, (Danbury, CT) and Bedoukian Research, Inc. (Danbury CT).

Nestle sold Synfleur in 1983, and Robert Maleeny, along with Steve Vanata, formed our current company, Flavor and Fragrance Specialties (FFS). They asked me to join them, and I was their first employee. Subsequently, we purchased Palmer Laboratories and William Palmer joined us. The four of us built the company to its present size with two business locations, fifty employees and worldwide distribution within thirteen years on a shoestring budget.

What to tell an aspiring flavor chemist? First, never say "no". Learn everything, be available, learn to spray dry, learn emulsions, understand production problems. Never think that you know everything. That is a downward slide to mediocrity. Especially, get a good mentor. Be willing to take a little less money if you will be in a position to learn and grow in your craft. Don't specialize too soon. It may give you position, but it could pigeonhole you later. Be exposed to art and literature. You never know from where your inspiration may come. And finally, always reach out your hand to a newcomer. You never know, one day he may be your boss. MB

John J. Bonasera

Certified Member, SFC

My first contact with the flavor industry was October 9, 1950 when, at the age of 18, I started my career with Firmenich. Mr. Doug Graham was the technical director at the time, and I was privileged to begin my training with him.

I became a flavorist, recognized by the Society of Flavor Chemists in April of 1964. Jerry DiGenova was the President of the Society at the time.

My career in the flavor industry has been long and extremely satisfying. I have the feeling that I have had, in some small way, some effect on contributing to the advances made in the quality of artificial and natural flavors.

In spite of a few temptations, I started with Firmenich, and last year I celebrated forty-five years with the company. I am very pleased that I made the decision to stay with Firmenich for many reasons, but most of all because, even though there was tremendous growth, the company kept its family spirit. JB

Thomas J. Bonica

Deceased

Charter Member, SFC President, SFC 1961-1962 President NAFS

Tom went to work for Polak and Schwarz in New Jersey in 1936 as a handy man - bottle washer etc. for \$12 per week. He worked for Charles Fricke who was the only technical person at the plant. When the war in Europe started in 1939, the plant had to produce items formerly made in Holland. By 1945, there were six technical people. The international flavors were manufactured there.

Tom was in service from 1942 to 1945. On his return, he was chief compounder and plant manager, and Tom made the first of seven moves across the Hudson River to follow his job with his same employer (or its successor, IFF). That brought him to Washington Street, in lower Manhattan, where much of the industry was still located. Tom then headed the flavor and essential oil labs, and was put in charge of the odor evaluation board.

He was then given the job of technical sales manager covering Canada and California. In another two years, he was also assigned sales duties to that same area.

The Teterboro, NJ plant was built in 1956, and Tom was charged with creation of fruit flavors, and quality control. He became plant manager, and a Vice President, in 1967 with additional responsibility for Canadian sales. He was also head of the Office of Materials Management, which was charged to instruct the company's purchasing agents the ins and outs of buying ingredients for flavors.

In 1975, he again crossed the river to IFF's Manhattan Headquarters. He was a charter member and the fifth president of the Society of Flavor Chemists. He was also active in and responsible in part, for reactivating the trade association NAFFS (National Association for Fruits, Flavors and Syrups). This group serves as a good resource for emerging companies in the flavor business who might feel lost in the larger FEMA organization. Tom was president of NAFFS, and, as so often happened in other trade and technical associations, Tom ended up serving as program chairman more than one term in NAFFS and in the Society of Flavor Chemists because he knew so many people who were good speakers who had something to say to the members, and couldn't let Tom down. Tom was active on FEMA Committees also and was sergeant, along with Charles Blum, for many years at the annual conventions. Tom died in January of 1994.

Tom also spent many hours of service each year in non-business activities. He was active in the Hackensack Board of Education, The Boy Scouts (for 57 years), Hackensack's anti-poverty committee, the Holy Name Society, and the Knights of Columbus. And he was president or chairman of most of them. He retired in 1993 after 57 years service. TJB Phone. Ed

John A. Bouton

Deceased

**Charter member, SFC
First President, SFC 1954- 1956**

Jack Bouton, one of the very few flavorists developed in the 1940's, started his work at Phillips and Company (later purchased by General Foods). After a short time, he joined Dodge and Olcott. He was "tutored" there by the classicist and "Dean" of flavor chemists, Mr. Claude Johnstone. After a few years, he left D & O to join S. B. Penick to start a flavor department (this was the first stop on the road to flavors for Jerry DiGenova and for Al Venutolo. Ed). Later he joined Southern Biscuit Co. (later known as Mother Murphy Laboratories). Still later, he left to join Synfleur from which he went to Fries and Fries in Cincinnati. JDG

James J. Broderick

Emeritus Member, SFC

**Charter Member, SFC
President, SFC 1964-1965
President, FEMA 1985-1986**

After graduating from Brooklyn Technical High School in 1938, with three years of chemistry as a Chemistry major, I obtained a lab assistant's job in a dessert company's laboratories in 1939. This was a private label producer and I worked there two months before the economy forced a lay off. Two months later the chemist was fired for union promoting activities, and I returned to work under the plant manager who had a pharmacy degree and some practical food development knowledge. During the initial two months, I had helped evaluate many flavor samples and the chemist remarked that I had a good sense of taste and a good feel for flavors. Apparently, a chemist with some flavor background had previously been there because there was an excellent library of flavor samples, several books on flavors, and a number of the key flavor materials in the lab. There came a time when I dabbled at making flavors on my own, and a number of them were accepted and used internally. In retrospect, I feel that this was due primarily to their cost rather than their quality. During this time, I started on a degree at the Cooper Union, in NYC.

For a while, this dessert company had an arrangement to help produce products for the Drew Corporation of America, who had run into financial difficulties. I had done some work on the adulteration of vanilla extract that Mr. Drew learned about, and when he went off on his own again, he contacted me, and I joined him, and was employed there for one and a half years. Initially in charge of the lab, I was eventually responsible for all flavor development. On discharge from the Army at the end of the war, I rejoined Drew, but found the labeling practices not to my liking, (I had married Pat in the interim) and looked to change. I also felt the need to work with some talented senior flavorist to enhance my flavor knowledge. The Drew Corporation was eventually absorbed by Virginia Dare.

My experience to that time led me to believe that van Ameringen-Haebler flavors showed the greatest fidelity and creativity, and that I would like to work with its developer. When I saw an advertisement from them for a flavor chemist, I applied and was accepted in 1947. I learned that the flavorist I admired,

a Mr. Reed, had died some time before. Mr. Reed had learned his craft at W. J. Bush in England, and had trained his son as his replacement. His son, already advanced in years, had suffered several heart attacks, and I was being hired as his replacement.

I spent five years at van Ameringen Haebler under Dr. McGlumphy, and feel that I gave them at least as much as I learned from them. I was young, and although I loved the atmosphere and had a fine boss, that I was low man on the totem pole, and that things were moving too slowly. I resigned and accepted a position at Givaudan in 1952. Dr. McGlumphy told me that I had been slated to be his replacement. But he was only 45 years old and I felt that I was doing the right thing.

At Givaudan, I met and worked with Jerry DiGenova and Earl Merwin, and learned that we complemented each other quite well. I stayed there three years. Management had set up a competitive situation with the three, and did not apparently see the longer-range potential of keeping all content. When my contract was up, I left.

My next position was with Lever Brothers where in my initial interview, I tried to convince them that they did not need a flavorist. Several weeks later I was asked to return, and was shown samples of meat reaction flavors and their delta lactones. I was hooked. I spent five years there utilizing their excellent library with lots of time to study and work on my own. I had one of the first gas chromatographs made by Aerograph, and despite its crudeness, learned every time I injected a sample. Finally convinced that I would never have sufficient flavor work, coupled with the potential I saw in gas chromatography, I felt it was time to move on. The flavor industry at that time was not convinced of the potential of GLC, so I obtained several units, took up consulting at home, and had the most exciting five years of my life.

With my children starting college, and the need for the stability of a regular paycheck, I was prompted to accept the position of laboratory director at H. Kohnstamm in January 1966. I learned a lesson, for Dr. McGlumphy retired at the same time. In a family company, I felt a part of the family, and stayed there twenty-two years, retiring as flavor division manager and a member of their board of directors. Kohnstamm's policy was to give more value than received, and it was an atmosphere that I felt very comfortable with. I had the opportunity to help train a number of flavorists who always remained perfectly loyal. Those that chose to leave the company did extremely well. Unfortunately, Kohnstamm never achieved the success it deserved, and its potential was passed on to Universal Foods who acquired the HK color and flavor business. Shortly after that acquisition, I retired at age 67, and I enjoy it thoroughly.

One key lesson I learned-you may get an assist along the way, but you teach yourself.

JJB

Johannes A. Buchel

Emeritus Member, SFC

President, FEMA 1990-91

I worked as a chemical engineer for Naarden in Holland, and was interested in a job overseas for them. I was told that I needed training as a flavorist in order to do that, and that is how I got started on a most interesting career.

After working in Holland as a flavorist for one year, I was transferred to South Africa, where I became not only the only flavorist there, but also the production manager. A little later, I was promoted to technical director, and subsequently did similar jobs for Naarden in the UK, and the USA. After twenty-three years, our ways parted.

I joined Pepsico in 1974, originally to set up a flavor group, and later was promoted to VP International R & D . I was one of the secret formula holders, and became heavily involved in essential oil technology. I retired from Pepsi in 1991.

Then I joined Hartog Trading to import and sell natural flavoring preparations as H. T. Aromatics. This led to cooperation with Perlarom, a Belgian flavor company.

I plan to work for a few more years, and this will be as president of Perlarom US A. With that, my career has gone full circle, and I am back in the flavor business.

from Fritzsche Brothers concentrates for the most part. By blending several flavors before diluting them we came up with some good combinations,

Through the war, I got my commissions with the same accounts. In 1946, the company was sold to Airline Foods. I got a nice final commission check.

After the war, in 1946, I went with H. Heiman & Co. on Franklin Street, and Broadway. I asked for - and got- \$100 a week! Commission percentages were up. I made more money but starting again was not easy. There were many small flavor and essential oil companies in the area. The industry moved uptown and to New Jersey and not many of the companies have survived. Wood and Selick, R. C. Williams and George Leuders come to mind. I worked for Heiman (this was not the Coffee flavor man), and then worked for Globe Extracts until 1964 when I started my own company, United Flavors in connection with Salient Flavors. In 1973 we sold both companies to Warner Jenkinson and later went with Jay Cee Labs, which was eventually sold along with other companies to Pauls & White of the UK, ending up with Felton and later ended up with Universal Flavors in 1990, selling CO2 extracted oils and oleos and counter current extracted citrus oils. In 1995, I continued selling those products through the broker Berje, but am still employed by the UK facility of Universal Flavors.

My territory varied with each principal. Sometimes it was New York City and New Jersey, then part or all of New England, and/or Pennsylvania, Maryland and North Carolina, or Virginia and even Chicago. It could have been any place I wanted, but I was strapped for the time to get to all of the possibilities.

There were other long time peddlers of flavors like me. There was Walter Tomzak, who was given a chance to leave the mailroom at Givaudan when they started to sell flavors. He did a great job. He had just the metropolitan area, never learned how to drive a car. He didn't need one in his job, selling flavors for Givaudan for over 40 years.

Then there was Frank Stebbens, Sr. who I think worked inside and was also given a trial at selling locally for Fritzsche Brothers. He also did a great job, was well liked by people in his accounts and worked 40 years or more for FB. He had the satisfaction of seeing two of his sons enter the same profession, and ending up in executive positions.

It's a great industry! In the old days, the products were sold on their flavor alone. Did they work? Did they taste good? And were they affordable? A customer asked for a flavor, and often did not specify natural or artificial. Labels were not specific. All aspects of the business were much simpler. Research was not necessary at high levels at the small companies. Equipment was restricted to tanks and scales. Selling prices were easier to compute. It's a much more complicated business today, with regulations regarding everything, paperwork, certificates, inspections, and the larger manufactures of flavors having minimum order requirements. But it remains a great industry, and salesmen are still required, so I don't think I'll retire yet. E C

Philip J. Capasso

Deceased

Certified Member, SFC

Phil started out working in the Maxwell House group of General Foods labs in Tarrytown, New York in the late 1960's. He married a GF secretary, and went from there to PFW in the early 1970's. From there he proceeded to David Michaels, McCormick, PFW, Florex, and Ungerer. He then worked for Flavorsomes, who had been developing a new form of flavors. After that, he worked for Crompton & Knowles, and F & C Wild.

**Renzo B. Cardini
Firmenich, Switzerland**

Emeritus Member, SFC

Born 4 January 1927 at Geneva Switzerland. Basic studies as a druggist (pharmacist) in Geneva and Neufchatel, Switzerland. Joined Firmenich, Geneva March 1950 at the Organic Scientific Research Division, under direction of Max Stoll, until the end of 1960. During this period, I was in an evening

Anthony Clemente**Emeritus Member, SFC****President, SFC 1968-1969**

When I graduated from Long Island School of Pharmacy in 1941, jobs were hard to find. I consulted an employment agency and got two leads. One was to work for a druggist; the other was to work for Fritzsche Brothers in New York City. The Fritzsche job paid less, but was a five-day, normal hours, and I took that. My job was fine compounding, and I had an excellent trainer (Bill Barnes) who introduced me to the many ingredients that are used in flavors. The compounder who knows his raw materials can prevent many potential errors in the preparation of orders. World War II interrupted my work and I served in the US and overseas in Naval Medical Research units. On my release, I returned to my previous job at Fritzsche. Later Dr. Hamman requested me for the flavor laboratory and trained me to be a flavor chemist, which I enjoyed until I retired in 1987.

The industry has been good to me. To be good flavorist one must build up his own database for making flavors He must smell and taste the many possible ingredients over a long time. There are no short cuts. He must start out working with people who know what they are doing, and make notes on what the ingredients smell and taste like to HIM! It is also important to read what has been written on all phases of the subject.

Phone A C

Anthony Colovito**Deceased****Certified Member, SFC**

Tony could be an inspiration to aspiring people in any industry. He is an example of what can be achieved by hard work and dedication to one's trade. He started as a baker, and then became a plant manager for Globe Extracts. He did not decide to enter flavor chemistry or start to work as a flavor chemist until he was in his late forties.

Within a few years, he progressed from a junior flavor chemist position with BBA to chief flavor chemist for Felton. During his career, Tony also worked for Gentry (now C&K) and Synfleur, where he was working at the time of his death. Tony worked very hard to learn his craft and was responsible for many flavors of all types.

R. Maleeny.

Dolf DeRovira**Certified Member, SFC****President, CSA 1991-1992**

I graduated from City College of New York in 1972 and began working in Vick's Research and Development as an analytical chemist. There I did some tests on raw materials, including essential oils and some aromatic chemicals like anethole, methyl salicylate, camphor and menthol. Wanting to get into another perhaps less routine job, I spotted a job listed in the NY Times for a flavor chemist trainee at Polak Frutal Works and interviewed with the chief flavorists there at the time: Gene Buday, Charles Wiener, Bob Breckwold and Bob Adamson. They had a test of twenty flavored un-colored waters and the goal of the test was to name what each of the products was. I guess I must have done well because they offered me the job on the spot. My wife and I moved up to Middletown, NY where I worked directly with Gene Buday. PFW was a great company. One of the motivating forces was Ernest Polak, an owner and technical Vice President who truly loved the industry in which he worked. Often He would come up to one of us young trainees, and show us a project he personally was working on. He was particularly interested in pyrazines and thiazoles in those days and in the flavors of coffee and cocoa. I remember his giving me a blotter and asking me what I thought of the coffee flavor he had developed. You can imagine the kind of environment and positive work ethic that kind of an attitude would promote in young people. Other young people there at the time were Phil Capasso, Dennis Kucharczyk, Dennis Kujawski, Lynn Wheeler and Richard Skrobanski.

Having been with PFW for about three years, I was approached by Biddle Sawyer and was given an opportunity to start a flavor company from scratch. I was only 24 years old, and Ben Benveniste, the vice president of Biddle Sawyer Corporation showed me a room that then housed their lawn mower, etc., and said. "How would you like this to be your new laboratory?" From here on, with a lot of hard work, the business skyrocketed. I was the only flavorist there until I left in 1978. Our first sale was a simple emulsion, and we had to improvise quickly. But it was the hands-on work that was needed in a small

Frank DiCicca

Emeritus Member, SFC

Jerry DiGenova

Emeritus Member, SFC

**Charter Member, SFC
President, SFC 1963-1964
Man of the Year, SFC 1992**

I joined S. B. Penick & Co. soon after World War II ended as assistant to Jack Bouton, their chief flavorist. I was there from 1945 to 1952, when I was recalled into the US Army to serve in the Korean War.

In 1953, I was employed as a flavorist at the Givaudan Corporation, where I remained and pursued my professional career until retirement in 1983. Eventually, during thirty years at Givaudan, I was promoted to chief flavorist and vice president of the creative laboratories.

I was one of the fourteen charter members of the Society of Flavor Chemists, of which I was president 1963-1964.

Since my retirement from Givaudan in 1983, I started a new career as consultant to various companies, including P & G, National Starch, Haarmann and Reimer, Firmenich, FIDCO, Fries and Fries, and Seagrams, where I mostly trained and developed many young and promising candidates into becoming successful flavorists.

The flavor and food industries have given me ample and many challenges from which I have learned positive applications of my dedicated, honest and fulfilling services.

I have come to admire and love those industries that I have represented and served. It is with some regret that I realize the inexorable passing of years will put a stop to such activities - yet I shall rejoice in remembering the wonderful and fulfilling past
JDG

Al Dittrich

Deceased

Charter Member, SFC

Carmine Donnarumma

Emeritus Member, SFC

President, SFC 1969-1970

In 1945, at age 21, with a brand new BS Degree from St. John's University, I showed up at the H. Kohnstamm & Company with the aid of an ad placed in the New York Times by an employment agency. I was very fortunate to have been hired by and to work for Dr. Jorysch, VP and Director of Flavor Laboratories. Peter Sarris, flavor chemist was soon to join the laboratory.

Kohnstamm's flavor division serviced flavor needs in the US, Canada, Mexico and South America with flavors for many food and beverage sections of the industry. There were also divisions handling Colors and Laundry Products. The lab was responsible for research and development, new products, quality control, analyses, trouble shooting and customer service. Research included work on pure and concentrated vanilla extracts, genuine fruit extracts and essence recovery, specialty products for the beverage industry (clouds etc), spray dried and other dry powders. As a service to customers, a bacteriological testing of the carbonating plants was conducted.

I left H. Kohnstamm in 1956 and joined Globe Extracts as laboratory manager. This was a privately owned company under the direction of David Wilkes selling flavors and other specialty products for the ice cream and other frozen desserts industry, and some attention to the beverage, baking and confectionery industries. The laboratory was involved in new products, manufacturing and quality control.

In 1960, I went to work for Van Ameringen-Haebler at Elizabeth, New Jersey. Dr. James McGlumphy was VP and technical director, heading the flavor laboratories. This was merged with Polak and Schwarz

(P&S) to form the eventually public company IFF. Charles Grimm of the P&S staff eventually became Director of Flavor Creation, and I became the Assistant Director.

IFF laboratories and flavorists became specialized. Labs dealt with flavors for beverages, or for tobacco, or for food, or for pharmaceuticals. Research was done at different central locations and was involved in many ways to develop flavor ingredients based on new research.

I left IFF in 1972 and joined Felton International in Brooklyn, NY. This was also a family owned private flavor, fragrance and ingredient company. Alex Dubenchek was there at that time.

I left Felton in 1978, joined Virginia Dare Extract, and became VP. Technical Director. Howard Smith headed this family owned company. Anthony Filandro was VP, Director of Laboratories. Virginia Dare was known for their pure and concentrated vanillas for ice cream, other frozen desserts, and baking industries. Their product lines also included flavors for beverages, (soft and alcoholic), pharmaceuticals, and tobacco products.

I retired in 1989. As a flavorist and former president of the SFC, and as a member of the Institute of Food Technologists, the Soft Drink Technologists, and the Enologist Society, I have had a full and productive career in the flavor industry.

Through the years, I have met many wonderful, dedicated and talented people in the industry, and I thank the various Technical and Professional Societies and Trade Associations, and Academic Groups for the opportunities to interact. Special thanks go to the FEMA, and all of the people who worked within the industry so diligently with the Food and Drug Administration to have devised a workable system to assure the government and the public that the flavors we make are safe under the conditions of use. Thanks to them, the flavorist can make natural and/or artificial flavors that will continue to become more faithful in a wider variety of food and drink. CD

William Downey

Certified Member SFC

**President, SFC 1966-67
President, FEMA 1986-87**

Bill joined Fritzsche Brothers Inc. in 1950 as an Analytical Chemist after graduating from Seton Hall College with a B. S. in Organic Chemistry. He worked for Ed Langenau, a co-author of *The Essential Oils* by Ernest Guenther. In 1953, he transferred to the Flavor Department under Dr. Edmund Hamman, and in 1960 was appointed chief Flavor Chemist of the company, a position held for twenty-three years. In 1963, he was elected a vice president.

Involved in sales and expansion of customer base from the late fifties and eventually joined the Sales and Marketing unit of the larger Fritzsche Dodge and Olcott. In 1985, he was named sales manager. He closed out his career with FD&O as Vice President, New Business Development when the company was sold by BASF in 1990.

In 1991 joined Givaudan-Roure Corporation as Vice President, New Business Development with major account responsibilities, a position occupied to this writing.

Over the years Downey was heavily involved in the Flavor and Extract Manufacturers Association and served in many committees: technical, vanilla, botanical, flavor labeling program and executive, and was a member of the Board of Governors and President.

He has been a member of the Society of Flavor Chemists since the early sixties serving on many committees, their board and as president. He is also a member of the Institute of Food Technologists, The American Society of Enologists, and the Society of Soft Drink Technologists, and is a former Trustee of the Nutrition Foundation.

As an active chemist, he made flavors for all manners of food for domestic and foreign palates, and most of these are still finding favor. The area of his most notable achievements has been in beverage technology. Correspondence between Downey and the Bureau of Alcohol Tobacco and Firearms established the basic premise for the addition of topnote to flavors designed for some alcoholic beverage

applications. In food, the ready to drink tea category stands as one of the more remarkable milestones of his effort to develop enjoyable food tastefully flavored. It is a highlight in a unique career that combined a rare blend of technical and commercial skills. (WD Fax 6/21/95)

Alexander S. Dubencheik

Deceased

Alex studied at Washington Square College of New York University and joined Felton International Inc. He settled in Westchester, NY. He learned flavors and the use of the gas chromatograph and applied them to his work at Felton. His last three years with Felton were spent in Japan, retiring after 39 years service, moving to Cape Coral, Florida. He died February 21, 1993. Ltr M. A. D

Charles J. Dwyer

Emeritus

Charter Member, SFC

One of Charles' early assignments was with Dodge & Olcott during the period when Claude Johnstone, Fred Schumm and John Cassulo were there. He also worked for BBA and Mother Murphy's. The after effects of his service in the Field Artillery in WW II left him with impaired hearing. Poor health forced him to resign from an early office in the SFC and continued to plague him through his later years. It caused him to undergo many operations to keep him going. He fought back from all of these difficulties and was proud of his work. He moved from his last flavor assignments at Mother Murphy's to live with his son in upstate New York. EJM

Robert Erickson, PhD

Emeritus Member, SFC

Man of the Year, SFC 1994

I am not a creative flavor chemist. I am an organic chemist skilled in natural products and synthesis. I am one of that large and largely unsung group of support people who make it possible for your creative skills to be translated into commercially successful products.

My career in the flavor industry started in 1966, but my first contact with the industry was many years earlier, in 1952 when I began my graduate studies. I was interested in the chemistry of natural products and decided to work with George Buechi, a Swiss chemist who was interested in Terpene chemistry. We agreed that I would work on the structure of Patchouliol, a sesquiterpene alcohol from Oil of Patchouli, which is GRAS, but used more in perfumes than flavors. Determining structures in those days meant getting grams of the chemical, running reactions and identifying their products. So Professor Buechi called Fritzsche Dodge & Olcott and a few days later, I had a liter of Patchouli Oil from which I was able to isolate several hundred grams of Patchouliol. In addition, I was able to obtain a research fellowship that was funded by Givaudan.

After receiving my degree, I worked in the research labs of Merck & Co. in Rahway, NJ on natural products chemistry. In 1966, I was unhappy at Merck and I contacted Professor Buechi. He told me that Hoffmann LaRoche had just acquired Givaudan, which had a branch in Clifton NJ. He did not know much about the company, but had heard that Roche planned to spend mega bucks on improving it. After some negotiation, I was eventually offered the job of director of flavor research, a position that didn't exist yet, and a function that I was to establish. With this potential, I joined Givaudan and shared a lab with Gary Kitchens who was a superb teacher, from whom I learned a lot about the aroma chemical industry.

Roche sent Hans Daeneker to Clifton to be in charge of technical activities and we worked together to build and staff a flavor research facility at Givaudan USA. He suggested that I still needed some training in flavor research and suggested that I spend a month with Roy Teranishi and his group at the USDA lab in Albany, CA. While this did not take place, we did establish a good contact with frequent exchange of visits and information.

Our first addition was Chuck Manley because we thought a food scientist would be useful in separating food components for analysis and recreation as commercial products. This was the heyday of isolating and analyzing the flavor components of any natural food material and putting new ingredients on the GRAS list. We published a paper on sesame seed analysis but decided we were not moving in the right direction and Chuck went on to greater glories, including Board of director member and president of the FEMA.

We then decided that we needed a research flavorist and Leslie Blau was the first. He established a good interaction between our group and Jerry DiGenova and his group. Leslie moved on and Cormack Flynn became the creative arm of the flavor research group. Mack became a key person in assuring us that we weren't wasting time moving in directions that were not of interest to the commercially oriented flavor chemists. He also expanded the program of evaluation of new flavor ingredients that had been started by Leslie.

Early on, I was introduced to the flavor and fragrance creation side of the business which was then located on the West side of NYC. Jerry DiGenova became an important mentor, not only for his skills as a flavor chemist, but also for his knowledge of the industry and of excellent restaurants in Manhattan. At that time, his group consisted of Carl Holmgren, Carole Pollock, Dick Potter, Sol Reiss, Kathy Tarantino and Al Venutolo.

My real mentor at the bench was Dick Potter. Not only is Dick an excellent flavor chemist, but he was the pioneer of gas chromatography and other technology in Jerry's group. Dick filled and made his own columns, and could usually be found at the exit port of an instrument, sniffing away and writing notes on the paper coming out of the recorder.

In the earliest days, I would bring him extracts or distillates, dip blotters for him to smell, and he would mutter, "Smells like crap!" Eventually our techniques improved and he would smile and mutter, "I think we can get something out of this." One of those items was 2-isobutyl thiazole, the powerful green note in tomato. Unfortunately, we were beaten to patent and publication by Stan Kazeniak at Campbell Soup! Dick was a good teacher and a good friend.

I left Givaudan at the end of 1979, joined Warner-Jenkinson in 1981 as technical director for flavors. W-J was basically a color company under the direction of Jim Noonan, but they had a flavor unit whose technical director was Paul Perry. I took over Paul's job when he moved over to Seven Up, until they brought in Dan Bartnick as VP of a new W-J Flavors. We built up a flavor development group with Rich Lane as chief flavor chemist, Larry Hollis in applications and Dan Bartnick in chemical development and quality control. Included at various times were Shirley Barcelon, Mike Fasano and Saffi Omar.

In 1985, Seven-Up sold W-J to Universal Foods of Milwaukee, who bought Universal Flavors in 1986 and merged W-J Flavors into Universal Flavors in the Indianapolis facility. Some, including Dan Bartnick, and me went to Indianapolis, others left for other opportunities. Rich Lane and Chuck Valor established St. Louis Flavors.

I joined the company at which I had unsuccessfully interviewed for a position as technical director in 1980. At Universal Flavors, I first reported to and then succeeded the technical director Bill Baugher. We established a corporate research function that served the technical needs of all of the UF Divisions. This was the final corporate family of my career until my retirement in 1991. There I enjoyed working with people like Gary Eck, Carlos Isaacs, John Long and Carole Pollock.

I have enjoyed my personal and professional relationships with just about everyone I have known in the Industry.

RE 1/23/95

Dale Eskin

Certified Member, SFC

President, CSA 1986-87

I studied Biology at Montclair College in New Jersey, and in 1969, I was looking for a job. I went to an employment agency and was just very lucky that they had an assistant to a flavor chemist. The flavor chemist was Ed Onyskow at the then separate D & O portion of Fritzsche D & O. After a few months,

time, the National Academy of Science began organizing the Food Chemicals Codex project. I represented the flavor industry on the Codex from 1969 to 1973. During that period, specifications for the most widely used flavor substances were admitted into the FCC, Also at that time, I became active in the National Fruits, Flavors and Syrups organization. I served as their president in 1977-1979. I was elected to FEMA's Board of Governors in 1971, serving as FEMA's president 1980-1981. AF

Frank Fischetti, Jr.

Certified Member, SFC

**President, SFC 1983-84
President, CSA 1981-82
Fellow, BSF**

I entered the flavor industry by accident. I was discharged from the United States Army on February 7, 1957 and began working for Fritzsche Brothers Inc. on February 8, 1958. I was supposed to have been hired to work as an analytical chemist, but through some mix up, I began working in the bulk blending department. I worked for Fritzsche for just over 24 years. This period was interrupted for two years while I worked for Warner Jenkinson in Saint Louis, where I was Director of the Flavor Laboratory. (Frank is one of the first technical people who left Fritzsche of his own accord, asked to come back, and was accepted! Ed.)

At Fritzsche I worked in the bulk compounding department, the perfume compounding department, the analytical laboratory, and the flavor laboratory. I was a flavor chemist. My career at Fritzsche was rewarding as it allowed me to pursue my career without limitation and I took full advantage of it. I not only learned flavor creation, but also about spray drying, emulsions and flavor research.

If I were asked who helped me the most, I would have to say Bob Schinnagle. He taught me how to be a flavor chemist and how to be confident in what I did. Another individual I would like to single out is Gerry Schlenker. He listened to me and taught me a good deal about fixation in flavors.

From 1983 to 1986, I worked for Mero-CMA IBN Inc, (now a part of SBI, owned by SKF who bought it from Sanofi Bio Industries) as vice president flavor division. From 1986 to 1988, I was vice president of the Flavor Division at Ingredient Technology Corporation (now a part of Crompton and Knowles). From 1988 to 1993, I was vice president of creative flavor development at Globe Extracts, Inc, now part of Borthwicks USA.

I now work for Craftmaster Flavor Technology Inc. on Long Island, as Vice President Creative Flavor Development. I am proud of my activity in the SFC and in the CSA; I am proud to be a flavor chemist; and I am glad that this profession chose me. When I retire, I intend to teach flavors on the college level. This is my way of paying back what the Society gave to me. I also would like to add that I am indebted to Earl Merwin, first for being a friend and second for allowing me to work with him at the Center. If it had not been for him I probably would not feel the way that I do about teaching, speaking, and writing about flavors.

I have seen many changes in the flavor field in the last thirty-seven years, but it has always been challenging, rewarding - frustrating at times- but always fascinating and interesting for me. For this, I will always be grateful. FF

Lovell Fitzpatrick, Jr

Emeritus Member, SFC

Richard A. Ford PhD

I received my PhD in organic chemistry in 1967 from Wayne State University in Detroit. Following a one year post-doctoral study at Yale University, I joined the faculty of the Catholic University in Washington, DC I then settled down to what I assumed would be a long life of teaching organic chemistry and conducting research in physical chemistry.

Meanwhile, in 1969, the FEMA was in the final stages of planning for a comprehensive survey of all flavor materials thought to be in use in the USA. This monumental effort involved designing a survey form listing the names, synonyms and where appropriate, the chemical structures of almost 1500 substances. In order to assure that this was accurately done, FEMA advertised for an organic chemist to assist them.

I saw this as an opportunity to supplement my academic salary and applied for the task even though I was somewhat bemused at what seemed to be a rather esoteric association. As is often the case, the job grows to involve more than was originally envisaged, and I was asked to continue in compiling the results, checking for errors and publishing the results of the survey.

At the same time, Dick Hall decided that he could no longer serve as the organic chemist and general secretary for the FEMA Expert Panel. In 1970, I was asked if I would fill that position, and I agreed. I had no hint at the time that this would change my entire career.

The experience of meeting with some of the world's foremost toxicologists, pharmacologists and biochemists with special expertise in the safety evaluation of flavor ingredients, was an exhilarating experience. Under the tutelage of Dr. Bernard L. Oser, Chairman and one of the founders (along with Dr. Hall) of the Expert Panel, I began to learn toxicology and safety evaluation. Dr. Oser started by quoting FDA chemist and toxicologist, Dr. Arnold Lehman, "You too can become a toxicologist in two easy lessons, each one ten years long". Almost twenty years later, I was admitted into membership in the Society of Toxicology.

Meanwhile I continued to serve as a consultant to FEMA in general areas of chemistry and safety evaluation. I assisted in the publication of GRAS list 5 in 1972 and later became the co-author of GRAS lists 6 through 13, and then GRAS 16.

The largest task I undertook on behalf of FEMA began in 1974. At that time, the FDA had started a review of all GRAS substances. This enormous effort encountered a major obstacle when it came to flavor ingredients. The FDA recognized that flavors for many reasons required a special approach. They turned to FEMA for assistance, who in turn asked me to serve as principal investigator of what was to become three contracts to prepare Scientific Literature Reviews (SLR's) to cover all of the data relevant to the safety of structurally defined flavor ingredients. (The botanicals were excluded)

As principal investigator, I prepared and authored 69 literature reviews and 28 supplements over the next five years covering some 1300 flavor ingredients. This effort served as the basis of the FEMA Expert Panel review for affirmation of GRAS status of these materials. All but a small handful of the 1300 materials were reaffirmed as GRAS; however, the Expert Panel called for an extensive program of testing of selected representatives of certain chemical classes to further underpin their GRAS status. Again, I was asked to manage this test program which involved running almost twenty 90-day studies many LD50s, *in vitro* studies and metabolism studies.

I took the opportunity provided by the SLR contract to develop what has become one of the flavor and fragrance industry's most valuable resources, the computerized database. This database initially covered only summaries of the SLR data but has grown today to cover data on the safety, chemistry, regulatory status and other information on not only the original 1300 substances, but now covers the botanicals, flavor ingredients used in Europe and fragrance ingredients used around the world. The first use of this database outside its use in preparing the SLR, was in publishing the first edition of what has now become an industry standard, the cross referenced lists of flavor (and later fragrance materials) in *Perfumer and Flavorist* magazine.

In order to properly manage the SLR project, it was necessary to set priorities for the review of the large number of substances covered. Out of this came a far reaching paper known as the Cramer, Ford and Hall "Decision Tree" which is used for estimating the toxic hazard of orally ingested organic chemicals using, for the most part, only knowledge of the chemical structure. This method for estimating possible hazard served as the basis, along with the FDA "Redbook" and the Stofberg "Consumption Ratio", for "A Combined Three-Method Safety/Risk Priority Ranking System" which was recognized by many international bodies including JECFA and the Council of Europe, not to mention the FDA, as the rational method for selecting flavor materials for safety review.

I served as Scientific Director of FEMA from 1974 to 1982 when I went on to become President of the Research Institute for Fragrance Materials (RIFM). I also served on the FEMA Expert Panel starting in 1969 as secretary and continuing on today as "Liaison Expert" serving as a technical bridge between the FEMA and RIFM Expert Panels. I also continue to this day to serve as a consultant to FEMA in many areas including the massive program of developing "Narrative Summaries" on all flavor materials.

RAF 2/9/95

Muriel Forman

Emeritus Member, SFC

David Fraenkel

Emeritus Member, SFC

My family was in the wine business. Moving to Israel, I met Israel Araten who had worked for PFW. He started the Frutarom company, built a factory with financing of many wealthy individuals, and I worked for him from 1936 to 1943. From 1943 to 1959, I had my own flavor company in Israel. When I came to the USA, I went to work for Felton Chemical Co. until 1971. I retired from Felton, took a five year contract with Globe Extract, after which I retired again. At 82 years of age and not in the best of health, I am enjoying life in Florida with my children not far from me.

Phone call 12/5/94 EM/ DF

Charles E. Fricke

**Deceased Second President, SFC 1956-1958
Charter Member and Honorary Member SFC**

Charles Fricke started in the industry in the 1920's with Anton Chiris Co. in New Jersey where his uncle was a flavorist. He left them to work for H. Kohnstamm, and then went to Seeley & Co. When he left Seeley, he went into business for himself. This lasted only a year, when he joined Polak and Schwarz. He rose from the only technical employee at the plant to plant manager, a job that he held until he retired from IFF in 1967. He was a charter member and the second president of the Society of Flavor Chemists. He retired to Florida, but kept in touch with his friends during his retirement.

Robert G. Fries Jr.

Emeritus Member, SFC President FEMA 1987-1988

Horace W. Gerard, Ph. D.

Deceased Honorary Member, SFC

One of the eight original members of the FEMA Expert Panel (FEXPAN), which was assembled by Dr. Oser for the purpose of evaluating the ingredients reported in use as flavor raw materials in the United States. He was killed in an accident shortly after he spoke at a Flavorists' meeting.

Alfred E. Goossens

Certified Member, SFC President, SFC 1979-1980

Naarden Inc. needed a flavor chemist, and lo and behold, in January 1968, I started as a flavor chemist in the laboratories on Central Avenue in Baltimore. Flavor creation, application, analytical work (I got my own GLC!) and quality control were my daily routine.

In 1972 I was approached by Miles Laboratories in Elkhart, Indiana. Miles was a forerunner in the field of fermentation, enzymolysis and the production of food ingredients via these technologies. My assignment as director of flavor research was to establish flavor creation, application and production facilities using these techniques, as well as the development of meat and allied flavors for Miles Laboratories Textures Vegetable Program.

During this time, I was fortunate to meet my second mentor, Richard B. Kocher. He taught me how to be an organized, business oriented and ethical manager. The lessons I learned at that time I still practice today.

In 1975, I joined IFF as Director of Flavor Creation which meant that I was in charge of the short and long term needs in flavor creation of IFF USA.

During that time in New York I met my third mentor, Henk van Baaren, the person who taught me how to use my technical education and experiences to the commercial benefit of the company. Responsibilities of budgets, profitability targets and P&L statements became a daily exercise.

In 1987, I was appointed General Manager of IFF Indonesia, and Vice President IFF (Far East). To run one of the largest affiliates in IFF, in a completely new cultural environment was a new and welcome challenge.

Indonesia not only has a fast growing economy but it is also an unbelievably beautiful country. My family and I thoroughly enjoyed the business and private life we had there. After about four years, new challenges came to the horizon with the appointment as Vice President Business Development for Europe, Africa and the Middle East. This assignment was shorter than anticipated, as I was asked to take over the position of Area Manager of IFF's Flavor Division in the Far East. This meant another move for my wife, daughter and myself. This time to Hong Kong, and I consider myself fortunate that my family believes in my wanderlust, goals and company support.

As Area Manager-IFF Far East, I am responsible for IFF's total flavor operations in the Far East: Japan, Korea, China, Hong Kong, The Philippines, Thailand, Indo-China, Malaysia, Singapore, Indonesia, Australia and New Zealand.

My message to the young people entering the industry? The potential is enormous. The flavor industry around the world will continue to grow at a very healthy pace, and it is obvious that we will need the right people to become "the movers and the shakers" of the 21st century.

Who are the "right" people"? As a Flavor chemist, whether the right person wants to stay in the creative field, technical or commercial arena, the candidate should have a sound technical background, a keen commercial interest and a lot of common sense, motivation and drive.

I have been asked whether my experience as a flavor chemist is of value to my current position as Senior Manager of a large flavor company. My answer is absolutely! Without my thorough exposure to all facets of the daily work of a flavorist, I would never have been able to understand and direct the commercial needs of IFF the way I do now. I find the combination of my technical and commercial experiences of immense value to IFF and myself. AEG

Coleman Goldhammer

Emeritus Member, SFC

President, SFC 1984-85

My father and three of his brothers were in the flavor business in Rumania from before World War I. Like many flavor companies then most of their flavors were for alcoholic beverages. When World War II ended and the Communists took over the country, the flavor was given to them at their command, for an official looking paper, and no compensation. Carbonated beverages were not generally available in Rumania, and I wondered what "Coca Cola tasted like. I found out when I left the country in 1961, and tasted it in Paris. It was not as I had imagined it. It reminded me of a product that we had developed as a tea substitute. Tea was very scarce. Our product was prepared from natural non-tea extractives, and sold very well. We could legally label that product "Tea Flavor" and I think it is interesting that the Brand name that we gave it was "Arizona".

In April 1961, I came to the USA, landing in New York City. Armed with a copy of the current Sunday New York Times help wanted section, I replied to an employment agency about a job opening for an essential oil chemist. It **was** at the Felton Chemical Company in Brooklyn. I was interviewed by Dave Frankel who headed up the flavor laboratory. He, Ira Kapp and others were impressed by my experience, and I **was** hired. Dave and I did not get along well, and after a year, I left them and took a job with G. Leuders & Co, that I learned of through an advertisement by another employment agency. I enjoyed working for him and the company and stayed with them until 1977. This was after the company had been

sold to Monsanto and the new owners had decided to move the business to Montvale. I did not want to leave New York.

I was pleased when Jim Broderick started what became the Chemical Sources Association. I was with Monsanto Flavor Essence. He and I looked at recent GRAS lists and searched for materials we wished we had. We found sources for a few and brought them in for the group to see. It was amazing how little feedback there was from the group.

IFF approached me about a job in their Flavor group in New York City in 1977. I took it and worked successively with Alfred Goossens, Charles Weiner and, eventually, Tom Giel. Then in 1987, they moved to the South Brunswick area in New Jersey. I had tried living in a condominium in New Jersey on weekdays, returning to my home in New York each weekend for a year and a half.

I joined Fritzsche Brothers (FD&O) in New York City and stayed with them until they were taken over by Hoffman La Roche and combined with Givaudan. I retired from FD&O, but worked for the new organization, first, as a full time consultant and in January 1992 as a part time consultant.

I like classical music, stamp collecting, reading, painting, photography, and making flavors. I know that I succeeded in the flavor business because I liked what I was doing. I tasted flavor ingredients every day - three to five materials from the shelf. I took notes. I read the trade and technical journals and read the reports and patents. Continue to taste new chemicals and retaste those you may not have used in a while.

I read the reports and patents of the chemists in whatever company I worked for. I was not a specialist. I worked on flavors of all types for a wide variety of products-beverages, meats, chewing gum and tobacco.

CG

William Douglas Graham Emeritus Member, SFC Charter Member, SFC

In 1937, I completed my third year as quality control chemist at H. Planten & Sons in Brooklyn, NY, manufacturers of filled, soft gelatin capsules. This work was concerned with capsule size and dosage uniformity. Not very exciting, but I also had a hand in the preparation of batches of medicinal formulae.

Among other items, some of these formulae included small quantities of essential oils such as sandalwood, cloves, cinnamon, peppermint and wintergreen. What enticing odors! I became curious and interested.

The answer to my curiosity came in the form of a help wanted advertisement in the New York Times, which called for an organic chemist, to enter training as a flavor chemist at Fritzsche Brothers' flavor lab.

I responded, and after a very congenial and interesting talk with Dr. Ed Hamman, I became a trainee in the Fritzsche flavor lab.

There followed seven very busy and happy years with Fritzsche Brothers, where I reveled in flavor composition and had just enough work in organic analysis and synthesis to make a pleasant change from time to time.

In 1945, I was lured away from Fritzsche and spent two years organizing and operating a central control lab for Fanny Farmer Inc. in Rochester, New York. After a time I realized that the olfactory demands and challenges were much too narrow, and knew that I must get back into the flavor business.

In 1948, I learned that Charley Brian (an old friend at Fritzsche) had become manager of Firmenich Inc. in New York and further that he was looking for a flavorist for the development of a flavor technical group.

The next few years were spent in establishing flavor composition, application and compounding facilities at 250 W. 18th Street in Manhattan. At that time, we were fortunate in having John Bonasera join us.

In 1951-52, the Grahams spent one year in Geneva, where I worked with our Geneva flavorist, Louis Sotet, who became a close friend and a good companion. Sadly, Louis Sotet died in 1954. I was called to

take his place and moved to Geneva in 1955 - a big challenge and a delightful experience for the Graham family.

After 13 happy and fruitful years in Geneva, we returned to the US where I spent the next five years at our Plainsboro location, training flavorists and consulting with Frank Perkins and John Bonasera, who were located in our Park Avenue labs.

I retired in 1972 and continued the consulting for several years.

Once, a visitor asked Louis Sotet, "How is it possible to make such good tastes and odors - using the awful smelling things on that shelf? You must be a sorcerer!"

He replied, "I'm not a sorcerer, but almost! It is my profession!" It sounds so much better in French - "C'est mon metier!" WDG

Charles H. Grimm

Emeritus Member, SFC

Charter Member, SFC

I graduated from NYU in 1935 with a BS in Chemistry, and from Columbia with an MS in chemistry. I did research on flavors, essential oils and aromatics with Professor J. J. Beaver.

My first job in the industry began with Fritzsche Brothers Inc., in the analytical labs at 82 Beekman Street, New York City, in 1935. All the raw materials were required to pass flavor and odor tests. I came to know them very well.

The company had a bad fire in 1935 that wiped out the Beekman Street facility. Within a year, they had moved to the Port Authority Building of New York at 76 Ninth Avenue and to a factory building in Clifton, New Jersey, where they had made aromatic chemicals unavailable to them during World War I. The Port Authority address was unique because, even though FB was on the twelfth floor, they were serviced by freight elevators that could bring large trucks up to the loading dock to deliver raw materials and pick up finished goods for shipment. This location contained analytical, flavor and fragrance laboratories, and repackaged, blended and compounded products. The plant in Clifton, NJ did extractions, distillations etc.

I recommended hiring Ed Langenau, who was hired and spent his working life with FB. I was able to obtain some publications and patents. One paper, co-authored with Dr. Guenther, dealt with the proof of the presence of Citral in Orange Oil. This had previously been in question. I was active in the Essential Oil Association, and I was on the USP and NF Committees on Essential Oils, updating the monographs for analyses and standards.

From 1943 to 1950, I worked for the Felton Chemical Company in flavor creation. I developed a line of artificial essential oils for them.

In 1950, I joined Polak and Schwarz. It was the American affiliate of a Dutch flavor and flavor company which had affiliates in many countries around the world and was very active in expanding its business overseas. I stayed with them as they were merged with Van Ameringen & Haebler of the US and the combined company took the name International Flavors and Fragrances, Inc. IFF had big ideas for growth and believed in heavy basic research support. As Vice President and director of Flavor Creation, my group made significant contributions over the years to the development of many flavors which are still being incorporated into big brand beverages, food products and confectionery. I worked for IFF in New York City until I retired in 1980.

I was active in the FEMA from 1964 until 1980, serving on both the Technical and Vanilla Committees. In my retirement, I still like to travel and keep active in the Elder Hostel Program. CHG

Richard Groncki

Deceased

Affiliate Member, SFC

Ernest S. Guenther, PhD,**Deceased****Honorary Member, SFC**

Chemist, Executive at Fritzsche Brothers. Traveler, lecturer, and prolific writer. Principal author of many articles before and after World War II, and of "The Essential Oils", still a useful reference in each flavorist's personal library.

He was born and educated in Germany, worked as an assistant to a leading authority on natural oils, came to the US in 1929, joining Fritzsche Brothers. Between the two wars, and after he travelled the world getting on-the-spot knowledge of the growth of the raw materials for, and the processes of obtaining the flavorful oils, in addition to his more than 150 articles and his book, he took many motion pictures which had been turned into full length motion pictures, which were shown at technical meetings for many years. (Dorland & Rogers p 232)

Roland Guenther**Emeritus Member, SFC**

I joined Fritzsche Brothers in 1959 to act as liaison person with Evans Research and Development to expedite research aimed at enzymatic reconstitution of orange flavor after spray drying orange juice. As a companion project there was the microbial modification of limonene into more valuable products.

My work led to diverse efforts in "reaction flavors" with one outstanding success that produced a patent for meat flavors based on the reaction between pentoses and sulfides, with - of all things - hydrogen sulfide as effective as any.

I left Fritzsche in 1974 and became chief of the Nutritional Laboratory at Norwich - Eaton Pharmaceuticals until I retired in 1979. The work with Norwich-Eaton was based on the feeling in the field of "space" that feeding astronauts in space required special considerations because of the unsuitable accrual of human waste. A diet was developed providing nitrogen in the form of discrete amino acids, carbohydrates as polysaccharides (maltrin), minerals based on research findings of actual body composition, and essential vitamins.

Two changes took place: emphasis went from feeding cosmonauts to nourishing patients in hospitals (mostly aid's victims), and for the latter, tube feeding avoided the flavor issue. The business switched over to the sale of "medical food".

In my case, interest was kept up by the diversity of projects that fanned out beyond straight "flavorist's" fields.

If any one person in the field had a particular influence on my attitude and knowledge in our field it was undoubtedly Frank Fischetti. He is a unique character. Instead of playing his cards "close to the vest", he'll share knowledge freely. He can afford to. - He has lots of it. RG

Richard L. Hall, PhD**Honorary Member, SFC****President, FEMA 1970-1972**

There may be people whose careers are textbook examples of good planning. I don't know any, and am certainly not one of them. Good intentions—particularly those of other people—played a major role, but so did good luck and random opportunity.

In 1939, I was about to graduate from high school in a very small town in Nebraska. Those were the depression and dust bowl days. I was lucky enough to have a principal who saw a bulletin from Harvard about a program of National Scholarships to attract more rural, low income Mid-westerners. That was wonderful for me; it led to a superb scientific education in a great liberal arts university, truly the best of both worlds. After the war, in graduate school, I became very interested in natural products, but my thesis was on strychnine, not a subject useful to mention frequently in the flavor industry. Undoubtedly, the greatest benefit of graduate school was that it was during that period I met Barbara. The pilot of the

WWII bomber crew of which I had been the navigator had gone to work for McCormick & Company after the war, and he persuaded his old buddy that McCormick was the place to be. I realized, in a vague sort of way, that he and several others at McCormick felt that it was time to bring that company and a very traditional industry technologically up-to-date, but I went there without any clear idea on the nature and extent of the changes that would be involved. So much for careful planning.

I joined McCormick in September 1950, just as the Korean War was beginning. Speculation had driven the price of black pepper to \$3.15/lb., the equivalent of at least \$15.00/lb. today. There was a quality control lab, based entirely on traditional wet chemical methods. There were no research facilities. There was no new product program. I was lucky again, in coming along at exactly the moment when the explosion of rapid, sensitive, instrumental methods of analysis was just beginning. Systematic methods of sensory analysis were also just being developed. Obviously, those have transformed the flavor industry.

We began to build research facilities in 1951. One of the first projects I was directed to undertake was to free the company, by the development of substitutes, and by relocating sources, from its historic dependence on Far Eastern sources. For every major product, we were eventually to have synthetic or natural alternatives available from Western Hemisphere sources. Furthermore, we began, cautiously, to look for new product opportunities. Our recently acquired western retail division, with the Schilling label, had a far higher market share in its area, and growth there could come only through new products. Both the defensive effort to find substitutes and the more aggressive new product efforts began to stimulate and expand our interest in flavoring ingredients beyond the traditional spices and extracts.

In 1954 Congress held hearings on the subject of food additives, something most people had never thought about. Over the next few years, public interest increased, leading to the passage, in 1958, of the Food Additives Amendment to the Food and Drug Act. The flavor industry was affected by this, coumarin and safrole were two of the earliest substances dropped from use, then later banned, in this period. The FEMA necessarily began to get involved; a Food Additives Committee was formed under Harold Janovsky. The Food Protection Committee of the National Academy of Sciences began to conduct surveys of food additive usage, and representing McCormick and Company, I became involved in those activities. In 1957(?), I became chair of the Food Additives Committee, a task for which I was qualified mostly by my total ignorance of what the task would eventually involve. I knew we needed help; I had met and heard Dr. Bernard L. Oser, and was impressed by him. The FEMA retained him as a consultant. With his help, we had a running start on complying with the Food Additives Amendment.

We, through the Food Additives Committee of FEMA, had, in 1960, surveyed the flavor industry and many of the major food processors on the usage of flavoring ingredients. Thus, we possessed the first comprehensive compilation of flavor ingredient data. The next major turn of affairs came in 1961 when FDA's efforts to publish lists of substances that were generally recognized as safe ("GRAS"), ground to a halt far short of dealing with most flavoring ingredients. After a very discouraging and unproductive meeting with FDA, Ben Oser and I agreed to go home and rethink our strategy. When we talked a week or two later, it turned out that we both had exactly the same idea that FEMA should retain a panel of peerless outside experts to determine a list of flavoring ingredients that we would publish as GRAS. Then, unless there was significant disagreement, they would be GRAS. Ben Oser knew the right individuals and had the personal prestige to persuade them to serve in this novel activity. The story of this effort has been recorded elsewhere, and need not be repeated here. That it was implemented successfully is due in large part to a Food Additives Committee that brought together many individuals of such talent and energy as are rarely encountered in a trade association committee.

When FDA was directed to reevaluate "the GRAS List" in 1968, it was the FEMA experience in surveys that provided the model followed by the NAS. For me, all of this experience was a graduate education in toxicology and food regulation. It led to a variety of other involvements, some related to flavors, others much more distant. And, in 1964, Howard Smith and I were on the FEMA search committee that hired Dan Thompson, not only a new generation, but also a knowledgeable and thoughtful strategist in food law and regulation, as the Association's new Secretary and Counsel.

Meanwhile, all during the 60's and 70's, McCormick's increasing activity in new products, and in becoming a major supplier to the food processing industry, had led in the mid 60's to our becoming directly involved in the flavor business as a manufacturer and compounder, and that has continued to

grow. As part of a vertical integration strategy, the Company grew in still another direction by its acquisition in 1962 of a then small onion and garlic dehydrator, Gilroy Foods, and that led to further involvement in both flavors and agricultural research. During all of this time, the Company followed the typical pattern of technical growth, with great emphasis on analytical chemistry, sensory analysis, flavor chemistry, and applications research. It was an exciting time to be a part of the field. RLH

Edmund H. Hamman, PhD.

Deceased

Honorary Member, SFC

Dr. Hamman received his PhD in Chemistry from Columbia University under Dr. Marston T. Bogart. He shared a fellowship with Dr Marion Carpenter, another Columbia graduate who entered the industry. Dr. Carpenter worked for Givaudan in Clifton, NJ ending up with Research Lab #1.

Dr. Hamman worked for Fritzsche Brothers and was in charge of flavor research and development. An early professional member of the Institute of Food Technology, (perhaps a charter member), he saw that group attaining an elite status. He favored keeping it technical, down playing the marketing side of the organization.

He did try to get authors of analytical papers to include whatever sensory data could have been perceived by the author concerning the naturally occurring chemicals identified in food related raw materials. In the forties there was still a debate concerning the odor of *pure* d and l carvone. Many naturally derived aromatic chemicals were contained trace contaminants that greatly affected their odor character and strength.

He not only had his young chemists prepare samples of otherwise unavailable naturally occurring chemicals and their homologues, he encouraged the inclusion of unusual essential oils, extracts and oleoresins in flavor formulations.

After retirement, he kept busy in consulting for large flavor consuming food and beverage manufacturers.

Kenneth M. Hassey

Fellow, BSF

Certified Member, SFC

Paul P. Haydon

Deceased

Member, SFC

Worked for Warmer Jenkinson and 7 Up

Henry Heath

Retired

Honorary Member, BSF

A pharmacist with degrees in several other disciplines who worked in technical and administrative capacities for Bush Boake Allen in England, Canada and elsewhere. He is an accomplished speaker on many topics in his chosen profession. He has authored many technical articles over the years, and several books, alone and in cooperation with Gary Reineccius on spices, seasonings and flavors.

Edward N. Heinz Jr.

Deceased

President, FEMA 1957-1959

Born November 6, 1911, Ed graduated from Illinois Institute of Technology with a BS in Chemistry in 1935. He started his career in the Flavor Industry in 1936 as a Flavor Chemist with Food Materials Corporation, Chicago, Illinois. He went into the Army in 1939 and served in the highly classified biological weapons program. In 1944, he was honorably discharged and returned to work at Food Materials. In 1949, he was promoted to vice president of Food Materials Corporation. In 1959, he became President of the Flavor Extract Manufacturers Association (FEMA). He was secretary to the AACC and

was actively involved in the society of Flavor Chemists, The National Confectionery Association, the IFT and the National Certified Color Association.

In 1968, Ed bought Wm.M.Bell Company, a small flavor company located in Chicago, and became its president. In 1977, Bell changed its name to Bell Flavors and Fragrances, Inc. Through internal growth and several key acquisitions, Bell achieved its status as a premier Flavor and Fragrance Manufacturer. Ed passed away in 1986 and is always remembered as an important figure in the development of the flavor industry as it has evolved.

J. Heinz

Richard F. Heinze

Certified Member, SFC

**President, SFC 1995-1996
President, CSA 1990-1991**

I got into the flavor industry by accident. Having a BS in Chemistry, I was working for Monsanto in 1966, when I was asked if I wanted to join a new venture - Flavors and Fragrances. It sounded interesting to me, so I volunteered to try it. In 1967, Monsanto bought George Leuders & Co. In 1971, Monsanto phased out the St. Louis part of Leuders and I moved to Coca Cola in Atlanta, even though I could have stayed at Monsanto.

The flavor industry was always interesting and challenging. There are many aspects of it, through my years, that I was fortunate to have been involved in. I moved within the industry because of new opportunities and due to acquisitions. As time passed, I have taken many technical and management courses. My duties from 1966 to date have included those of flavorist, flavor production, QC management, flavor regulation, management, and fragrance laboratory.

I became active in FEMA, SFC and CSA because I was interested in what was going on, and because it keeps one current in the industry. By volunteering to work on committees, I was able to participate and give my input in how I think things could be improved. On the Food Additive Committee, I was able to work with Jan Stofberg on the Consumption Ratio data, and help develop guidelines for process flavor development. In the CSA, I worked on the patent compilation and publishing project and on the compilation of sources of natural flavor materials.

In the SFC, I started on the Education Committee, and with Frank Fischetti worked on it for about ten years until the Board took it over this year. I would urge any member to get involved in the trade and professional associations. It helps make your work more interesting and more meaningful, and makes you more valuable to yourself.

RPH

Carl H. Holmgren

Certified Member, SFC

President, SFC 1996-1997

Like most flavor chemists, I got into the industry purely through dumb luck. I was studying chemical engineering at CCNY, but I was unsure if I wanted to make it my career. I decided to take some time off to work in a chemically related position in the real world, so that I could sort out my true objectives. The employment agency set an interview at Givaudan, after which Jerry DiGenova offered me the position of flavor Technician/Trainee. I soon discovered that I had stumbled onto my true calling, so I switched my major to chemistry and finished school at night.

I began my apprenticeship under Earl Merwin, in 1964. The company had recently been purchased by Hoffmann-La Roche, and was starting a training program to develop the flavor creation skills it would need to meet its projected growth. Tom Giel and I were the first students, but we were soon joined by Greg Lima, Carole Pollock, and Joe Cipriano. The program stressed a thorough knowledge of organoleptic, physical and chemical properties of flavor raw materials, along with an open atmosphere of teamwork that included senior and peer review of our creative efforts. We learned a great deal by being able to "pick the brains" of Jerry, Earl, Dick Potter, Sol Reiss and Al Venutolo, as well as by challenging each other to greater achievements. We also managed to have quite a bit of fun along the way.

Whereas my experiences at Givaudan taught me the art and science of flavor creation, my subsequent tenures at Haarmann & Reimer, Stange, and Naarden taught me the business. There is much more to

producing winning flavors than merely creating great tasting flavors. One must also consider their cost effectiveness, manufacturability, availability, safety, stability, consistent quality, and, most importantly, their ability to provide consumer acceptable flavor profiles after being subjected to the customer's base and processing parameters. Despite the fact that flavors are usually created to meet the needs of our customers' Product Development groups, we must not forget their manufacturing needs must be met if we wish to sustain the business. Working in several product categories at Procter & Gamble, opened my eyes to the roles that flavor systems must fulfill in order to deliver a successful product to the market.

As the complexity of today's new products continues to increase, the necessity to tailor flavors for specific products also increases. The flavor chemist of today must realize that the volatiles that make up a flavor are highly dependent on the basic tastes; temperature, trigeminal nerve stimulation; mouth feel, melting characteristics; etc., for their sensory perception and acceptability. To be successful, they will need to build partnerships with product developers to achieve the trade-off that will result in the greatest consumer acceptability.

I love Flavor Chemistry because it challenges us to increase our understanding of new phenomena; it changes daily; it allows us to exercise our creativity; it attracts the nicest people, and most of all; it's an awful lot of fun. I heartily recommend it as a career. CHH

Jacques Honan

Deceased

Member, SFC

Morris B. Jacobs PhD

Deceased

Dr. Jacobs was an engineering professor at Brooklyn Polytechnic Institute in New York in the 1950's. Because of the heavy concentration of essential oil dealers and flavor and fragrance manufacturers in the New York area there was a demand for technical information. NYU also provided evening courses in flavor and perfume technology. Dr. Jacobs had several courses. One was on artificial flavors and one was on colors and one on beverages. Each course was one term, and they were rotated according to the demand for them. They were popular enough to have run for several years. In the 1960's Stefan Arctander led a course in Flavors & Perfumes at Fairleigh Dickenson College in New Jersey.

Dr. Jacobs was urged to write on the subjects to be used as textbooks for the courses, and he became a regular contributor to trade journals. Topics included specific flavors, regulations and applications of flavors.

Many of his students were technicians from flavor houses and all were required to write at least one paper on a subject of his (or her choice). Jacobs' books were of value to novices in the field. Finally, something was in writing to use as a guide to one's progress in the field.

Harold Janovsky

Emeritus Member, SFC

Charter Member, SFC

Harold was one of the old school of flavorists who worked with a limited number of raw materials when he joined the industry, and was responsible in part for making flavors that extended the range of flavored foods and beverages with a variety of flavors in an ever-increasing number of forms.

Harold had a long and varied career in the flavor industry. One of his first jobs was with Seeley & Co. before World War II. The company specialized in extracts, and true fruit, with and without other natural flavors. They also manufactured some of the chemicals and isolates used in their flavors.

After the war, he worked for the Virginia Dare Company in Brooklyn, NY. On leaving them, he moved to a series of flavor jobs with growing companies. They include (but not complete or necessarily in order) Florasynth, Dodge and Olcott, Fritzsche, etc. many of his titles were vice president and/or technical director. Harold retired in the 1980's.

In 1953, newly appointed at the bottom rung for ladder faculty at the University of California, Davis, I was assigned flavor research responsibilities. At this time, the flavor chemist was largely restricted to the "potboiling", "wet bench" techniques of the classical chemist. To isolate compounds that existed in amounts so minute that the classical chemist refused to acknowledge their existence necessitated working with immense amounts of sample. A year later, I visited the USDA laboratories in Albany, California, where Dr. Keene Dimick was working on strawberry flavor. Intrigued by scanty reports from England, he had begun constructing his first crude gas chromatograph, and I was immediately convinced that this was the technique for which the flavor chemist had been waiting. Keene was a very gracious scientist, and he treated me like a young protégé, giving me bits and pieces, plus lots of advice and guidance. And "in the beginning, there was chaos"; not only were there no commercial GCs, there were no component parts: detectors, columns, stationary phases, etc. But by late 1954, somehow UC's first crude GC was up and running.

Keene left USDA to found Wilkens Instruments, which became Aerograph, and was later acquired by Varian; Roy Teranishi replaced Keene at USDA, and he built a formidable flavor research team with whom I enjoyed a long and fruitful relationship. Worldwide, we were making lots of advances in GC; Marcel Golay invented the open tubular column, and Dennis Desty gave us an elegantly simple glass capillary drawing machine.

Perkin Elmer was issued a patent on the open tubular column; unfortunately, they failed to study and develop the concept, and the columns they sold were terrible. Further, they refused to license others; scientists that wanted good open tubular columns had to make their own. One of the most active scientists in this area was Professor Kurt Grob at ETH in Zurich. He gave me my first glass capillary column in 1965. The results were so superior to those generated by our old packed columns, and even the wide bore stainless steel capillaries pioneered by Teranishi that I was converted. Along with a number of other centers, mostly in Europe, our emphasis shifted to the manufacture and improvement of these columns for our in-house use.

Our flavor research during the above period concerned the isolation and identification of a number of "flavor impact compounds" and "contributory flavor compounds" from the Bartlett pear, peaches, apricot, banana, pineapple, muskmelon cultivars, black pepper and other spices, varieties of the species *capsicum*, essential oils from a variety of natural products, and volatiles of beer, and cooked and preserved meats. In several cases, cooperation with a colleague, Professor Rosemarie Pangborn, permitted the correlation of our chemical and her sensory data.

All of this necessitated a lot of methods research; sample preparation, improvements in GC injectors and detectors, and in methods of column manufacture and deactivation. Advances in gas chromatography first came from two fields: flavor, and petroleum. Then there was the occasional paper on capillary gas chromatography at ACS meetings, but most of the developments were reported at specialized meetings on gas chromatography, and later, on glass capillary gas chromatography. A steady stream of foreign and domestic scientists regularly visited our laboratory. Most were interested in flavor or petroleum, but soon there was representation from other fields: forensic scientists interested in drugs of abuse, poisons and arson investigations; drug and pharmaceutical manufacturers; and finally the environmental interest began. Instrument suppliers began to pay attention to what they finally recognized was an emerging technology, and I became a consultant for several companies, including Hewlett Packard.

One of my completing PhD students, noting all of this increased interest, suggested we began the commercial manufacture of glass capillary columns. J&W Scientific produced their first columns in his garage in 1974. Fourteen years later, when the rapidly growing company possessed over 50% world market share and annual sales of about \$8 million, it was acquired by the British multi-conglomerate Fisons plc.

Now past my biblical three score and ten, I still serve as a part time consultant to J&W Scientific, working with chromatographers in all application areas. Most of my activities relate to teaching courses in chromatographic theory and applications, and invited lectures and seminars. I still participate in flavor symposia and meetings, but my present role is different. I'm no longer active in flavor research *per se*.

Today, I'm more commonly asked to speak on the probable impacts of recent chromatographic developments on flavor research. It's an activity I value, because it not only renews contacts with old friends and associates, but also gives me the opportunity to meet new recruits, students, and new and emerging stars. WJ

Carl Jensen

Deceased

Charter Member, SFC

Carl was an early modern flavorist, who took a simple methodical approach to making a flavor and tested each trial in a medium as close to intended finished product that he could. Each item in a formulation was there for a reason. His flavors competed successfully with those from larger better-equipped labs than his.

An engineer by education, he is reported to have designed and help build a plant to manufacture vanillin for Polak and Schwarz in the Netherlands.

Before World War II, he worked for Ungerer, and for Givaudan, Albert Verley and Globe after. He also started JC Laboratories for his son. When he worked for Givaudan, he was probably their second flavorist in the US. Sven Andersen was the first. Sven had the distinction of being on a sales service call and staying in a Chicago hotel that caught on fire. He got out OK.

On leaving Givaudan, Carl worked off and on for Globe Extracts, where he may have had a financial interest at one time. He formed Jay Cee Laboratories, which was taken over by his son Carl Jr, on Carl's death. Carl Jr. was not ready for the responsibility. It was sold to Max Jacobs became a part of Scientific Flavors, in New Jersey, and eventually Quest. Carl's specialties were artificial flavors for chewing gum, popsicles and confections.

Claude Johnstone

Deceased

One of the first modern Flavorists. He worked for a St. Louis beverage company - Smiles - and joined Dodge & Olcott working on flavors. He headed up their flavor laboratory in the late forties and early 1950's. He was strong in beverage flavors, essential oils, oleoresins and in spice replacements. It was probably he who developed the Sol Spice line of concentrated water-soluble flavors/seasonings for pickles etc., using Tween for the solvent.

He retired from Fritzsche in about 1952 at about 65 years of age and ended up in Atlanta making the flavors for the Coca Cola's new Fanta line of sodas. F. Schumm

David Jorysch, PhD

Deceased

**Charter Member, SFC
SFC President 1958-1960**

Dave emigrated from Vienna in the 1920's after studying Chemistry there, and was employed as a chemist by H. Kohnstamm's laundry products laboratory. In the 1920's H. Kohnstamm's fledgling flavor division was leaderless at times because its key founders had been discharged for unacceptable practices. At that time (pre-brominated oil), there was an industry need for a clouding agent and some of the sales personnel convinced Dave to have a go at it. In time, Dave developed "Paragon Blender", a cloud emulsion based on orange terpenes and ester gum. It was a big success and management subsequently put Dave in charge of the flavor laboratory. As head of flavor development, and later, flavor production, Dave had an illustrious career until his retirement in 1967. During his stay at H. Kohnstamm, he returned to Austria to complete requirements for his doctorate. He was long time chairman of the FEMA Research Committee during the key years of collaboration with the Boyce-Thompson Institute, and was a charter member, and the third president, of the Society of Flavor Chemists.

Dave was not only a very capable chemist and an energetic worker, but also a caring and gentle person who avoided controversy. He was therefore a good arbiter where his imagination came to the fore. As an

acknowledgement of his contributions, when Kohnstamm opened their new flavor labs in Kearny, New Jersey, they were dedicated to Dave and named the David Jorysch Technical Center. J.JB.

Elizabeth Karoll

Emeritus Member, SFC

Alexander Katz, Ph. D.

Deceased

Dr. Katz, a chemist, was a pioneer in the establishment of the flavor industry on the West Coast of the US. East coast and Chicago based essential oil and flavor companies had sales representation in California, and would keep stock of selling products, but had very little in the way of manufacturing or packaging for many years. Dr. Katz and Louis Lakritz were associated with Florasynth before World War I. Both were part owners of Florasynth. They moved to California to establish Florasynth there. There was a falling out and the company was divided. The flavor business went to Dr. Katz who named it F. Ritter & Co, the same name as a German flavor company. Florasynth kept the fragrances. During World II the name of the flavor company was changed from Ritter to the Alexander Katz Company. At the end of the war, the Ritter name was again used.

On the death of Dr. Katz, F. Ritter and Co. passed to his widow and two sons, Alan and Leonard. His widow bought out Leonard's (her stepson) share. Bell F&F bought the company in about 1979. Leonard and his brother in law, Herbie Claypoole are reported to have started Mutual Flavors.

Two workers at Mutual Flavors left to found their own companies. 1.) Fred Farago started American Fruit Processors, also known as California Flavor Labs. 2). George Ryback started Flavor Craft. Flavor Craft closed its doors in 1984, apparently as a result of an adverse decision in a lawsuit.

In 1969 Dick Kitsuse, who had worked at Ritter, and David Wilkes of Globe Extract started Globe West. In 1980, Dave sold out to Knudsen Dairy. Knudsen eventually went Chapter 11. Dave Wilkes bought back the Globe Division, and a few years later sold it to Borthwicks Flavors. Dave's son was reported to have been an officer in Globe. He started Blue Pacific Flavors, trading with Pacific Rim countries until he was able to compete in the USA.

In 1980 Dick Kitsuse, Bill Rocamora and Dennis Beck started Flavurence Corporation.

Leonard's son Don has started Progressive Flavors and Fragrances in California. His son is already in the business and is the fourth generation of the Katz family to be in the flavor business in California.

Morris H. Katz

Emeritus Member, SFC

"Morry" got his initial objective look at flavors when, at the age of 13, he worked in his brother's drug store in Milwaukee, and as a pharmacist's apprentice while in high school he became familiar with botanicals, essential oils and oleoresins, in the preparation of tinctures, fluid extracts and their uses in flavoring elixirs, syrups and other medicinal preparations. He prepared the syrups for use at the soda fountain.

He majored in Dairy industry biochemistry and food technology at the University of Wisconsin. Here he saw more aspects of the flavor of food in the judging and grading of dairy products.

In the Army during WW II, he was a medical lab and pharmacy technician. He ran a lab and pharmacy for the 8th Air Force in Britain. On release, he settled in Chicago, making flavored syrups for a company which purchased their flavors from flavor manufacturers. In 1949, he moved to Orange Crush, International a division of the Canadian company, where he worked with Arthur Vanderstemple who had come from Holland and studied at Berkley, CA. There Morry developed a stable Cocoa beverage powder fortified with vitamin C in tablet form. He developed WONF beverage flavors as well as imitation flavors.

In 1953, he joined Fries & Fries in Cincinnati, OH, which was then strong in tobacco and alcoholic beverage flavors. Morry left F&F in 1958 to go with Pillsbury. He was one of the first people trained in making flavors to go with a major flavor user. Pillsbury did not want to manufacture flavors, but needed to have their own expertise to understand more about the ingredients in commercial flavors, their analyses, and their applications.

Morry retired early from Pillsbury in 1980, but continued to consult on flavors. Morry plays the drums. He kept up his card in three locals of the musician's union long after he derived income from that activity. He looked forward to being coaxed to sit in with the orchestra that played at the dinner dance of the annual FEMA meetings in the 1960's.

At these affairs there was also a chance to hear the wonderful well trained voices of Art Leiden of Pfizer, and Millie DiGenova (Jerry's wife). Others from the industry with musical talents that they shared on occasions were Tom Bonica on the accordion, and Jim Broderick (tenor) and Fred Schumm (bass).

Morry also accepted the task of setting up the arrangements for the first SFC Chemists' Breakfast at the annual meeting of the IFT. That was in Miami in 1973. He has done that job efficiently and quietly ever since, including the 1994 Atlanta meeting. MHK

Arthur Kirsten

Deceased

Charter Member, SFC

Arthur worked his way up in Felton Chemical to become manager of the flavor department and then chief flavor chemist at Felton. He died around 1959. DS

Jack Knights

Fellow, BSF

**Past President, BSF
Past Chairman of the BEMA**

I joined Polak & Schwarz (UK) Ltd. in 1956 after graduating from Imperial College, London in Chemistry specializing in terpenes and doing two years national service in the army as a radio mechanic. The reason for joining the flavour industry was totally accidental. In the summer vacation between leaving school and starting college in 1951, I was looking for part time employment as a chemist. It just so happened that the nearest company to my home that would give me a job for 2 months was Polak & Schwarz, where I worked as a very junior analytical lab assistant. I have hated analysis from that date till now. During that period, I discovered (or maybe it was P&S) that I had a natural gift for tasting products and they used me as a primary tester. At the end of my national service, I applied to join the synthetic chemical group of P & S, but there were no vacancies. However, there was a new position being created as a graduate laboratory chemist in the flavour division. I was duly warned that they had never employed a chemist before, but felt that they should join the modern era! I was also told that the normal salary was £550 p. a. but because this was a new position, they would pay the vastly inflated figure of £650.

I started there on 1st October 1956 trying to use my chemical training and make scientific sense of formulae which had phrases like "to 8 imperial gallons of SVR add 15 drops of Neroli oil", a hopeless (and thankless) task. It was during these early days that I made friends with the chemists in the fragrance laboratory, and the very wise chief perfumer, Jack Pickthall, confided that "if you want to get any where in this industry you have to be creative perfumer (preferably) or flavourist". I took this message to heart and set about becoming a bench flavourist whilst trying not to forget all my chemistry. For virtually all my time at P&S (IFF after 1961), I worked assiduously as a creative flavourist, with considerable success, until I was head hunted in 1972 for the job of Technical Director of Barnett & Foster also in the UK. For those of you who may remember the power cuts which occurred during the 1972 "winter of discontent" in UK, I was interviewed in a hotel in Huntington during which the lights all went out and we continued by candle-light. B&F were, at that time, almost exclusively a soft drinks flavour house and my job was to drag them, kicking and screaming, into the food flavour business. Needless to say this was an impossible task in the time allocated, and resulted in increasingly acrimonious sessions with my then managing director, resulting after 4 years in an agreement for our ways to diverge (at least mine would diverge!) Although my period at B&F was traumatic, I learned a great deal about soft drinks and their technology. I was again head hunted for the job of technical director for Sofler Ltd (later PFW) at Perivale. At my

interview at a local hotel, we met one of the better customers of both B&F and Sofler, so you can guess that the rumour that I was going to join the latter was round the UK industry like wildfire. The industry has always cultivated a very successful grapevine! I joined Sofler in 1976, and realized that it was very like IFF had been 15 years earlier. It had all the same paternalistic shortcomings, but with shocking facilities. I became responsible for the flavourists and application technologists, but found great difficulty in seeing eye-to-eye with the then managing director (seems a common failing!). However, he soon disappeared from the scene, and I set about increasing the worldwide standing of the UK flavour creation team which had always been overshadowed, particularly by Holland. This object was successfully completed in about 5 years, but then came the terrible eighties, where the UK chemical manufacture was transferred to Holland and the UK flavour technical staff cut by 25%.

As a result of these cuts, we were left with no one to look after legislation, and after a lot of thought and my very early use of computers, I decided to do the job myself, not really out of desire, but of necessity. During that period from then to date, I have specialized in regulatory affairs on behalf of PFW which has always had a high profile in these matters. In 1988, PFW acquired Zimmerman-Hobbs, a long established UK essential oil house and in its wisdom appointed their managing director to the post in PFW. Yet another period of personal conflict ensued, as he wanted to run the company as an expanded Zimmerman-Hobbs. In January 1991, he resigned and the rest is history. I have had the honour to be elected to the Presidency of the British Society of Flavourists, and also to become Chairman of the British Essence Manufacturers Association.

As I look back on a lifetime of work in the flavour industry, I have very few regrets. Had I known that I would work most of the time for US owned companies, I would have stayed at college and got a PhD (European BS is *SO* undervalued in US). I might have wished that I had made it to being a managing director, but looking back, I have survived longer than most of those for whom I have worked. All in all, the industry has been great fun. Although this is probably looking back through rose-coloured spectacles. JK

Robert Koch

Deceased

President, FEMA 1978-1979

Bob Koch was an accountant. He was educated at Northwestern University, School of Commerce, graduating around 1949. When his father-in-law died, his mother-in-law was a major stockholder of Food Materials Corporation. So Bob went to work for the company to look after her interests. He did a good job, and was eventually made president of the company.

He loved the business. He was active in professional organizations and The FEMA. He chaired the Vanilla Committee for many years, and served actively on the Board of Governors.

He was well known for his sense of humor, and he gave much thought to the gifts he gave to those he liked and wanted to surprise.

Hesslein Kohnstamm

A manufacturer and importer of ultramarine blue and other coloring materials starting in 1868, having been in similar business with his brother who died in that year.

He entered the food additive business in 1907 (following the passing of the first comprehensive federal Food and Drug Law); by constructing a color plant in Brooklyn to manufacture food colors. It was not until after World War I that a flavor division was begun with the H. Kohnstamm name. A flavor production facility was built in 1927 in Kearny, New Jersey, with Dr. David Jorysch in charge of the division.

Rudy R. Krukar**Emeritus Member, SFC**

Rudy got his BS from Seton Hall College in 1954 and an MS in Biochemistry from New York University in 1957. He went to work for Hoffmann La-Roche in a product development lab, followed by time in technical service and as product manager in the Roche Chemical Division. His products were Beta Carotene and Apocarotenal.

In 1966, he worked for Nestle FIDCO with Hatton Rogers and Bill Zick. Hatt was the manager and Bill was to train him to replace Bill, who was scheduled to move to Vevey, Switzerland in a management position. From FIDCO Rudy went to Givaudan Flavors for five years as director of International marketing, and then back to the HVP, AYE business at the William Stange Company. Since then that has been his specialty, working for McCormick when they took over Stange, and then Champlain Industries, which became the Red Star Division of Universal Foods.

He was active in local and national activities of the IFT and in the International Hydrolyzed Protein Council. He now enjoys his retirement with some time for consulting on food ingredients and marketing.

RJK

Edward A. Krutal**Certified Member, SFC****A Flavorist Working for a Consumer Products Company**

I have been fortunate to have worked for both a consumer products company and for a flavor house in the classical sense. The conclusions that I draw here are based on those experiences with two types of companies. Since all businesses from the local deli to Fortune 500 companies operate in their own distinctive style, these observations are strictly personal. They may not reflect the operation of all companies with in-house flavor capabilities.

During my four and a half years with a consumer products company, I sometimes observed a mild criticism towards "in-house" flavorists. There appears to be a stigma attached to flavor groups within consumer Products companies in that they are viewed as roadblocks to business opportunities by flavor companies. In my particular situation, this was far from the truth, as the flavor group that I was a part of could by no means supply all of the flavors for the company's products and line extensions. I suspect that this is the case in most such large companies. Also, for a company to rely strictly on in-house flavor creations would mean cutting themselves off from the latest developments and new generation flavors from flavor houses. Most flavor companies have the capability for intensive flavor research and innovative new raw materials, especially in the natural area. It would not be wise for a consumer products company to alienate themselves from such developments. With the right blend of customer service and quality merchandise, there is opportunity for flavor houses to supply those companies which have in-house capability.

The duties of a flavorist at a consumer products company and the environment of the development lab mirror that of a flavorist in a flavor house. In most cases, projects involve "start from scratch" flavor development using those raw materials found in a typical flavor lab. As good manufacturing practices dictate, the flavorist must be responsible for using fresh and high quality stock. Very often internal flavor groups have no production facilities from which to draw current raw materials. The flavor lab then must be maintained through minimum purchases or sample solicitation.

Internal flavor groups are often viewed by products development groups as another flavor house to which a request will be tendered. Indeed, they may be requested to submit a sample, and may or may not be given a sample of the base. The internal flavorist must submit his flavor within the specified time limit. The product developer will screen all of the submissions and choose the flavor which suits the product at hand. The chances are that the flavor libraries of the flavor houses are more extensive than the internal flavor group. This is especially true with an in-house flavor group with limited experience. In such cases, the established flavor house has an advantage over the internal flavor group.

By now, you can see that the basic operations of an internal flavor group are similar to those of most flavor companies. But indeed, there are differences. In addition to those already mentioned, the following are some of the more significant differences that I have experienced.

1. **FLAVOR SCALE UP:** If an in-house flavor is screened and chosen by the product development group, the next step is to prepare the flavor on a larger scale to meet the company's requirements. To those flavor groups with production capability within their realm, life is somewhat easier. The flavor will be prepared in the traditional manner. However, when a flavor production facility is not available in house, the flavorist's job becomes even more interesting. The flavor must now be prepared under a tolling contract. Often the formula will be split into two or more keys, each prepared by a different manufacturer. The keys are then shipped to the final destination for recombination in the correct ratio. In this manner, a degree of confidentiality is maintained. However, the areas of quality control are increased, as are the possible sources of error. The paperwork involved is also increased by the number of keys split out of the flavor formula. These include specifications, material safety data sheets (MSDS's), kosher certifications, and so on.

2. **AREAS OF INVOLVEMENT:** In most cases the flavorist in a consumer products company experiences total involvement in the flavor scale up loop. That is, flavor creation was a secondary function in an organization where the finished consumer product is the primary function. Therefore, the Flavorist becomes responsible for those aspects necessary to complete a compounded flavor batch. He or she may actually arrange purchases of raw materials, check the quality of the raw material pre-shipment, and track the shipment to the co-packer. In addition to this, the flavorist will often write the specifications and MSDS's. On the other hand, in a flavor supply company, whose primary product is the flavor, these functions are often assigned to a non-flavorist full time.

3 **SALES REPRESENTATION:** Another area where similarities end between a flavorist in a flavor house and a finished goods house is that of salesmanship. Flavor companies have a trained sales force to act as the go-between between the flavor developer and the flavor user. Once aware of a specific need at an account, the salesman will relay the information to the home base for the appropriate action. Conversely, the flavorist in a consumer product company must often act as his own account manager. The Flavorist must maintain a high level of visibility and remain aware of projects where the flavor group's services may eventually be needed. It is not unusual for a flavorist to make casual visits to product development groups for one-on-one encounters to pitch his services.

4. **TURNAROUND AND COMMUNICATION:** One large advantage that I have noticed during my stint as a flavorist with a consumer products company is the degree of communication and turnover between flavor group and product development. Since the two groups are physically close, progress can be made within the same day between flavor development, addition to the base material, evaluation of product and revision of the flavor. There is no time lost in the mailing of samples, and communications are face to face between flavor and product developers. Products can be tasted simultaneously and both can arrive at a common flavor language. This is extremely important to the flavorist in reaching the product developers target.

5. **TOTAL INVOLVEMENT IN ALL COMPANY FUNCTIONS:** Another area unique to an on-board flavorist is that he or she becomes the resident guru of flavors within the company. The flavor groups will often be called on to consult in all areas concerning flavors and finished goods. These areas may include quality control checks and sources of off notes which may be due to packaging, oxidation or cross contamination. Product developers will call on the flavorist who advises in technical aspects regarding physical aspects of flavors. This includes the use of the proper form of flavors - emulsions, encapsulated flavors, and oil and water-soluble flavors.

In-house flavor groups operate as mini flavor companies within their own organization. Flavorists working in such groups will adhere to the same rules, regulations and ethical standards, choose their materials from the same pool of ingredients and use the same practices followed by flavorists in flavor houses. They all strive to abide by the SFC Code of Ethics and they do the best job they can for the organization they call their home.

David Lakritz

Deceased

Charter Member, SFC

Richard Lane

Certified Member, SFC

President, CSA 1986-1987

I joined Warner Jenkinson in 1973 right after graduating from the University of Missouri with an MS in food Science and Nutrition. I worked with Dick Chapman, and with Paul Perry, Paul Haydon and Dan Millilo. Dan was with the 7 Up Company which was WJ's best customer and eventually owned WJ, and the two labs worked closely. Dan was both a good beverage chemist and a good flavorist. In 1978, I went to Miles Labs and worked with Dick Heinze for three years. They were about to move to New Jersey, so I left them and went back to Warner Jenkinson for five more years.

In 1986, the flavor groups of WJ and Universal Foods were merged and a trip to New Jersey was again in the offing. I looked at housing in the New Jersey area, but decided again to stay in the Mid West, resigned and started St. Louis Flavors with Charles Vaaler who had experience in flavor sales. We started in High Ridge, a suburb of Saint Louis and grew to the point where we needed more space and are now located in Fenton, Missouri. We are happy to be our own bosses and fill a niche with our products.

I try to get to CSA and SFC meetings, but the best I can do is make the mid-west meeting each year. Please keep up that custom. We need it. Phone call 11/8/95

William Lasthuysen

Deceased

Charter Member, SFC

Floyd Lemaster

Emeritus Member, SFC

Many years with Fritzsche Brothers as compounder then flavorist specializing in flavors for alcoholic beverages.

Arthur L. Liccione

Deceased

Certified Member, SFC

Greg Lima

Certified Member, SFC

President, SFC 1990-1991

My first job was in the ice cream lab of the Joe Lowe Corporation where I would do flavor blending (Mixology). When an opportunity came along to work for Givaudan in New York City, I was encouraged to take it by my boss, Mr. Max Sturges, the head of Joe Lowe's Flavor and extract department.

From there I worked for Givaudan, first in New York City, then Clifton, NJ. I joined Givaudan on February 12, which was Jerry DiGenova's birthday, and the last day that Earl Merwin worked at Givaudan. I was trained by Dick Potter, Sol Reiss, Cliff Desch, Jerry, but most of all by Al Venutolo. (Shades of "I remember Momma"!). After seven years with Givaudan, I worked for Bush Boake Allen as a flavor chemist. This was followed by a year at Albert Verley as a senior flavor chemist, and then eleven years with Norda as a senior flavor chemist. This was the next major influence upon my career. Norda was like a home to me. Here I met Al Saldarini. I learned a lot from this man. The two major influences in my professional life are both named Al.

For four years, I worked for Flavor Resources in New Brunswick, NJ. My position was Flavor Lab Manager. The company was sold to Ingredient Technology. Since 1987, I have been with Crompton & Knowles Corporation as Director of the Creative Labs and Manager of the Flavor Labs.

My advice to the "young folks" (does that make me an old timer?) is to learn, - - learn, - -learn - by reading, questioning and by doing, - but always learn!

As I review the thirty-five years that I worked in our industry, I see clearly that all I ever wanted to do was to be free to work at the bench, and yet for most of those years I was directing research and administering the affairs of the laboratories. It would seem, as I look back that I was involved with flavors even before I knew there was a flavor industry. Please refer to the list of places and dates that were important in my career. For my Masters degree at the University of Massachusetts, I worked on the flavor of shellfish.

At the Quartermaster Food and Container Institute, I tried but failed to make a suitable black pepper flavor. At Washington State for my PhD, I did a study of why whole milk powder deteriorates rapidly - including flavor; and at The University of California, Davis, I published paper on the flavor of milk and why it deteriorates in the presence of iron and copper.

When I went to work for General Foods in Tarrytown, it seemed normal that I was assigned to the flavor research laboratory that was being organized at that time. These were exciting times because gas chromatography had just made its appearance, and each day, or so it seemed, we were first to identify new and important volatile chemicals in a host of natural products. My love of making artificial flavors stemmed from that time.

A highlight in my career is when in 1966 I joined with a perfume house, General Aromatics Products, located in Skokie, Illinois. My job then was to make flavors based on my previous experience. Then, I had five or six formulae in my bag of tricks - barely enough to start a new company. However, I was able to expand that number very rapidly, based on GC analyses of natural flavors which were appearing in the literature. With my own GC, I was able to duplicate excellent flavors. This company was sold to Stepan Chemical Co. and when I left in 1980, it was sold again, to the Wm. Bell Co.

Another important time for me began in 1984 when I founded Litman Technologies, Inc., a flavor research house located in Princeton, New Jersey. My son Neal joined the company a year later and together we developed the Aromatek apparatus based on patents issued to me earlier. These patents were recently transferred to the Givaudan Corp. while retaining my rights to market the apparatus and its technology.

If I have made an important contribution to the industry, it is probably through the flavor chemists that I trained and who are in leadership positions, and hopefully the Aromatek method which may eventually be in general use in the industry.

In recent years, I took assignments from the International Executive Service Corps and spent several months in South America assisting third world countries to develop their own companies. I hope to do more of this.

I hope that my musings are of some help to the readers and wish you good luck in your careers.

Important dates for Ira Litman

Dates	Place	Position
1946-50	Univ. Mass, Amherst	Student BA Biol. MS Food Tech
1950-51	Quartermaster Food & Container Inst.	Processed Food Insp.
1953-56	Washington State Univ.,	PhD Agric. Chemistry
1956-57	Univ. Cal, Davis	Research Faculty
1957-63	General Foods Corp	Project Leader
1963-65	Givaudan Flavors Inc	Flavor Chemist
1965-66	Durkee Foods	Section Head Flavors
1966-80	Gen'l Aromatics Prod	VP, R&D Dir. Stepan Chem. Co
1980-82	Globe Flavors	VP Dir Research
1982-84	J. Manheimer	Dir. of Research
1984-93	Litman Technologies	President
1993	Retired	IL

William Rowe Littlejohn**Deceased****Honorary Member, SFC**

Editor of the *Perfumery* and *Essential Oil Record* and founder and editor of the *Flavour Industry*. Both were printed in England, and had many subscribers in the U S A . He was a major factor in the establishment of the British Society of Flavourists.

Bill Littlejohn was born in 1907 in a quiet Cornish town in England. He was graduated from Exeter University with First Class Honors Degree in Chemistry. He worked in the labs of White, Tomkins & Courage for ten years, studying essential oils and aromatic chemicals. He was a quiet man with a refined sense of humor. In 1938, he changed positions, going with Burgoyne Burbidge for eight years as head of the Essential Oil and Essence Department. A colleague there said that he "seemed to spend much of his time in compiling a mass of chemical and essential oil extracts with a cross index system which enabled him to locate an item in seconds". After the start of the war, he was active in a local ambulance service particularly during the blitz on London.

After the war, he joined W. H. Hobbs where his duties included formulating perfume compounds and essences as well as analytical and technical duties regarding essential oils. After a few years, he concentrated on formulations, particularly for aerosol products.

His real love was writing about perfumes and flavors. He left Hobbs to be the Editor of the *Perfumer & Essential Oil Record*. The magazine had been successful for 44 years and Bill was its leader for sixteen year more. His main aim was to broaden its scope and increase its technical content. As he increased his contacts he became recognized as an authority, and the PEOR became recognized as a reference publication in chemical and biological literature. Articles came from Australia, South America, The USA and India.

The PEOR was discontinued, and Bill edited a new Journal "The Flavour Industry".

He was a member of at least twelve societies including the US Society of Flavor Chemists (Honorary), the Technology Society of French Perfumers. He stimulated interest in a British Society of Perfumers in 1963, and in a short time, a Society was formed with 67 members. A bit later, he was a factor in the establishment of a British Society of Flavourists. The BSF established a Littlejohn Memorial Lecture and medal in his honor to be presented to a selected speaker. Dr. Jan Stofberg was one of those chosen to speak to the BSF on one of those occasions.

This information was taken from printed circular distributed around the time of Bill's death in 1977 by Clare O'Molesey Ltd., Island Farm Road, West Molesey, Surrey, and received from BSF Secretary Roger Levicki.

Julius Maggi**Deceased**

Julius Maggi was born in 1846. He developed the first HVP in Switzerland in 1876 to replace beef extract in Liquid Maggi table seasoning, which imparted a meat like flavor to the products. In time, the Maggi Company used it in bouillon cubes and canned soups as well. It was also used as an alternate to beef broth in canned soups.

Hydrolyzed vegetable protein (HVP) and autolyzed yeast extract (AYE) are important raw materials for use in meat and savory flavors. There has been a consolidation of the manufacturers of these products. In 1994, a survey showed that the output of fourteen US companies was about 60 million pounds (dry weight). We have included short stories about four of those companies. They are Basic Food Flavors, Red Star Bio-Products Division of Universal Foods (formerly Champlain Industries), Griffith Laboratories, and the Nestle (FIS) Group. Information on these companies was gathered by Rudy Krukar and Hatton Rogers, and can be found in the Companies' section of this book under the above named companies. RJK & HBR

While still in graduate school I realized that it would be wise to find a job with a training program. I sought one and was fortunate to be hired by Dodge and Olcott. D & O, which had recently been acquired by Fritzsche Brothers, was expanding and I was hired as a chemist for the dry soluble division. My first boss was Jack Hohhof, formerly of Oscar Mayer Company. About six months after I was hired, Jack was replaced by Bill Ammon who came to D&O from Stange, one of the main competitors in the dry seasoning business. Bill was more marketing oriented than technical and he put me in charge of the laboratories. I became the chief chemist my first year in the industry. Needless to say, a lot of on the job training took place before I really was a chief chemist. For the next eight years, I learned the dry seasoning business and helped expand the responsibilities of the division to include encapsulation and special projects.

In 1961, I was transferred to the New York Office where I became Assistant to the Technical Director and Director of the Special Products Division. Our group handled all dry products, emulsions, unique flavor and fragrance types as well as any project that either did not fit into the normal routine of the other divisions or was not wanted by them.

In 1966 I decided that there was little challenge or opportunity at Fritzsche D&O and accepted an offer to become Technical Director at Globe Extracts. The next two years were truly educational. I learned many other facets of the flavor industry, and was exposed to some unique business situations.

In 1968, disenchanted with Globe and eager to try the ideas I had learned in the MBA program at CCNY, I joined Major Products as VP and Technical Director. During the next two years, in addition to product development, I got the opportunity to use my training.

An opportunity to help found and obtain an equity position in a new company arose in 1970 and I left Major to become VP and Technical Director of Aromatics International in Atlanta, Georgia. Starting with less than \$2000 in sales our first month we grew rapidly and became the dominant flavor and fragrance company in the Southeast. Unfortunately, the company was sold to R. J. Reynolds in 1975 and subsequently to Universal in 1978. It had ceased to exist as an entity, although three companies, Arylescence, AFF, and Atlanta Fragrances trace their origins to Aromatics International.

After Aromatics International, I joined Monsanto Flavor Essence as Director of Research and Applications. Within five years, I helped MF/E increase sales more than 100% and become profitable. In 1979, Monsanto decided to sell MF/E to BBA and I left.

I joined Nestle as President and General Manager of Synfleur, which had been purchased by Nestle several years previously and which was not operating successfully. By 1982, I had reorganized Synfleur, increased sales and made the company profitable. Thereupon, Nestle decided to sell it to Bell.

At this point, I decided I had had enough of building companies for other people and started Flavor & Fragrance Specialties. In 1983, FFS purchased Palmer Laboratories and has had continual growth and profitability since its inception.

In addition to working for the above-mentioned companies, I have been active at various times in several of the industry's associations. I have served as an Officer of NAFFS, the Chemical Sources Association and served on several committees of FEMA, the Society of Flavor Chemists, RIFM and the IFT.

I came to the industry with a chemical background but no flavor or fragrance experience. I was fortunate to have been put into situations where I had to assume responsibility and learn about new products, techniques or businesses. Anyone planning a career in the flavor industry should understand that there is a huge amount of varied information that must be acquired before one can truly be a flavor chemist, and that learning never stops. There is always a new ingredient, finished product or process arriving. Becoming a flavor chemist is like learning a language. Information is the vocabulary and the proper use of that information is akin to grammar. When you first start, your vocabulary is small and does not permit the development of extensive or sophisticated solutions. As the vocabulary increases, so does the potential to create products and solve problems.

The objective of every flavor chemist should be the acquisition of as much basic information as possible, and learning the correct way of using it. This information should not be restricted to the formulation of flavors, but should include knowledge of the products where the flavors are used and the industries that use them. RTM

Michael Mandel

Certified Member, SFC

**President, SFC 1978-1979
President, CSA 1985-1986**

I was fortunate to find my first chemical industry employment with a flavor company, Felton International in 1961. I was also fortunate to assist four senior flavorists, two of whom trained in Europe. This exposed me to both the American and European ways of making flavors.

In 1969, I joined a smaller company called Reynaud Ltd. as VP and a partner. As an owner and chief flavorist, I was exposed to the financial and management sides of the business. In the 1980's, Reynaud was sold to Pauls and White. Subsequently Pauls purchased Felton and merged Reynaud name under the Felton umbrella.

I rejoined Felton Worldwide in the late 1980's and subsequently was appointed executive director of flavor development. While there, the US Felton operation was sold to F&C International. After several years, F&C consolidated Felton into their Cincinnati operation and I left to join Ungerer and Company.

At Ungerer, I was recently appointed vice president- Flavor Development. Ungerer has a proud history of over 100 years in the flavor business. It is a pleasure to be working with a highly intelligent group of professionals.

Now, with thirty-three years in the flavor business, I can only be thankful for the many friends I have in the industry. I truly spread the praises of our industry to all who will listen. I am also thankful for having been president of the SFC and the CSA. These experiences have been an important part of my life. I am also proud that one of my sons, Edward, has chosen a flavor industry career as well,

Richard Mangiere

Certified Member, SFC

President, CSA 1987-1988

I hold a graduate degree in Chemistry from St. Johns College. I completed my formal education in 1961. My first job was started in 1958, as a Research Chemist for National Can Corp. It involved analytical and instrumental analysis of organic coatings and foods and instrumental analysis of beverage flavors. In 1963, I joined Archibald and Kendall where I worked as Assistant Lab Director, developing new seasoning and flavor products. I was also involved in instrumental analysis of essential oils.

In 1968, I began to work for CPC International. I worked in conjunction with S. B. Penick Division. I was involved in development and sales of a wide array of liquid and dry seasoning products.

In 1972, I was employed by Unilever and National Starch and Chemical Corporation as Supervisor, Flavor Development. This involved me in development of liquid and dry flavor and seasoning products and working with the company's new flavor acquisitions.

In 1977, I joined Ottens Flavors as Assistant Director of Research and Development I have been involved in development and sales of a wide variety of flavor products. I have been Vice President of R & D for ten years and am involved in all phases of company operations. R. M.

Charles H. Manley, PhD

President, FEMA 1993-1994

Dr. Manley - Chuck - was educated in Massachusetts, receiving a BS in chemistry from the University of Massachusetts, Dartmouth, an MS and PhD in Food Science/Biochemistry from the University of Massachusetts at Amherst.

He spent fifteen years in various management and research positions at various Unilever Companies. His responsibilities ranged from Technical manager of beverage product development at Thomas J. Lipton to Vice President and General Manager of the Flavor Ingredient Operation of Quest International. During these years, he maintained direct influence on many research activities in the flavor research area and has published a number of articles and presented many lectures on those research interests.

His greatest achievements are in the area of flavor research where he has led his creative groups to develop new lines of savory flavors. His scientific involvement in the regulatory process through FEMA has led to the establishment of international guidelines for the manufacture of savory flavors.

His current responsibilities with Takasago International Corp. (USA) involve all the scientific and technology functions of Takasago International's USA Flavor Division. As Vice President of Science and Technology, he manages the Creative Flavor groups, the Application Laboratory, Quality Assurance, Process Development and the Company's Regulatory Group. His outside responsibilities are as scientific spokesperson for the Company and, as such, participates in various activities of trade organizations (e. g. FEMA), professional groups (IFT) and research groups (The Monell Center for Chemical Senses). He is also involved in company affairs associated with governmental groups such as FDA, USDA and BATF.

He is a past president of the FEMA and is a member of the Executive Committee of the National IFT. He is also a member of the Board of Industrial Advisors for both the Food Science Department at the University of Massachusetts and the Center for Advanced Food Technology at Rutgers University.

Veronica McBurnie

Certified Member, SFC

President, CSA 1989-90

I had trouble finding a job in 1971 as a medical technician after completing a course in Medical Technology. Through a newspaper advertisement for a lab technician, I learned of a job at IFF. I interviewed at Union Beach, learning that the job was in the fragrance sample lab. It had just been filled from within the company. I might have been a perfumer! In just a few weeks, IFF called me about a newly opened job in flavors. It was for a lab assistant for a Senior Flavor Chemist in the Union Beach Research facility. I'll never forget the interview with Dr. Vock. I got the job and reported to Dr. Manfred Vock. I worked for him for six years, absorbing every bit of knowledge I could. I am so grateful for the opportunity to have been trained by him, especially in the research atmosphere. I learned the systematic approach of evaluating new research ingredients. We evaluated newly found aroma chemicals. Dr. Vock taught me, among other things, the mathematics of ppms -- 1 drop of a 1% sol'n in 100 mls is approximately 1 ppm. Use a 10% solution and you have 10 ppm, etc. I still use that system.

While at IFF, I attended Seton Hall University at night studying Organic Chemistry. This course was easier for me because I was also exposed to many of them in my work. Odor is one of the characteristics of many organic chemicals and I could identify many unknowns from their odors. And one night, the prof. had to air out the room because I had been working with some very strong items during the day.

In 1977, I decided to leave the nest and try it on my own. My fears of doing so soon disappeared when I realized that I knew more than I thought I did. The IFF training paid off. I joined Rhodia, a division of Rhone Poulenc, in New Brunswick, as a junior flavor chemist. This is where Dr. Vock had worked about ten years earlier. His formulae were still selling. A year later the company changed its name to Lautier Aromatiques, a division of Rhone Poulenc, France, and moved to Allendale, NJ, about fifty miles away. My commuting career began.

Two years later, I left Lautier to join Silesia in Piscataway, NJ. I was there about a year as a junior flavor chemist, reporting to Tom Ulinski. There I learned all the other things about flavor work. Since it was a small company we all had to wear many hats, creating new flavors, compounding them, typing and costing formulae, ordering ingredients, helping with production at times, doing some quality control, helping ship samples, and even running the tabletop spray dryer. Tom went to Florasynth in January 1982 and I joined him the next month as a flavor chemist. I worked there for nine years, learning what it was like to work for a large flavor company from the commercial side. I was a generalist working on all kinds of flavors.

In 1991, I went to Takasago in Teterboro, NJ as a senior flavor chemist, reporting to Chuck Manley. I was responsible for dairy flavors, using lipolized dairy bases developed in Japan.

I left there in 1992 and went to Virginia Dare in Brooklyn NY as an Assistant Technical Director, developing a wide variety of flavors. Leaving there, I joined Hagelin & Co, where I am today.

I became involved in CSA in 1985 when Dale Eskin asked me to be program chair. She had just been elected President. I was chair of the program committee for two years. Frank Fischetti, chairman of the nominating committee that year asked me to run for treasurer. It was an honor to be asked and elected. I moved through the ranks and was elected President in 1989. I am still involved with committees of CSA. I am also an active member of the local and National IFT, and WFFC. I'm a certified member of the SFC.

My only advice to those just starting out in the flavor industry is this: Don't expect to learn everything over night or even in 5 or ten years. There are many ingredients out there and new ones are showing up every day. Share your ideas with your peers, as well as with those who are training you. After all, you might see something that they never even thought about. Use the scientific approach, but always remember: the artistic approach is what makes the difference.

Looking back over the years I am grateful to a number of people who encouraged me. One of the first on the list is Dr. Vock. He is also a gentleman and a friend. If I could achieve one tenth of the flavor chemist that he is, I'd be satisfied. He taught me that creativity is subjective. It was he who, in evaluating a sulfurous ingredient from a cooked beef extraction and said, rolling his R's--"T-R-EMENDOUS BLACK CURRANT. - -just like those grown in the black forest of Germany!"

I'm grateful also to Dale Eskin for giving me the opportunity to become an important part of CSA. It has been rewarding to be on committees and be friendly with those people I only heard about when I was training at IFF.

I am especially grateful to the late Richard Groncki, my former boss at Lautier, and, after that time my fiancée and best friend. He took a chance hiring me, an unknown flavor trainee from IFF. After leaving IFF and unsure if I had made the right decision, I was encouraged by him to do things for myself. I had just left the sheltered atmosphere of a large research facility where everything was handled for me - - Purchasing, lab chemicals stocked from production, lab glassware from a main stockroom, etc. I never even questioned about suppliers. I just assumed that IFF manufactured everything. Dick had me calling supplier for samples; customers and salesmen about projects; etc. He exposed me to the many people in the industry that he knew. Through the years that we were together, he continued to encourage me and advise me professionally and personally, usually staying in the background. He always shared in both my successes and my failures. As the song says, he was truly "The wind beneath my wing". He helped and encouraged me to "fly" Thank you Richard!
VMcB

Denise W. McCafferty **Certified Member, SFC** **President, SFC 1990-1991**

I received a degree in chemistry from Notre Dame College (Maryland) and started working in the chemistry group at McCormick & Company in 1975. I also earned an MBA from the University of Baltimore, Evening Division, at nights. In 1976, I asked for and was given a job in the flavor group. Earl Merwin was my manager for 13 years. My positions progressed from Flavor Research Chemist to Flavorist, to Senior Flavorist. In 1989, I transferred to the Flavor Division where I have remained, currently a manager of product development.

Marian McDaniel **Retired**
Harry McDaniel **Retired** **Emeritus Member ASP**
Served on Committee E 18, Sensory Testing, of the American Society of Testing Materials

Today a message alights from the Grail governing its highest virtue, for it is Good Friday, when one can infallibly see a Dove wing its way down from Heaven. It brings a small white wafer to

the stone and leaves it there... By virtue of the stone, the Phoenix is burned to ashes, in which he is reborn... The Dove all dazzling white, then flies up to heaven again. Wolfram von Eschenbach, 13th century, "Parzival"

"THE ALCHEMY OF FLAVORS - STONE AND FIRE, CONTAINERS AND TRANSFORMATIONS"

I. A Personal Perspective

Marian: I was born in Cincinnati, Ohio on October 29, 1932, a daughter of Armenian immigrants. I bring into reality the origin of my name, Tashjian, "the son of a stone cutter". My grandfather shaped stones from the mountains into tombstones in the village of Malatia. I work with stones: granite, marble, limestone, and alabaster; and with hard woods: cherry and walnut.

I'm excited about working with stones that come in different colors and hardnesses. Their hardness tests the strength of the sculptor--can I put warmth into what is intrinsically cold? In contrast, woods have warmth, aroma, and grains that challenge me to use their rhythm as an integral part of the sculpture.

I've become more sensitive to myself and to other people. There's a natural flow from these experiences into sculptural forms that reflect my deeper feelings. When people respond to my work, they join me in a shared experience, using the intellect, the senses, and the heart.

My academic training is in education and the arts with a Bachelor of Science in Education, and studies in painting and sculpture at the Art Academy of Cincinnati.

Harry and I share interests in the visual as well as in the perfume and flavor arts. We often spent our evenings together in art classes. Many of our vacations and business travels together were perfume and flavor related.

In the summer of 1956, we visited essential oil producing areas in Florida, Puerto Rico, Haiti, and Jamaica. In the summer of 1957, I joined Harry on his business visits to perfume and flavor companies in France, Holland, Germany, and Switzerland. In 1959, when Harry was busy at the Perfume School in Grasse, France, I was doing studies in painting.

With the coming of our first child in 1962, and the raising of our family of three children, evening discussions often centered upon his work in perfumes and flavors, and mine in sculpture. We looked for similarities and differences: the balancing of creativity with the need for technical skills. My cooking for a family of five helped to sharpen my culinary skills and broaden my vocabulary for flavor discussions.

With 1974 as the year when all of our children had reached school age, the free time to devote to art work increased, and my opportunity for self-expression in sculpture blossomed. By this time, the demands at Procter & Gamble on Harry as a business and technical manager were on the increase. His needs for creative self-expression were being felt and being expressed through his own art work at home in jewelry and later in stained glass. We entered juried art shows and had gallery exhibitions of our work together. Discussions we had on the acceptance of our artwork paralleled those that went on at Procter & Gamble on the acceptance of new flavors and fragrances for consumer products. The issues and approaches were often common ones.

With Harry's retirement from Procter & Gamble in 1987, it was a natural "next step" for us to review our personal resources and to discover new ways to bring our lives together. Closeness to our children and work in the visual arts, were considerations that established Cincinnati as our home base. Our travels, often associated with perfumes and flavors, drew us to areas outside of the United States. Teaching and volunteer community work were areas to explore both at home and abroad. We signed up as volunteers for the International Executive Service Corps.

Our first assignment was in perfume technology with a family owned food seasoning and beverage flavor company in Cairo. They wanted to expand their flavor business to include perfumes for soaps and cosmetics. This project gave us our first real opportunity to work together as teachers and volunteers in perfume technology. It led to six other projects with DESC around the world and established a new bond between us.

We blended our interests and skills to suit the project and worked as a team with our clients. We wrote a training manual, "Selection and Quality Control of Perfumes for Soaps and Cosmetics", for IESC clients to facilitate discussions. My skills as a teacher, community organizer, artist, and manager of our art business were brought into focus for each project.

Each assignment offered new challenges. People were eager to learn. Often the client needed to understand the marketing as well as the underlying technology of product fragrances. Cost, availability, stability, and safety were items for consideration as well as odor character, intensity, and quality for individual perfume ingredients and their blends in different product applications. No one client had the same needs. Curiosity, creativity, and flexibility were needed in all aspects of the project from definition through final accomplishment.

An overall view of the market economy and how international competition might impact the local industry was critical. A small business with limited cash flow must provide a meaningful service without heavy inventory or capital investments. We found our clients receptive to new ideas. It was a teacher's dream.

We continued to find a sense of accomplishment with the challenges facing small businesses in developing countries. Helping one's client formulate a good quality, low cost fragrance for toilet soap, and then seeing the client make a sale of that fragrance to an important local toilet soap manufacturer is worth all the work.

Development of sound small businesses is an important building block in the economy and social structure of countries wanting to take their place in the world market.

Harry: I was born in Pittsburgh, Pennsylvania on St Andrew's Day in 1927 amid the fireworks of blast furnaces and the incense of molten steel. My grandmother was a practicing porcelain painter, and my mother graduated from art school as a teacher. My father was a chemist and book salesman, who wrote poetry on occasion. He had an eye for antique glassware and a taste for good food, but did not demonstrate any interest or talent in handicrafts.

My great-grandmother owned and operated a nursery and greenhouses in upstate New York, where we spent many of my childhood summer vacations. In addition to the fragrances of carnations and roses, there are the memories of apple orchards and raspberry bushes, and the eating of freshly picked fruits and berries. There always seemed to be a connection between flavors, fragrances, and colors in nature from those early childhood memories. The busyness of the butterflies and bees with their trips from flower to flower was reinforced by the parallel business of the nurserymen and their harvesting of flowers for human enjoyment.

My academic training is in the arts and sciences with a Bachelor of Arts in chemistry from Williams College in 1949 and a Master of Science degree in Mathematics and Statistics from the University of Cincinnati in 1964. The major portion of my professional career was spent as a technical manager for the Procter & Gamble Company in the perfume and flavor area.

My entry into perfumes and flavors as a career began in 1954, and was coincident with my marriage to Marian. My mentor in perfumes and flavors at Procter & Gamble during this early period was Jim Neely, a graduate pharmacist. His training, unlike mine in synthetic organic chemistry, had included hands-on experiences with essential oils as well as their blends in various pharmaceutical preparations.

My association and learning with Jim continued until his retirement from Procter & Gamble in 1970. The original flavors for Gleem and Crest toothpastes, the original Scope mouthwash flavor, and the mint flavored Crest toothpaste were all major flavor creations from Jim's lab. Gas chromatography of flavor ingredients and finished flavor extracts for quality control and formula duplication, segmentation of consumer preferences for toothpaste flavors types (e. g. wintergreen vs. peppermint), and alternate synthetic sweeteners to saccharin for oral products are some of the flavor technology developments that came from Jim's lab during this same period.

Special mentors for me in perfumery from outside of Procter & Gamble during the years 1956 through 1959 included Walter Lengsfelder at Fleuroma and Jean Carles at Roure Bertrand Fils Fragrance accords

(e. g. patchouli/vanillin for "Tabu"), fragrance volatility architecture (e. g. topnote, midnote, basenote), etc. are a few of the perfumery learnings imparted to me by these masters through their training programs.

My career as technical manager at Procter & Gamble began in 1967 as section head in Perfumes and Flavors for the Toilet Goods Division. It broadened in 1969 through 1976 to include product development assignments for Gleem and new toothpaste brands, and for Scope and new mouthwash brands. Flavor technology took on new importance for Procter & Gamble with its growing oral products business, with the acquisition of the Orange Crush soft drink business in the late 1970's, and with the growing snack food business in the mid 1980's. Assignments in these areas carried me through the remainder of my 36-year career with Procter & Gamble.

I have always been fascinated with molten metals and glass, and with the mystery of their frozen forms. A visit to my uncle's brass foundry in New England is one of my most memorable childhood experiences. Serious burns from molten metal as a teenager did not deter this fascination. I launched into studies of enamels on metal in 1954, of bronze casting and jewelry making in 1974, and of stained glass in 1980. My jewelry was typically in silver and brass with accents of color from enamel and semiprecious stones. Forms from nature, ancient cultures, and dreams provide the basis for my designs in both jewelry and stained glass.

In mid 1985, I completed a short course on the Jungian analysis of dreams and recognized that almost all of my jewelry and stained glass designs were in the form of mandalas. Mandalas often appear in dreams as patterns of self-similarity to contain and moderate the psychic chaos. A classic mandala is the rose window in a Gothic Cathedral. In late 1985, fifteen of these designs were put together in a booklet along with their corresponding image numbers in order of creation and with four line poems to accompany each design. Many of the designs carried spiritual motifs, but their connection with any overall religious theme never entered my mind.

The sixteenth and last design was The Bellarmine Chapel Cross. Most of the other works had appeared in gallery exhibitions or juried shows. A fellow parishioner from Bellarmine Chapel suggested the Mysteries of the Christian Rosary as a theme for the series of fifteen mandalas with the sixteenth as the Rosary Crucifix. A color photograph of Image 8, "The Crucifixion", along with its poem is given at the end of this section. The connection of this image and poem with its counterpart from "Parzival" was not made until 1989.

Since my retirement from Procter & Gamble, both Marian and I have been actively involved with our children and artwork within Cincinnati and with volunteer projects for the International Executive Service Corps in perfume technology outside of the United States. An IESC project and seminar on cosmetics in Costa Rica for the summer of 1991 did not materialize, but it did lead to the location of new inorganic luster pigments with applications for artwork as well as cosmetics. Work with these new pigments for enameled metals, glazed ceramics, and glass led to the discovery of their utility as durable lustrous coatings for vitreous objects, and to a US Patent for these applications.

What started as a business career in perfumes and flavors, and as a hobby with colored enamels on metal, has now evolved into a new business venture in durable lustrous coatings for vitreous objects with industrial as well as art applications.

II. A Historical Perspective

The "alchemy of flavors" is fashioned from stone and fire, containment and transformation.

A cupped hand acts as man's first container for carrying water to the mouth for drinking. A sculptured piece of stone or wood serves as a cup or container for liquids. Ceramic bowls or pots fired to hardness are still used today as containers for cooking. Fired vessels of this type first appeared in the Near East around 8000 B. C.

Meat on a skewer acts as its own container in a fire with the choice of "ripeness" for well done, medium, or rare according to the palate of the one who dines. Fruits provide their own containers for ripening on the tree or vine, with a natural biochemical transformation in color, flavor, and texture for enhanced

palatability. Fermentation of grape juice to wine, and milk into cheese, are examples of other biochemical transformations to enhance palatability, and where containers by man need to be provided.

The first practical chemists were probably the Sumarian perfumers about 2000 B C . They extracted volatile substances with oil and water and then by distillation. Fired ceramic vessels were the likely containers for these perfumes.

Ochre red and black decorations on fired ceramic vessels are dated at about 6000 B C . Glass making and alkaline glazes for ceramics are dated at about 1500 B. C., while the first datable luster on glass of glazed ceramic is 773 A. D. in Cairo.

Organic chemistry in the 19th century brought us synthetic flavors, fragrances, and colors. Many of these synthetic materials, like vanillin, are identical in composition to their counterparts in nature. Vanillin was first made synthetically in 1876 by Tiemann and Haarmann. An important source of new flavor and fragrance materials continues to be the isolation, identification, and synthesis of aromatic chemicals found in nature.

Fire is the primary candidate for transforming darkness into light, coldness into warmth, and raw into cooked. Enzymes are responsible for chemical changes like grape juice into wine, wine into vinegar, and milk into cheese. Containment of the reactants in a glass, glazed ceramic or enameled vessel along with the application of heat or enzymes to facilitate the desired chemical transformations is a model for the synthesis of many flavor and fragrance raw materials.

A growing trend in both the flavor and fragrance industry is toward natural materials and their blends. Starting with natural reactants and biochemical processes, the end products qualify as natural.

Might not the creative flavorist in the year 2001, be like Mother Nature orchestrating the final flavor blend from a reactant mix of precursors rather than just preparing the score for a blend of individual ingredients at specified levels? H&M McD

In the interest of uniformity, we have not included the bibliography or the colored picture of Marian's Stone Sculpture nor Harry's Stained Glass "The Crucifixion". If you wish a copy, please write a note to E. J. Merwin. EJM

James McGlumphy PhD

Honorary Member, SFC

Mr. A L van Ameringen was a visionary who saw trends before most. When he decided that van Ameringen Haebler should grow in the flavor business, he felt it needed a good technical head. He therefore hired Dr. James McGlumphy, an Iowa State University professor of Chemistry, to be its head.

Jim McGlumphy was a fine gentleman and a caring boss. A typical midwesterner, he never panicked, but slowly puffed on his pipe until he had sifted the facts, and then made his decision.

Jim may have had three problems. One: initially he knew nothing of our industry. Two: he had many personal and serious medical problems at home to deal with and distract him. Three: he had to work with a practical flavorist who was also a part time salesman, and responsible for a good portion of the business. This man felt that he should have had Jim's job, forcing Doc to constantly watch his back.

Jim McGlumphy had a PhD in chemistry and was an excellent technical man. With the problems he faced, he became a very conservative administrator. Nevertheless, he retained the confidence of Mr. van Ameringen throughout his career, and retired from IFF (van Ameringen-Haebler and Polak and Schwarz merged to form IFF) as head of their laboratories, and lived to a ripe old age, and long after his critics.

Although initially opposed to the concept of flavorists meeting and forming a Professional society Doc eventually changed his thinking and was delighted to receive an honorary membership in the Society of Flavor Chemists. J. J B.

Joseph Merory

Deceased

Joe was not a young man when he came to the US in the forties from an alcoholic beverage manufacturer in Europe. He was a salesman who knew a little about a lot of things - fruits, distillation, beverages, and marketing. He worked for van Ameringen Haebler, Norda, Givaudan, Shulton, and had his own business at least twice during his career here.

His approach to the natural flavor business was pre-war European, and his explanations convinced some people, but did not bolster his "scientific image".

As you can see from the formulations in the several editions of his book on flavors, the processes by which his natural fruit flavors were made were very costly. These were being offered at a time when the use of WONF flavors was growing in carbonated beverages to expand the line of flavors beyond Cola, Lemon-Lime and Ginger Ale. The red fruits and the pit fruits were where Joe put his talents and energies.

With a straight face, he said that he told the general manager of a large beverage manufacturer that his company could handle orders of the size required to introduce a new flavor in major markets. In his old world accent, he said that he had a "band" filling system that will produce the required number of hundreds of unitized gallon containers of flavor. He was not asked what kind of system he referred to until he was back at the office. Then he said 'the men have a bucket of flavor and "band" over to fill each jug with the help of a funnel'. He got the order, and the plant had the problem of how to get it out on time.

Another story is told about Joe who reportedly was adding small amounts of synthetic material to a batch of a true fruit flavor. He admitted making an addition, but said that he distilled the mixture with water, and added only the recovered water to the batch of flavor. All of the flavor chemicals were still left, he said. Look at it. I only added the smell.

Salesman extraordinaire! If no orders came in, he would go out with several cases of one or two flavors and call on small bottlers or syrup manufacturers and not only sell what he had, but take orders for several barrels of flavors for shipment the next month. Very often, it is said, by the time Joe got back to the office, the bottler, who couldn't turn Joe down to his face, had already called to cancel the order. E. J. M

Earl J. Merwin

**Emeritus Member, SFC
Fellow BSF**

**Charter Member, SFC
President, SFC 1967-1968
President, CSA 1976-1978**

Returning from service in the Army, which had interrupted my studies in Chemistry in the middle of an academic term, I got a job as an analytical chemist technician with Menley and James, Ltd, in Jamaica, NY. I was able to continue to work part time at the same job after I returned to NYU to get my degree. Menley & James were "Manufacturing Chemists" with three main products: a flavored castor oil; a non-staining topical non-burning ointment (*Iodex*) made from iodine and oleic acid which had an agreeable odor; and an elixir which was good for what ails you. The engraved label for each bottle of the elixir probably cost more than the product in each bottle, but that insured its identity. Only the iodine ointment required an advertising effort to keep sales up, and that was accomplished by direct mailing of five-gram samples to each doctor in the US twice a year. The company was later sold to Smith Kline and French, and the company name was used for their line of "ethical drugs" only to disappear a few years later.

When I left NYU, College of Arts & Sciences in 1947 with a BA in Chemistry, there was a recession awaiting our class. Potential employers did not come around to the schools. So I went to an employment agency in NY, who lined me up with Fritzsche Brothers, on Ninth Avenue. When I told the agent that I had never heard of that company, he suggested that I not mention that to them.

I was interviewed by Dr. Hamman, for whom I was to work. In the lab there were two other young chemists working. They were Georgene Johnson, who was a member of the SFC for several years before she left FB to spend full time with her young family; and David Kirkpatrick, a guy with a great sense of humor, smart, and very much interested in flavors. He died shortly after I arrived, very suddenly from

polio. That was scary, when you worked in the same room tasting and smelling the same ingredients each day.

Dr. Hamman was an active member of IFT in its early days. It started out almost as an exclusive club, *requiring* a PhD. There was another flavor lab at Fritzsche in New York City, run by Mr. Rossig, who looked to me as if no one could be older and still get to work every day, but he was a good flavorist, and his lab workers were trained well in the German way. Henry Bechtolf, Chris Reitz, Fred Wesley, and others worked with him. In the days before Mettler Balances, Mr. Rossig showed his trainees how to add half a drop of a liquid material to the product you were developing. Most of his students had worked in the plant bulking large batches or compounding smaller batches of finished flavors. Dr. Hamman was also a good teacher, but was very reserved. He had his trainees spend enough time in the analytical lab to get familiar with the raw materials and the tests that were run on them, in addition to the organoleptic tests. He also had you prepare samples of chemicals not commercially available to develop unique captive ingredients.

After about five years, I left Fritzsche Brothers for a challenge at Givaudan Flavors, a small part of the company known for their aromatic chemicals and perfumes (fine and industrial). Anxious to make headway rapidly, they also hired Jerry DiGenova and Jim Broderick within a year. We worked in one flavor lab with one technician (Mary Mogavero). Our "offices", with a desk for each, were also all in one room. The boss -Mr. Hans Kessler - had a private office, separated from us by a solid wall. We got along quite well and we all learned, and helped Givaudan along. Developing flavors before these changes, were Carl Jensen and Joe Merory. Carl did the artificial flavors, Joe did the true fruits and WONF's. Joe and Carl left the company for the chance to run their own companies, or at least have a larger say in their operations.

Shortly thereafter Hoffmann LaRoche bought Givaudan, I left for a new challenge with Bill Ammon at McCormick & Co. He had gotten the company moving faster in providing bulk spices, and seasonings, and, with the help of Charles Walsh, was moving ahead in savory flavors. He wanted to broaden the base with compounded natural and artificial flavors. I retired from McCormick nearly twenty-four years later, having been in positions of flavor development, managing and research. I retired from McCormick at 65, in 1989

Gerard Mosciano

Certified Member SFC

President SFC 1987-1988
President CSA 1983-1984

My first job out of college was with the New Jersey Department of Health as a Food and Drug Analytical Chemist. I entered the industry by accident. I was seeking a new position. Civil Service was not for me. I went to an employment agency which had a position for a food chemist in 1963, and that was IFF. I started as an instrumental chemist in the Flavor Department, performing analyses on strawberry, chocolate, etc.

I got to be a flavorist when I was tired of going to graduate school between New Jersey and New York. In those days, IFF changed my job from New Jersey into New York and back again four times. I needed a job which was not dependent on my completing a PhD. I took the organoleptic evaluation test, passed and chose flavors for my field of training. I trained under Carmine Donnarumma, and later Louis Strasburger. I completed my job there as an R&D Flavorist, leaving in 1972.

I worked for H. H. Ottens Manufacturing from 1972-1973 in Philadelphia, and then went to Chicago to work for Food Materials from 1973 until 1989. They were purchased by Bush Boake Allen, Inc. (BBA), and I was hired by them as a Senior Flavorist/Flavor Technical Manager. BBA was a subsidiary of Union Camp Corporation of Wayne NJ. In June 1994, Union Camp spun BBA off as a separate company which is listed on the NY Stock exchange.

For a young person today it is much harder. No company has the luxury of offering a viable training program. But if one finds himself or herself in a company such as ours, I would tell them to learn everything they can. Don't look at the job for today, look at the long haul. Today I see young people who ask on their first day, "when will I be a creative flavorist?" they don't give themselves chance to learn, to

show what they can do, give their boss an indication of a creative germ. Be patient. Learn everything that you can.

Bernard L. Oser, PhD

Deceased

**Honorary Member, SFC
Only Honorary Member of the FEMA
Founding Member IFT**

Born in Philadelphia in 1899, educated at the University of Pennsylvania, and Fordham PhD 1927. Many years, most of them as Director, at the Biology Laboratory, Food and Drug Research Labs 1920-1970. Consultant after that.

As a consultant to the FEMA, he was the founder and non-voting chairman (from the start in 1961 until 1985) of the Expert Panel of the Extract Manufacturers Association. He was chairman emeritus from 1985 to 1988. The work of this panel and its support by the FEMA has been of great help to the FDA and the flavor industry in providing outside expert assurance that the flavor ingredients are generally recognized as safe at their levels of use (GRAS). EJM

Edwin Palmer

Deceased

A chemical engineer from Cooper Union who worked in the beverage flavor industry for, Felton Chemical Company, (NY), Blue Seal Extract (Boston), Flavorex (New York and later PA) before incorporating a new company, Palmer Laboratories in Baltimore, MD in 1957 selling sweet flavors for beverages and baked goods, and industrial and institutional fragrances. He held a patent on the preparation of encapsulated powdered flavors. His son Willy joined him in 1977 in the business. The company was sold to Flavor & Fragrance Specialties Inc in 1984, at which time Ed retired. The manufacturing facilities became the primary manufacturing facilities for FFS.

Paul Perry

Deceased

**Member SFC
Founding member CSA
President, CSA 1980-1981**

Paul contributed much time and energy to the founding and growth of the Chemical Sources Association. He was at Warner Jenkinson at the time, and was fully backed by his boss, Jim Noonan. My (Dave) vision of Paul is Henry the VIII, with a pipe ever in his mouth. Paul always had a story to tell. He was a fighter for any "cause" in the industry.

He assisted Gary Reineccius in an annual hands-on flavor course at the University of Minnesota for many years, and would talk on flavors to any group at the drop of a hat. He wrote a few controversial articles in the Cereal Chemists Journal. D. Straus & H. Farber

Robert J. Peterson, PhD

Certified Member, SFC

President, SFC 1992-1993

Bob became involved in flavor chemistry at Rutgers University while doing graduate work with Dr. Stephen Chang of the Food Science Department. After obtaining a PhD, Bob stayed on at Rutgers as an assistant Research Professor conducting his own flavor research project as well as supervising the work of a number of graduate students.

After about one and a half years Bob, moved on to McCormick & Co. as a Senior Research Chemist primarily in the analytical flavor chemistry area. While at McCormick, he had the good fortune to work with Earl Merwin, Kent Zeller, and Denny McCafferty, all of whom have been presidents of the Society of Flavor Chemists.

While at McCormick Bob received a call from Dr. Frank Perkins, technical director of Firmenich, Inc. regarding his working for Firmenich, doing something a little different from what he had been doing. Bob

joined Firmenich and began formal training as a flavorist under Margrit Messenheimer and John Bonasera. He was soon creating flavors of his own, and steadily progressed at his job, becoming group leader of the creative Research area.

While at Firmenich Bob was deftly but convincingly prodded into committee work for the SFC by Gerry Mosciano and John Baranowski. After a number of years as chairperson of the program Committee, he was nominated and elected to the Board of Directors, serving as President of the Society during 1992-1993.

On leaving, Firmenich Bob joined Haarmann & Reimer, Corp. as Principal Flavorist, and became Technical Director. He currently works for IFF. RJP

Richard C. Pisano, Sr. Affiliate Member, SFC President FEMA 1989-1990

In 1956, Richard Pisano joined Citrus and Allied Essential Oil Company that had been founded by his father, Charles. His business degree from the Wharton School gave the company expertise and direction. He established a worldwide network of representatives to sell the company's products. Richard also became active in the important industry associations in the United States including the EOA (later FMA), RIFM, FEMA, and IFEAT (The International Federation of Essential Oils and Aroma Trades- He was president of this group.)

Ernest Polak PhD Honorary Member, SFC

My first exposure was in 1936 at age fifteen when I spent a summer in the lab with a very fine tutor, our chief perfumer Paul Jellinek. He made me smell and write down detailed odor descriptions of the various raw materials. This started a lifelong interest in everything related to odors. After having moved with a part of my family to the US in 1939, I enrolled at Columbia University, but soon after the war started, switched to night school while working daytime in our Long Island City plant serving our US and other customers now cut off from our Dutch supplies. One memory I have is of extracting Civet Absolute from Ethiopian cow horns filled with the concrete. It guaranteed me a seat on the NY subway during the evening rush hour as other passengers gave me a wide berth. Eventually headquarters were moved to a larger facility in Middletown, NY. During the year 1943, I finished chemistry studies as a teaching fellow at IOWA STATE University with an MSc thesis on the composition of the essential oil of *Anise Hyssop*. It contained mostly methyl chavicol but I also found its dimer that resembled the hormone Di-ethyl Stilbesterol and was tested pharmacologically. After a fascinating year in the research labs of Hoffmann La Roche on the synthesis of Biotin, a vitamin, I joined PFW again in 1945 and stayed as VP in charge of research until the firm's merger with Hercules in 1973. Our Central research Lab remained in Holland. It was my task to build it up again after the war. While organic synthesis was my first love, the advent of gas chromatography combined with mass spectroscopy revolutionized the flavor industry. I was proud that we were the first in our industry to acquire a high-resolution double focusing Mass-spectrometer. Another approach was to ask how flavors developed in ripening plant tissue from flavorless precursors. I found that one could derive in theory many known flavor components from the stepwise breakdown of amino acids by known enzymatic reactions (e.g. aldehydes from alcohols by dehydrogenases). By filling out the missing links in these imagined pathways we were able to predict and synthesize not yet identified flavor molecules (see "The biogenesis of the Essential Oils" in *Perfumery and Essential Oil Record*, 46, (369-373'401-405 [1956]).

Most importantly there is the intuitive part to flavor creation, making it an ideal vocation for those with a passion for art and science. Consequently, I spent more and more time trying to compose flavors with the new discoveries from our research labs.

That challenge became a productive hobby giving me a lot of personal satisfaction. I continued doing flavor work and directing that of other flavorists until I left the industry for good in 1975 at the age of 53. Then what? Well, for many years I had wondered about how the nose can discriminate so many different odors qualities (summarized in *J. Theor. Biol.*, 40, 44 69-484 (1973)) without being able to follow

through with experimentation. The opportunity arose to do just that by joining an academic sensory neurobiology lab in Paris. This new hobby has kept me busy part-time over the past twenty years resulting in a number of publications. Presently I am involved in projects going on in four countries on quantitative structure-odor relationships, animal behavior, biochemistry, and electroencephalography.

To finish, my observation throughout these years has been that a flavorist is best off when he learns the tools of this beautiful craft in depth, keeps up to date, tries to be original and imaginative, and resolutely resists the pressure of being an imitator of competitors' flavors. EP, June 1994

Carole Pollock

**Certified Member, SFC
Fellow in the BSF**

President, SFC 1993-1994

One of the questions asked me most frequently is, "How did you get started being a flavorist?" For most young people the path is straightforward. They are graduated from colleges with degrees in chemistry, biology or food science, go to work for a flavor manufacturer as a lab assistant and get accepted into a training program or one-on-one mentoring from a senior flavorist.

I got started in perfume applications by doing really poorly during my freshman year at CCNY. I had always been a good student until then, but the freedom and fun of the campus led me to probationary status. My Dad ordered me to get a job and learn about "the real world". An agency placed me as a technician in the "oil industry" -I thought it was to be Mobil or Exxon. It turned out to be with Van Ameringen-Haebler, Polak and Schwartz (later shortened to IFF to save wear and tear on the telephone operators). I earned forty dollars per week - fifteen went to pay expenses at home, fifteen went to the bank and I had ten dollars for myself. I stayed at IFF, not just for the summer as my Dad had planned to teach me a lesson but also for seven years. I learned about essential oils, perfume formulations and applications, and I loved it! Also finished two college degrees in biology and chemistry during these seven years. Thanks to the support of IFF, my continued growth and personal maturity, and the chance to apply some of the things I learned in class, I graduated with honors in 1964.

In September, I married my college sweetheart, a young engineer, and we set off to find our fortunes in California. I took a job as a junior research chemist with Carnation Company. I worked on Instant Breakfast and Coffee Mate development. For the first time I was using *flavors* in product development. My boss told me that all flavors were used at 0.1%. Consequently, I screened all submitted flavors at that one level. The lucky flavors that tasted good at that one level are probably still being used in these products today.

After eighteen months of never ending sunshine, we were homesick for New York. I contacted IFF about re-employment and was told that there were no openings in the perfume division but they were starting up a new flavor research group. I interviewed, and in February 1966, I started as one of the first in a group which would grow to take over the research Center in Union Beach, New Jersey. Dr. Al Day from Oregon State was the leader of this group and he ran it like a PhD program. We wrote papers, gave seminars and did original research. We were on the forefront in the use of GLC in flavor analysis and had one of the first mass Specs for this purpose. We also had a lot of fun and competed in the endless game of "Hearts" at every lunch hour. Gerry Mosciano, Herb Stein, Larry Buckholz, Bob Saunders, Mike Brodnitz, Bill Evers, Gene Seitz and many others who are still active in the flavor industry were in this first group. The whole group moved down to Union Beach to take residence in the new and still unheated research center in December 1967. For a few months, I tried the complicated travel it took to get there by public transportation, but reluctantly left IFF in February 1968.

I joined the flavor-training group at Givaudan in New York. This, at last, was the start of my career as a "Creative Flavorist." Jerry DiGenova was the Vice President and the head of this group. My mentor was Al Venutolo, who was a knowledgeable and energetic teacher (I later learned that the Italian slang he called us was not very nice). Greg Lima and I were roommates. Other trainees were Carl Holmgren and Joe Cipriano working with Sol Reiss and Dick Potter. When the seniors were away, the Juniors would often get into trouble. One time we almost set the building on fire making Cherries Jubilee. Another day one of us managed to get the whole twelve story building off from work early by dropping a cylinder of Methyl Mercaptan

My career has progressed through the years at other flavor and consumer products companies. I've grown in flavor knowledge, management skills and corporate responsibilities. I've served on committees and held offices in the Chemical Sources Association, IFT, and the Society of Flavor Chemists. I will always have a warm and fuzzy place in my memory for my early days and the people I worked with along the way. We in the Flavor Industry have a special fraternity of shared learning, shared experiences and an exciting outlet for our creative natures. I thank those that helped me along this path.

"The Journey of a Flavorist" C. L. Pollock 3/10/95

Richard Potter **Emeritus Member, SFC** **President, SFC 1972-1973**

Dick entered the field early in the 1950s in the flavor laboratory of Givaudan Flavors. He learned rapidly, and was selected to evaluate the usefulness of a gas chromatograph in making flavors. He found it to be a very useful tool, and never used it as a crutch. He was active in committee work for FEMA, serving as chairman of the scientific committee.

He retired early from Givaudan, and chose to continue working. After working for Takasago in New Jersey for several years, close to his other major interests - his family and sailing, he has retired for good.

EJM

Marvin Preiser **Charter Member, SFC**

Spent many years in production with PFW in Middletown followed by work with Maumee Chemical, finally with his own company, MFP Associates.

EJM

Schlomo Reiss **Emeritus Member, SFC**

I was born in Poland in 1921 and in 1938 immigrated to Palestine, which is now Israel. That year I started my first job in flavors, working for Frutarom in the factory. Soon I was working in the laboratories. In 1955, I became a flavorist for Frutarom Ltd.

In 1958, I was sent to F. Ritter & Co in Los Angeles, California to work for three months. I worked with Dr. Alexander Katz. In that same year, I went to work for Felton Chemical Company as a Senior Flavorist. From 1961 to 1963, I worked for Globe Extracts in Long Island as Senior Flavorist and Head of the Flavor Department.

From 1963 to 1966, I worked for Givaudan as a senior Flavorist in New York City. From 1966 to 1969, I worked for Stange & Co in Chicago, Illinois as Senior Flavorist, Head of the Flavor Department.

From 1969 to 1979, I worked for Ungerer & Company in New Jersey as Director of Flavor Development. I then worked for Globe Extracts, Long Island from 1980 to 1988 as Director of Flavor Development.

From 1989 to the present, I have been consulting for FIDCO in White Plains, New York and other Domestic flavor manufacturers. I have also consulted and assisted in the development of flavors in several overseas companies.

There are several things necessary to do to become a good flavorist: First - Remember your God given sense of smell and memory of smell. Without this gift, you are wasting your time.

Smell the raw Materials, and memorize the smells Observe changes that occur in odor when compounding. Make drinks and memorize the taste. Try to make your own combinations.

Be eager, and read the various books and literature dealing with flavors. Learn the ways other departments in your company function, including the chemistry lab, the factory, etc. Be aware of regulations and other new developments. SR

Christian Reitz

Deceased

Emeritus Member, SFC

Chris worked for many years for Fritzsche Brothers. Starting as a compounder he and Henry Bechtolf were later transferred to a flavor laboratory under Mr. Rossig (if he had a first name no one knew it), but he knew his flavors. They knew the subtle differences between the different varieties of fruits, and kept looking for the right new chemicals or oils to get the nuance for a particular variety at the peak of its ripeness. When it became an acceptable thing to do Chris and Henry both became members of the SFC, and attended meetings when it was convenient.

Neil Revie

Retired

Honorary Member, SFC

Neil worked for Boake Roberts in England before World War II and its successors Bush Boake Allen. By being observant during drying experiments, he was a co-discoverer of the use of spray drying a volatile flavor with the proper base one could quickly and effectively encapsulate those volatile flavors. There were commercially available before and right after the war, but they did not attract much attention. MM&R had the distribution rights in the US

Neil later worked for Fries and Fries continuing to find new ways to refine the spray drying process of preparing encapsulated flavors.

Hatton B. Rogers

Retired

"Hart" Rogers majored in chemistry and microbiology at the University of Florida and did graduate work at George Washington University in Washington, DC. He started part time work at the National Canners Association (NCA) Research Laboratories, which was close to the University. The frozen food technology was not yet in place and most food problems were those of the canning industry, particularly in the packing of low acid foods such as peas, string beans and corn. Safety and quality (nutritional and flavor) were the main objectives.

The food industry had new challenges at the start of the war, of feeding troops from the Arctic to the African Desert and the South Pacific. The Office of the Quartermaster set up the Food and Container Institute (FCI) in Chicago to modify the food supply to properly feed all of the armed services. At the time, Hatt was in Officers Training School. His former professor and mentor, now a Major at the FCL requested to have Hatt to help. The mission was to develop specifications and design rations for **use** under the most severe battle conditions. Hatt designed mobile laboratories which were used to monitor canning plants around the country. These operations were successful and left the canning industry a lot cleaner than when the group arrived.

After the war HVP's (Called HPP's, for hydrolyzed Plant Proteins, by some) made an awkward debut as ingredients in meat and meat like flavors. There were flavor problems. The alternative was beef extract, which was too expensive. Hat was with Fritzsche Dodge & Olcott, as vice president of technical sales. He left them in 1958 to join the Nestle Company to make more efficient use of their New Milford Connecticut plant. He proposed that the plant be used first as a laboratory for HPP, and then a manufacturing plant. He suggested the attributes and variables for a line of products, and a year later, the first two products were ready. Howard Pease headed the lab.

Hatt developed a comprehensive service program for applications data with a comprehensive formulary, analytical and bacteriological specifications, and there were experts on hand to answer questions that were not in the book.

In 1967, SCOG's issued a "Tentative Evaluation on the Health Aspects of Protein Hydrolysates". Hatt founded the International Hydrolyzed Protein Committee (IHPC) and gained the support of all members of the industry to cooperate in developing information on the subject. The hearing was held in Washington July 26, 1977 with Hatt giving an oral report supplemented with written data. Approximately seven months later, the SCOG's committee gave HPP a GRAS status. HBR

Albert V. Saldarini

Emeritus Member, SFC

President, SFC 1976-1977

I guess I can honestly say that my first interests in science, chemistry and physics came about when my Dad presented me with a lead soldier casting set when I was seven years old. Mom had a fit of course, but Dad was never one to thwart my ambitions. Dad won out after a short discussion and I set about making a good dollar casting, painting and selling lead soldiers.

The city dump was my main source of lead from discarded plumbing. I spent many hours melting lead over a gas burner my Dad had set up for me in the basement. (This lead handling could account for some of my present deficiencies). Poor Mom couldn't stand to watch. Dad always countered with "He's got to grow up someday". The shiny cast lead soldiers were placed in rows on the porcelain tub covers to cool and await their coat of oil paints. The very carefully painted ones sold for a nickel! I survived this for two years without a burn after having distributed hundreds of lead soldiers around the town.

At nine years, I decided that chemistry was my bag. After a few years of receiving bigger and better chemistry sets from my Dad (Santa), I finally managed to blow up the cellar lab (bin) while experimenting with Henley's chapter on explosives. Mom then insisted I had to indulge in safer pursuits. My Dad never did discourage me.

My copy of Henley's had not been destroyed in the minor explosion, so I turned to the chapter on Essences and Extracts. At that time, Hires sold a remarkably fine root beer extract. It contained a generous dose of that refreshing sassafras. As a kid, I loved it served with milk (Imbibing in root beer extract may account for some of my present deficiencies.) It was called a "black cow". To those who have never tried it, I am sorry for you. You have never known the taste of REAL root beer.

As you might expect, the extract came with detailed instructions as to how to prepare your own fermented root beer. This had to be my next project. I collected all the empty apple cider bottles I could find in the house. I later learned that Dad had been saving these fancy brown bottles to make lamps for friends.

Yeast, sugar, Hire's Extract... set the bottles in the bin lying on their sides... and wait. Weeks later BOOM, BOOM, BOOM... three of the five bottles explode, showering my lab (bin) with fragrant sticky root beer. Three of our friends didn't get beautiful brown lamps but I was forgiven. The remaining two gallons of root beer were simply delicious! We made it often after that.

At fourteen, I was working at a photo-finishing establishment. I prepared developers and fixers from basic chemicals (I still do). I developed and printed films and delivered the same on a motor scooter two days and also worked in a drug store basement preparing limewater and concocting a shampoo with soapbark.

My neighbor at this time was studying for his pharmacy degree, and I studied along with him. Seeing my avid interest in the subject, he endowed me with his 120-envelope collection of botanicals. At fifteen I could identify virtually all of the drugs, spout out their botanical species, active principles and uses. (I treasured that collection for years until a tour of Service left the collection vulnerable to beetle attack. When I returned from the war, the envelopes were all but empty. A tattered copy of Potter's *Materia Medica and Pharmacy* still occupies a place amongst my treasured books).

While still pursuing the photographic field, I managed to land a summer job at P. R. Dreyer in New York through my friend's father. My boyhood chum, Fred Thiele had at his disposal a fully equipped laboratory in his attic. We spent many hours there, concocting chypre and fougere type perfumes and getting acquainted with the many oils and absolutes that were used in flavors and perfumes. At P. R. Dreyer, we made the best Worcestershire sauce that I have ever tasted. From this point on, I pursued chemistry full

tilt. Every spare coin went into trying to master organic synthesis, analysis, distillation, hydrogenation, etc. Then someone started a war. (Al's war stories would fill a book, - Ed.)

After the war, I went back to the photographic field while attending schools at night. Eventually I joined my boyhood friend at Orbis Products Corporation in Newark working in the organic research labs. The company, formerly Denis, Inc., was taken over by Norda (as was P. R. Dreyer). I was fairly successful with several syntheses that were put into plant production. Later I was transferred to the East 23rd Street laboratories of Norda at my request.

In the '50s, I became involved in constructing a home-built GLC before commercial units were available. Our research director, Jack Wenneis, caught me one day singeing my nose on the exit port of this monstrosity we had built. Peering over my shoulder, he read the constituents that I believed I had perceived. He asked what I had injected into the GLC. When I told him it was Strawberry 21G, he was impressed. He stated that he had made that flavor and my list was amazingly accurate.

Shortly after that incident, I found myself in the Flavor Division, despite all my protests. I had really enjoyed the challenges of organic research and had made such good friends in the group. I dreaded leaving them. After a few lucky successes in the flavor department, I was finally accepted and shortly thereafter appointed Director of Flavor Research Laboratories.

I had the good fortune of having a fine group of people working with me. I enjoyed my work and most of my associates. I retired as the Director of Research & Development for Norda's Flavor Division after thirty-five years service. I still enjoy meeting with my colleagues. They are as fine a group as you'd want to meet. As Al was an active committee member representing Norda in the FEMA, and in addition to being a SFC President, he followed Al Venutolo as chairman of the SFC employment committee, doing a fine job. He is still doing an excellent job at this. He has also been the photographer for both the SFC and the CSA, attending almost all of the meetings, ready with his camera. He contributes a lot of time effort, equipment and supplies to serve the industry he likes so much.

As an amateur ham radio operator, he takes his unofficial duties just as seriously. He has aided people in many parts of the country and the world by listening for call for distress and taking prompt action indicated by the person broadcasting his situation. EJM

Paul Samulenas

Certified Member, SFC

President, SFC 1971-1972

It seems I was destined to be in the Flavor Industry. When I was in grammar school, my parents owned a restaurant in Manhattan, The cooks prepared fine daily menus of freshly prepared soups, main courses and desserts.

When I went to high school and college, I had a part time job in one of the finest bakeries in New York City. They made everything from the basic ingredients: rolls, brioche, croissants, French pastries, cookies - even fine chocolate candies and several flavors of freshly prepared ice cream.

In 1953 when I was graduated from college with a degree in chemistry, I was fortunate to get a job at Fritzsche Brothers as an analytical chemist. It was so exciting to be a professional chemist working for such a well-known and respected company. The analytical lab afforded a great opportunity to become familiar with essential oils, aromatic chemical, fruit and botanicals extracts and analytical techniques and methods.

Mr. Ed Langenau was director of the lab and was ably assisted by five chemists. It was a great training ground with all sorts of benefits. To learn from experts and to get an autographed six volume set of "The Essential Oils" autographed by Dr. Guenther and Ed.

About a year later, Bill Downey suggested that I try to get transferred to the flavor lab where he worked. He was my first teacher and was very generous to allow me to learn from his experience as a flavor chemist. He remains my best friend in the flavor industry.

Dr. Edmund Hamman was in charge of the flavor labs. The flavor chemists at that time were Bill Downey, Fred Wesley Chris Reitz and Henry Bechtolf. Bill and Tony were my generous and helpful mentors. With the company's generous support, I was able to earn my MS degree in organic chemistry from St. John's University.

Dr. Hamman was succeeded on his retirement by Harold Janovsky, and the staff of Ed Kata, Bob Schinnagel, Carmine Donnarumma and Gerry Kraus. It was great working for such a fine company on a wide variety of products: soft drinks, cordials, liqueurs, toothpaste, tobacco, meat products, snacks foods and dairy.

In 1960, I had a great opportunity to join S. Twitchell & Co, a venerable Philadelphia company as Director of flavor research. I took it, became vice president in 1962 and when the company went public as Twitchell Foote and Jenks, I became president of the manufacturing division as well as corporate VP of Frostie Enterprises. This was a challenge which involved directing five chemists, 5 technicians, 25 production people, 10 sales and marketing people and 10 administrative people in two plants in Michigan and New Jersey.

I served the Society of Flavor Chemists as Secretary (1968-70), Vice President (1970-71). One of the happiest and proudest moments of my life was when I was elected President of the Society (1982-83).

I am currently a Director of R&D of Joseph Vittori Wines whose Mystic Beverage Division is in the exciting New Age beverage field. This leads into the most important part of this presentation. From reading about the history of our Society and the experience of some of the seasoned members, our new members hopefully can benefit from our counsel and advice.

I offer the following advice to our newer members:

1. Work for a large flavor company which gives you access to more people, information, equipment and support,
2. Learn the science of flavor chemistry but don't neglect the *art of flavor creation*.
3. Pursue as much formal education as possible in both science AND business.
4. Read trade journals, and books relating to the industry.
5. Acquire a personal library of books relating to flavor, flavors and food.
6. Go to, and fully participate in, as many trade shows and relevant conventions as time and opportunity permit.
7. Join, and be active in, as many trade and professional associations as you can: Society of Flavor chemists, Institute of Food Technologists, American Chemical Society, Society of Soft Drink Technologists, Chemical Sources Association, Flavor and Extract Manufacturers Association and others
8. Familiarize yourself with instrumental analytical techniques (GC, MS, HPLC, etc.).
9. Study about manufacturing techniques, non-flavoring ingredients, colors and their effects on flavor systems and applications.
10. Become computer literate.
11. Network with people in your own company, your suppliers, customers, trade associations, regulatory agencies and the publication field.

Much more can be said... but for the limits of time and space. I would be pleased to hear from members of the new generation in our industry so that I might help you enjoy being a part of this industry, and succeed.

Peter D. Sarris

Deceased

President, SFC 1965-1966

Pete worked for J. Kohnstamm during most of his career.

S. Rus Schay

Retired

**President, CSA 1974-1976
and 1978-1979**

Rus was a good chemist who worked for PFW for quite a few years. He was with Fries & Fries as technical director, later helped develop processes and put together equipment for a plant to run the processes. He was the secretary of the group that became The Chemical Sources Association, and remained very active in many positions until he retired to Maine.

Robert Schinnagel

Emeritus Member, SFC

I graduated with a B. S. in chemistry from Bethany College, West Virginia in June 1954. I had worked four summers at Pfizer in Brooklyn, but figured a B. S. would not be enough if I went back there. My father had contracted plumbing work at Fritzsche Brothers in New York City and he got me an interview with Dan Neary who was in charge of personnel.

I went to work for Fritzsche in the Clifton, New Jersey factory in their plant analytical lab. I worked for Fred Richter and he had training for the lab personnel in essential oils and aromatic chemicals.

While there, I married and, as my wife was going to Hofstra, I asked for a transfer to Fritzsche in New York City.

Fred Richter would not transfer me, so I left and went to work at MM&R on Desbrosses Street in NYC. There I got some training in flavor and fragrance work from Walter Senechyn, a perfumer.

In 1957, Fritzsche got in touch with me and asked me if I would like to work for them in NYC. I said yes, and went back to them. I worked for three months in analytical under Frank Boyd and then was asked if I would prefer the Fragrance or Flavor Lab.

I picked the flavor labs. Harold Janovsky was in charge at that time. I worked in the labs with Henry Bechtolf and Fred Wesley. Also, Dr. Hamman was in this lab doing consulting work. I moved into flavor research and continued developing as a flavorist. While I was there, Fritzsche had purchased Dodge & Olcott and ran it as an independent business.

In 1957, I was sent at the request of John Cassulo to set up a flavor operation in Caracas, Venezuela. He had a partnership with a group down there. Many promises had been made and not kept. There was no lab there, and everything was "later, later, later". My wife and I came back and I told the boss what was going on. He sent me back to the flavor lab, and later Ray Thompson went down to Caracas. Nothing ever developed there.

Shortly after this, I was transferred to Dodge and Olcott and worked for Jack Bouton. I continued at D&O, and when Jack left, I took charge of the flavor labs, then director of the flavor division, and finally VP of the flavor division.

Fritzsche D&O then merged their flavor laboratories and I became VP of flavor research at FD&O. Then I became VP of flavor operations, running the labs and flavor production.

In 1980, FD&O was sold to BASF and many changes started to take place. I continued on running the labs and production until 1985, when I spent all my time with production and automating the compounding and the simplification of formulae.

In December 1986, I opted for early retirement, seeing the direction the company was headed.

The reason I wanted to get into the flavor/fragrance labs was curiosity as to where and how the chemicals, essential oils, oleoresins and extracts that I had been analyzing were being used.

I also taught a course on flavors at Columbia University College of Pharmacy, and always enjoyed teaching new people about flavor creation.

I worked at Fritzsche for thirty years and had many contacts in the flavor industry - and I think that curiosity is a universal trait of flavorists. RS

Gerard Schlenker

Emeritus Member, SFC

Kurt L. Schoen

Certified Member, SFC

After graduation from CCNY in 1949 with a BS in Chemistry, I found employment with Felton Chemical Company. I was hired by Mr. Louis Gampert, and I shared a lab with Alexander Dubenchieck. Charles Grimm was in charge of the department. Working with flavors and ingredients for flavors was a fascinating and exciting field for a young chemist. Perhaps my ending up in the flavor business was pre-determined. In Qualitative Analysis, my first unknown was vanillin.

During this time, the company was run by Mrs. Sophie Felton and Louis Gampert. Dr. Felton suffered a stroke prior to this time. Ira Kapp was working with Gerry Kaufman in organic synthesis. Ira was engaged to June Felton. One of the unusual things I remember from those days was a chemist named Albin Wilko who did most of his tasting with a cigar in his mouth. During this time, I also started my graduate studies in night school at Brooklyn Polytechnic Institute and received my MS in Organic Chemistry in 1955.

In 1952, I went to H. Kohnstamm & Co. where I worked for Dr. David Jorysch. Peter Saris and Carmine Donnarumma were the other flavor chemists there at that time. We were very involved with pure fruit extracts and flavors, WONF's, Vanillas and artificial flavors of all types. We approached flavor creation as an art and a science doing all we could analytically to assist in flavor creation and to detect the then widespread adulteration.

During this time, I started my involvement with the FEMA. I very much enjoyed working with Dr. Jorysch, as he was an excellent teacher and a wonderful person. It was a great learning experience; however, financial considerations forced me to seek a change in 1955. I received two offers of employment. Dr. Ernest Polak offered me employment at PFW in Middletown, New York, while Walter Roskam, President of David Michael & Co. offered me a position in Philadelphia. I was engaged at the time, and my fiancé preferred living in Philadelphia. The rest is history.

David Michael was and is a privately held corporation. In 1955, they had a very small technical staff and a limited product line. This provided me with a wonderful opportunity to expand in all areas and to be instrumental in developing a superior product line and build a strong technical team. During this time, I was very much involved with trade associations and technical societies. As a member of various committees, I had the opportunity to work with the industry leaders and most of the legends of the industry. In 1959, I received, as a part of the FEMA Technical Committee, a merit award from FEMA. This was in recognition of the pioneering work that the committee did, under the leadership of Dr. Jorysch, in developing analytical methodology for vanilla analysis. Some of the work was done in conjunction with the Boyce Thompson Institute. Committee members included the following people: Jim Ingle, Dick Hall, Tom Bonica, Jim McGlumphy, Willis Steinitz and others.

I also participated in the founding of CSA and am a long time member of the Society of Flavor Chemists. Additionally, I have been active in the ACS and IFT on both the local and the national level, having been section chairman and counselor among other activities. I found that participating in various associations has helped me to expand my professional horizons and made me a better flavorist.

I consider myself fortunate to be in the flavor industry. It has always been challenging, interesting and exciting for me. Creativity has been rewarded by seeing the fruits of my labor in many successful consumer products.

KLS 7/20/94

Frederick Schumm

Emeritus Member, SFC

**Charter Member, SFC
President, SFC 1960-1961**

I was born in New Jersey, obtained a job working for Dodge & Olcott in the research labs in Bayonne, NJ through a family friend. I started at D&O on October 7, 1936. I was accepted into the evening program in Chemical Engineering at The Cooper Union Institute, in New York City. You not only needed to be smart to get into Cooper Union, you needed to be employed in industry to get in the evening school.

College was interrupted by the war. I was an officer in the Air Force working on the ground with the armaments. On my return to civilian life, I rejoined D&O and Cooper Union, receiving my degree with the Class of 1950 N. I was transferred to the Flavor Division on Varick Street in Manhattan to work with Claude Johnstone, the flavorist who headed up the lab. D&O had gone from an independent company to a subsidiary of National Distillers, a Division of United States Industrial (USI). The two companies did not mesh well and National Distillers soon sold D&O to Fritzsche Brothers. It was reported that the large stock of D&O's vanilla beans were sold separately. It's amazing how long it took to use up those \$2 a pound vanilla beans!

Flavorists Jack Bouton and Charles Dwyer were also at D&O while Claude Johnstone was there. Fritzsche moved the D&O Labs up to Ninth Avenue and 14th Street, across the street from the Fritzsche Port Authority Building headquarters and labs, but the labs and sales departments operated independently for a few years. Fritzsche's facilities were near the top of the 15-story building, and were unique because the delivery trucks were able to go up to the shipping dock on the twelfth floor, load up, and return to the street without holding up traffic.

I left FD&O to join Ungerer & Company as Manager of the Flavor Department. Their offices were on Sixth Avenue in the same building as H. Kohnstamm's offices. The Ungerer plant was in Totowa, New Jersey, where I worked. After 15 years, I was called by Pete Wood to join Bush Boake Allen in Montvale, NJ as technical director. BBA was trying to establish its flavors in the USA. I remained with them until I retired in 1988. I was active on committees of the FEMA. The flavor industry; their ability to produce and enjoy good music; and geographic closeness made a strong friendship between Fred, Tom Bonica and Jim Broderick.

I enjoyed a wide variety of work during my career, had success with carbonated beverage flavors and others. I had two patents on solubilizing Oleoresin Black Pepper. I have the uncashed 1952 check from USI for the one dollar they paid for such accomplishments. But I loved the industry. It's an industry which recognizes people, who are willing to learn it, work hard and work smart. The rewards have been greater than have been possible from most other industries.

FS

Yunus Shaikh, PhD

President, CSA 1994-1995

My education consisted of a PhD in Organic Chemistry in 1972, followed by postdoctoral research and an Assistant Professorship at Purdue University, working extensively on natural compounds, their isolation, identification and synthesis, publishing in many journals.

In 1978, I joined the flavor and fragrance industry by working for Northville Laboratories as director and head of Aroma Chemicals. In 1979, I moved to Connecticut, and went to work with Bedoukian Research from 1979 to 1989, when I formed Aroma & Flavor Specialties Inc. in Danbury Connecticut to manufacture and distribute such chemicals.

I was fascinated by the flavor ingredient industry because a variety of organic chemicals plays such an important role in the development of flavors. It was a challenge to synthesize many of the complex and hard to find chemicals which serve as building blocks for the flavor chemist to achieve desired flavors.

My contributions to this area have been recognized. I have made many presentations at CSA meetings and at SFC Educational meetings. I have played an active role on CSA committees and on the FEMA Membership committee.

I wrote on Heterocyclic Compounds for Allured Publishing's "Perfumery & Flavor Synthetics, 1986", and am working on a book manuscript.

During the last ten years, the flavor industry has shown tremendous progress and become more complex and scientific. Very realistic fruit flavors are now available. New fascinating and complicated flavors like meat, coffee, bread, tropical fruit, green and dairy are still to some extent a challenge. Natural flavors and "natural" chemicals are in now in great demand. To create a natural flavor, which has the strength and character of its synthetic counterpart, is a real challenge to flavorists. The role of the organic chemist is thus much more difficult, requiring teamwork to achieve a flavor that is acceptable to the consumer and economical to market.

Young people today have a real task ahead. There is a need for a scientific training course, and a need to improve our know-how by passing on our acquired knowledge to the next generation, so that they have a head start towards their goals. I wish them all the very best. Y. S. 3/31/95

Joseph Shediak, Jr.

Associate Member, SFC

I studied chemistry at Holy Cross College, Worcester, Massachusetts, getting an AB in chemistry, and later got an MS in chemistry from Boston College. I've been an active member of ACS, IFT, The American Institute of Chemists and the Society of Flavor Chemists. I've been on various committees of FEMA during the past eight years.

My forty-year career has been devoted to the flavor, food and pharmaceutical fields. The first five years were working for Vitex Corporation in Newark, New Jersey. I was in R&D and product evaluation of ingredients for food pharmaceutical and HBA industries.

I then worked four years on coffee and other hot beverages in R&D for Chase & Sanborne and other companies in northern New Jersey. For nine years, I was in R&D and technical sales and services in prepared foods. I was involved with frozen juices, fruits, puddings and other food service items, including single serve units. Companies included Food Industries Inc. and Kreuger Corporation, both of Northern New Jersey.

For twenty-two years, I was in R&D, technical sales and service, and marketing in the beverage industry, working for Beverages, Inc, the Frostie Company, Dohler, and Foote and Jenks Corporation, all located in New Jersey.

Because of my varied experience, I have been exposed to a very wide variety of products and their problems. Not only have I traveled in the United States, I have spent considerable time overseas, helping to develop markets in Europe and Central America. JS

Harris Shore

Deceased

**Charter Member, SFC
President SFC, 1962-1963**

His precise English, combined with an elegant British accent, told you that this was an educated, but unpretentious gentleman from England. If he first worked in the United Kingdom, we don't know where. We know he worked for Seeley & Co. and went then to Polak and Schwarz, then to Synfleur in the 50's, then Felton and finally to Fries and Fries in Cincinnati. His forte was natural fruit flavors. He was a charter member and the sixth president of the Society of Flavor Chemists.

Stephen Shymon

Emeritus Member, SFC

Alistair Y. Smith

Deceased

Member SFC

Bernard H. Smith, PhD (1878-1952)

Deceased

President, FEMA 1931-33

Founder of Virginia Dare Extract Co, he was a part of Dr. Harvey W. Wiley's original FDA group in Washington, DC. In 1912, he was sent by Wiley to establish FDA's Boston laboratory, where he was the supervisor until 1917, when he joined Baker Extract Co. as chief chemist. He left Baker to form an extract division for the winery Garrett and Company. Three years later, he purchased the division from Garrett and incorporated it as Virginia Dare Extract Co., becoming its first President. His son Lloyd E. Smith succeeded him in 1950, whose son Howard succeeded him in 1960, and is the current CEO. Each of those were Presidents of the FEMA in 1941-1943 and 1966-1968 respectively.

Ernest Spangenberg

Emeritus Member, SFC

Worked for Naarden International USA (now Quest) in Owings Mills, Maryland from 1964 until he retired in 1985. He was a senior flavorist when he retired. ES

Willis S. Steinitz

Emeritus Member, SFC

Educated in Europe and Columbia University, he specialized in food chemistry, gaining recognition in industry and government circles for his expertise in the food, dairy and ice cream fields. Willis was initiated into flavors by Carl Jensen during the Willis's first two years with American Food Labs in Brooklyn, NY (1938-39.) Willis stayed with AFL during his entire career (47 years), retiring in 1985 to his home in Oceanside, LI, NY. He became technical director, vice president and president of the firm. He was active on the board of FEMA in the era of the development of ice cream and vanilla Standards of Identity He was also a president of NAFFS and then chairman of NAFFS for four years. Ltr WSS

Jan Stofberg, PhD

Emeritus Member, SFC

In 1951, while working on my thesis in the Laboratory for Organic Chemistry at the University of my hometown Amsterdam, Holland, I learned about an interesting project going on for a company with the unusual name Polak's Frutal Works. It was the smallest of the three major Dutch flavor houses, formed 40 years earlier when the Polak family decided to split off from Polak and Schwarz. In further contacts with PFW, I learned that the company had a heavy commitment in flavor research, headed by one of the family members, Ernest H. Polak. I was offered a position as research chemist in the research lab in Amersfoort. It turned out to be the only job offer I ever needed.

The two most significant aspects of the company were the high degree of professionalism, and the secrecy. Discussions with colleagues were discouraged, and contacts with other companies were impossible. Nevertheless I succeeded in learning a lot about the unknown world of flavors and fragrances from the two masters, Dr. Paul Jellinek, a perfumer with a clearly perfumistic approach to flavor creation, and Ernest Polak, one of the best creative flavorists I have known. He approached flavor research from the biogenetic side, searching for flavoring materials in traditional foods, and how they were being formed there.

An unexpected vacancy in the technical management of the Amersfoort operation opened an opportunity for me to really become intimately involved in all aspects of the industry, including production, analytical procedures and the creative work going on in the flavor and perfume laboratories. I was especially fascinated with the creation of flavors, and in order to combine this with my managing responsibilities, I

had a large flavor lab built next door to my office. I spent whatever time I could in flavor creation, with the help of a few very capable assistants.

Contrary to previous company policy, I found that in many areas, in particular those of product safety and legislation, we had many problems in common with our competitors. We formed the Technical Committee of the Dutch Flavor Association, now known as NEA, and initiated a dialogue with our national food legislators. Together with my colleague Ir. A. De Kroes from Polak and Schwarz, whose high ethical standards have been my guiding light, I was honored with a membership of the Adviescommissie Warenwet. This is a legislative body in the Netherlands, appointed by H. M. the Queen, which de facto writes the food and cosmetic regulation for the Netherlands.

Having experienced the beneficial effect of openness and communication, as opposed to secrecy and isolation, I then joined an international group of representatives of the flavor and fragrance industry. After a few years of informal contacts, the International Organization of the Flavor Industry was founded, with Dr. Friedrich Grundschober as its very capable and talented Secretary. In particular, I enjoyed working with him in the Committee of Experts of IOFI, during the 15 years I acted as its chairman. I still consider the IOFI Code of Practice, which we put together in that committee as a major achievement, given the diversity of the interests and national traditions of its members! It is the guideline for flavor manufacturers worldwide, showing their responsibility as a mostly self-policing industry. In 1973, because of my involvement in safety and regulatory matters and also in international standardization in I. S. O., I was invited to join the company headquarters in Middletown N. Y., and to head up the department then called Standards and Regulations. It later became Product Safety Assurance after PFW became part of Hercules Incorporated. This meant emigration to the US with my family, clearly presenting both a major burden and an opportunity for the four of us. I was going to miss especially my work in our national Dutch organizations. What could I expect in the US, another country, with another language, where nobody knew me? That turned out better than I expected. After two years of membership of the Food Additives Committee of FEMA, its very capable chairman Jim Broderick was looking for a successor, and I was invited to chair both this committee, and its parallel the Scientific Committee of the fragrance sister organization FMA until my retirement in 1988. Fortunately, the top management of Hercules agreed that all my work in these committees for the international flavor and fragrance industry, and for the Food Chemical Codex, was also in the best interest of the company. This gave me the opportunity to be equally involved in the flavor and the fragrance side of our industry. Gone are the days that only flavors were of interest from a safety point of view, whereas fragrances, only applied to the skin, were not even considered. Very proactive thinking, in both FMA and the international organization IFRA, has enabled our industry to remain in control as a self-policing industry. The creation of RIFM, and in particular its work during the later years under Dr. Richard Ford have been invaluable for the sound scientific basis of both the fragrance and flavor industry

After many years of involvement, I have come to the conclusion that the use of flavors and fragrances, with some restrictions, is in actual practice safe, and does not present a public health hazard. This is true whether the use is based on the Code of Practice of IOFI and of IFRA, on a GRAS type of regulation like in the US, or on a nature identical based regulation like in many other countries. This means that it should be possible to come to an international agreement, which would allow free trade of flavored foods. This is what I foresee coming from the harmonization in Europe, and the US desire to cooperate in a mutually acceptable solution to the many national divergences.

My main concern over the last decade has been with a clear understanding for the actual exposure to flavoring substances. In addition to reviewing the individual chemical substances for their potential health hazards, we have to know what the exposure is and where it comes from. Since most of our flavoring substances have resulted from the analysis of foods, it is not surprising that most of them actually occur in foods. My question became: how much of them is consumed as unavoidable ingredients of traditional foods, and how much is added by our industry. I initiated a quantitative study of many flavoring substances based on our PFW company research, and came to surprising conclusions. Only a few hundred of the most common flavoring substances are used in more than 1000 kg per year, and most of the known substances are used in less than 50 kg per year, worldwide, and widely spread. Many of those substances are consumed in far larger quantities in traditional foods. I came to the conclusion that the ratio between the quantities unavoidably present and deliberately added should be expressed in one number for each substance, and so the Consumption Ratio (CR) was born. I am very happy that the CR concept has been

recognized as a valuable tool in measuring meaningful exposure to flavorings. I have been honored for it with the gold Littlejohn memorial medallion in England, an award from FEMA, and the Man of the Year award from the Society of Flavor Chemists. The CR is now widely used in Europe and is also taken into consideration by the FDA and the Expert Panel of FEMA.

I wish I could give some guidance to the many bright and talented young members of the next generation in our industry. Going through a career is like walking through a very hilly area against a very low sun. New obstacles appear at every turn, and they seem very dark and steep. Looking back, however, things look sunny and bright. That is why you hear so many "old-timers" tell about how much fun it was, and how they enjoyed it. I did too. But there were many problems along the way that seemed insurmountable at the time.

Nevertheless, if you stay with what you know is right, even if it is not considered so by other interests, and if you do the things that you are best capable to do, you will be able to make a significant contribution. Many conditions are so much better than they used to be, entire new areas of research open up, there will be less unnecessary regulatory restriction and a better understanding for what really presents a hazard. The need for flavors in new food developments is bigger than ever. Enjoy your work! JS

Louis Strasberger

**Deceased
First Vice President of SFC**

**Charter Member, SFC
Honorary Member, SFC**

Lou was Cincinnati bred and trained, having received his degree in Chemistry from the University of Cincinnati. His initial position at van Ameringen-Haebler was in their organic chemistry laboratory. Lou was eventually transferred to the new and hopefully growing, flavor division. In time Lou, with his traits of thoroughness and perseverance, became a quite capable flavorist. Unfortunately, Lou had been forced to learn his art and develop in a vacuum created by the secretive nature of our industry - especially in that period.

During the pre- and early World War II years, Lou was assigned to a key project, i.e., the production of maple tablets for the armed forces. However, Lou never felt his accomplishments were ever fully acknowledged, but were shared by many who did little or had been in a strictly supervisory position.

Lou became the first vice president of the Society of Flavor Chemists, but when he was asked to move up, he refused, citing the displeasure he felt such a position would generate with his employer. Lou eventually retired as a senior flavorist with IFF. JJB

David Straus

Certified Member, SFC

President, CSA 1995-1996

I was going to Brooklyn College at night attempting to get a BA in Chemistry. One of the older students knew Vic Levey at Felton Chemical, and got me an interview. I started in the analytical lab in 1960 and moved to the fragrance lab. I met Sol Reiss who stole me away to Globe Extracts in 1964. Sol basically was my mentor.

From 1967 to 1969, I worked for Fritzsche D&O. From 1969 -1972, I was with Felton International. From 1972 to 1979, I was with American Flavors and Fragrances, and from 1979 to 1981, I was with Lautier Aromatiques. In 1981, it was back to Felton Europe, and from 1987-1989 with Felton Worldwide. I am currently with Comax Manufacturing in its enlarged facilities in Melville, Long Island, as director of the flavor laboratories. DS

Marion A Sudol

Certified Member SFC

President SFC 1985-1986

Robert L. Swaine
Robert L. Swaine, Jr.

Emeritus Member, SFC
Certified Member, SFC

Advances in Flavor Chemistry 1941-Present *“We must remember that we not only inherit from our parents but we also bequeath to our children”*

Although archaeologists can substantiate the evidence of the use of seasonings as far back as 48,000 BC, and we can trace the evolution of the flavor industry from religious ceremonies as early as 3000 BC, spice trading in the late thirteenth century, alchemy in the middle ages, to the genesis of modern flavor chemistry in 1876 (i.e., the synthesis of vanillin), this paper will focus on that period of vibrant growth beginning in 1941. It will be based on the experiences in the academic halls of Northeastern University, Massachusetts Institute of Technology, and Rutgers University and the laboratories of The First National Stores, Arthur D. Little, Inc., Canada Dry Corp., Florasynth, Inc, Maumee, Thomas J. Lipton Inc., and The Procter & Gamble Company. And, rather than a review, this should be a challenge to the next generation of flavor chemists.

After World War II, the Life Sciences Laboratories of Arthur D. Little, Inc. became a leader in flavor and aroma research. The senior author initially worked under "the million dollar nose", Ernest Crocker, of Crocker and Henderson fame. Early responsibilities included organoleptic and chemical classification of essential oils and aromatic compounds. This subsequently led to his establishment of a group specializing in both flavors and fragrances.

The systematic approach to flavor that is known today as the ADL profile method has been well documented in the literature. Caul and Swaine (1959) defined flavor by its chemical nature and described evaluation of flavor by its organoleptic properties. The methodology for the ADL flavor profile was described here as a procedure to reproducibly analyze all the flavor constituents in a food or beverage by considering the overall impression of aroma and flavor, the chronological order of detectable factors, and the degree of delectability of each factor. Other publications have also described qualitative and quantitative methods of subjective flavor measurement in general and as applied to specific industries. Additional references addressed the chemical basis of flavor, Swaine (1951, 1957, 1960, and 1961).

The post World War II era could be defined as one where art predominated over science in the field of flavor; perhaps 90% art and 10% science. It was during this period when companies such as ADL tried to adapt the "scientific method" to flavor development. The importance of technological integration of flavor development, application, and manufacture was beginning to be recognized. The interaction of food ingredients and the perception of flavor (Swaine 1951), manufacture of essential oils (Swaine 1961), and factors affecting the quality and shelf life of confections (Swaine 1956, 1957), are examples of technical issues now of concern to the practicing flavorist. The use of a sequestrant to control magnesium ions (Swaine 1953, 1954) is a practice used to this day to maintain fresh flavor. A continued importance has been placed on the role of the applications laboratory within the flavor house.

Perhaps one of the most significant technological innovations since the blotter strip was the introduction of gas chromatography, or as it was known then as VPC, vapor phase chromatography. This technique, while not strictly qualitative, was a strong separation and quantitative tool that allowed the chemist to separate complex mixtures of flavorants. To this point however, ca 1964, chemical components of flavorings were reported but little was known about the relative importance of individual compounds. In fact, some flavorists even suggested that VPC actually might have brought forth as many problems as it solved. One could get "lost" in the maze of isolates without recognizing their individual importance!

To record these new advances in technology and to instruct the newly initiated, flavor chemists began to publish findings increasingly more. Although it was begun prior to the war, Ernest Gunther's six volume *The Essential Oils* was not published until 1948. The Schimmel Briefs, when they could be obtained from behind the Iron Curtain, Paul Bedoukian's *Perfumery Synthetics and Isolates* (1951), house organs such as the Dragoco Report, and journals such as *American Perfumer and Cosmetics*, *Food Technology*, *Journal of Food Science*, and the *Essential Oil Record* all became valuable resources. Yearly comprehensive reviews in *American Perfumer and Cosmetics* detailed a diverse spectrum of flavor topics including basic taste chemistry, flavor methodology, analytical techniques, alcoholic and non-alcoholic beverages, dairy, meat, fish, poultry, citrus fruits, spices, non-augment fruits, vegetables, bread and baked goods, flavor potentiating, fats and oils, smoke, sweeteners, acidulants, fats and oil, coffee, tea, irradiated foods, cocoa,

chocolate, tobacco, pesticides, and legislation, (Swaine et al 1964, 1967). A practical compendium and reference manual for the flavorist was published by the CRC Press (Swaine 1968, 1972).

In concert with advancing technology was a concern for the safety and regulation of flavorings. An industry trade association, the Flavor Extract Manufacturers Association (FEMA) was used to identify and address common concerns; chief among them was the establishment of an expert panel to evaluate the safety of flavoring compounds. The findings and recommendations of the FEMA Expert panel have become recognized by the industry, the scientific community, and regulatory agencies such as the Food and Drug Administration. Subcommittees addressed technical issues. For example, the monograph subcommittee of the FEMA assured the accuracy of flavor chemical identities and properties.

The isolation and identification of chemical compounds responsible for flavor is fraught with problems and idiosyncrasies. The very (chemical) nature and perception of a flavor is dependent upon the physical and chemical properties of the medium in which it is present. This dictates that the techniques used to characterize flavor components be specially developed or adapted. Why?

- It is the exception to have one compound responsible for the characteristic odor or flavor of a specific food or beverage. Rather a combination of numerous volatiles, perhaps greater than 100 in more complex flavors are responsible for the desired flavor.
- Generally the flavorful compounds are present in trace concentrations
- The presence of specific compounds may influence the perception of other flavorants in a composition.
- Both the concentration in product as well as the volatile concentration in the headspace of the food or beverage contribute to the total flavor experience.
- Unstable flavor volatiles are subject to change upon isolation and storage.

One of the major changes we have observed during our collective tenures is the inclusion of flavor chemistry in major university curriculums. This is well emphasized by the flavor chemistry major established by Dr. Chang and currently run by Dr. Ho at Rutgers, the State University of New Jersey. This offers students not only the selection of flavor courses but also the proximity to major food and flavor companies. We are sure that any student of Dr. Chang's will remember his three important factors to be successful in flavor chemistry - patience, patience, and patience. The food and flavor industries are also sponsoring numerous and timely symposiums. Heretofore, training consisted of basic chemistry (or pharmacy) perhaps with the inclusion of terpene chemistry. The chemist then received *OJT*, on the job training provided he or she demonstrated a creative flair and a high degree of discrimination for aroma compounds. Many early flavor companies were family owned so it was common for training, techniques, and skills to be passed down from father to son. In the case of the junior author, training began quite literally as soon as he was able to bold a blotter strip and continued in the ADL labs through vacations until university!

Therefore, the overall theme of change during the past 25 years would be one of an integration of science and technology and perhaps a shift somewhat away from art to more reliance on science. The preferred balance of art and science can be, and has been debated, but let there be no mistake; while a flavoring is a creative endeavor, it is today more that ever built on a foundation of sound scientific principles and the field of flavor chemistry moves forward only as new discoveries can be implemented. Any discussion of changes should appropriately begin with the progress in analytical chemistry. Basic wet chemical methods and crude distillations have been augmented or replaced by more sensitive techniques such as steam distillation under extremely efficient vacuum, molecular distillation, simultaneous distillation/extraction, freeze concentration, zone melting, adsorption, and counter current extraction. It is interesting how many of these techniques have been scaled up from the laboratory where the initial intent was the isolation of flavor-significant compounds to production facilities. Solid adsorption chromatography, counter-current extraction, and molecular distillation are all used now to manufacture high fidelity (if not expensive) flavoring raw materials (Swaine and Swaine 1988, Swaine 1995).

As mentioned earlier, gas chromatography has proven to be the single most important analytical tool for the flavor chemist. It is interesting to note that even with the existence of sensitive and compound specific detectors, the human nose is still a most sensitive and often used detector. Since gas chromatography does not infer a positive identification, it is often used in conjunction with the so-called hyphenated techniques such as gas chromatography (GC-GC), infrared spectroscopy (GC-IR and GC-FTIR), mass spectroscopy (GC-MS) - the last being the most common separation-identification technique. Additionally, high-pressure liquid chromatography (HPLC) is a technique that very well compliments GC. HPLC is useful for thermo-sensitive materials, non-volatile compounds, and ultra polar compounds.

A trend that has intensified especially within the past twenty years is the desire by consumers for natural flavorings. This presented the flavor industry with a significant challenge. Natural flavoring compounds traditionally were essential oils, oleoresins, absolutes, concretes, tinctures, and extracts. These were complex mixtures of volatiles that with the exception of citrus oils, Orris concrete, and bitter almond oil, rarely could be used to impart a characterizing flavor; rather they were used to fortify a flavor. The isolation of single chemicals was limited to compounds that were present in an essential oil in large concentrations and could be isolated by distillation (citral from lemongrass), alkali treatment (eugenol from clove), bisulfite addition (citral), hydrolysis (cinnamyl alcohol), or crystallization (menthol). The emergence of biochemical techniques to form, and separation techniques to isolate, natural molecules has given the creative flavorist a much broader pallet of high purity natural molecules. Enzymolysis and microbiological fermentation are capable of mimicking or accelerating many of the reactions that occur during the biogenesis of food and beverage aroma. Compounds isolated from the processes can be used to develop natural, more potent, high-fidelity flavor replications that could be imaged 50 years ago. Our "unofficial" tally of natural molecules currently for sale to the flavor industry is in excess of 75 and includes aldehydes, alcohols, terpenes, sesquiterpenes, fatty acids, esters, gamma and delta lactones, furanones, sulfides, pyrazines, and even vanillin!

The flavor industry also answered the challenge for natural flavorings by exploiting one of the most common series of reactions inherent to thermally treated traditional foods, the Maillard reaction. Also known as non-enzymatic browning, this complex series of reactions in foods or in model food systems gives rise to potent flavor characterized by nitrogen, sulfur, and oxygen heterocyclics and aldehydes. They are responsible for baked, roasted, fried and boiled flavors - the so-called brown flavors. Reactions of hydrolyzed vegetable protein, amino acids, vitamins, reducing compounds and lipids to develop meat, chocolate, maple, caramel, sugar, tobacco, and baked flavors has been the subject of several reviews (Manley, McCann, and Swaine 1981, Manley and Swaine 1978, Swaine 1979, van den Ouweland and Swaine 1980, Swaine 1993, Swaine 1995). Additionally, synthetic heterocyclic compounds once held captive by only a select few multinationals are now available to the entire industry.

Only recently has the flavor industry begun to appreciate the value of chiral compounds. As recently as 1982, the enantioselectivity of flavor compounds was questioned (Werkhoff 1982). Chiral recognition, however, has long been recognized as a principle factor defining pharmacodynamic and pharmacokinetic differences. The late 1980's saw this recognition of chiral discrimination as an important determinant of odor perception. The classical example of odor difference is (RM-) and (SH+)-carvone whose isomers have caraway and spearmint odors respectively. Among the more common enantiomers recognized today are ethyl-2-methyl butyrate, 1-octen-3-ol, linalool, limonene, a-ionone, menthol, and g-decalactone.

The future of flavor chemistry is so dynamic, but curiously enough, we feel steeped in the riches of the past and in fact in the traditions of many cultures. Yes, the industry will be driven by science and technology to identify key compounds that will aid the flavorist in the more faithful reproductions of nature. New processes will better preserve the integrity of the flavor. But, perhaps of greater interest will be the novel use of flavorings and flavor processes. The development of specific sensates to reinforce a marketing concept or to signal efficacy will become important. The classic Western example of a sensate is a coolant such as menthol used in dentifrice to signal cleansing and refreshment. This practice is more prevalent in Asian cultures where food is valued not only for nutritive properties but also for its flavor and its organic actions. More close-to-home flavors and aromas are being studied for their ability to evoke or alter psychological and physical states. Olfaction and gestation are from both a biochemical and cognitive point of view not completely understood. Researchers in the field of aromacology are studying the effect of aromas on mind and body function. This subject is reviewed by Jellinek (1994).

Flavor and pharmacy share a rich heritage so it is interesting that the flavor may reach back to the pharmaceutical industry for applications of flavorings. Recall that many flavorings once enjoyed official status in pharmaceutical compendium: anise oil, caraway oil and peppermint oil, for example. Preliminary data suggest that several common flavorings possess efficacious properties when used in the treatment of specific disease states. Dr. V. E. Tyler, the Lilly Distinguished Professor of Pharmacognosy at Purdue University, has challenged both industry and government to conduct further research on several common flavorings that have demonstrated interesting pharmacological effects (Tyler 1995). These include Essential Oils of Chamomile, Essential Oil of Garlic, Ginger, Valerian, and Hops.

Central however, to the continued growth of the flavor industry will be the classically trained creative flavor chemist. We believe that the industry realizes this and forward-thinking flavor houses and user companies alike maintain active programs to educate the next generation of palettes. The one constant, amid all the change, is that flavorings will continue to be developed,
SECUNDUM ARTUM RLS, Sr & Jr.

In the interest of uniformity, we have not included the references provided by the Swaines. However, anyone wishing to have them may write to E. Merwin or the secretary of either the SFC or the CSA. EJM

John Swinkels

Emeritus Member, SFC

I was exposed to the flavor industry through my father's business in the Netherlands. I worked in it with him. Our main field was with the soft drink industry, and to a lesser extent, the bakeries and ice cream makers. After World II, the whole soft drink industry became a matter of franchises of the big American soft drink manufacturers, and we lost our whole market. After two years, I found a job with Norda (Canada). In 1962, I was transferred to New Jersey, where I worked until 1985. My titles ranged from Flavor Chemist to Chief Flavor Chemist.

My advice to young people in the industry would be to try not to specialize too much. Work on any flavor. It broadens your outlook and you will be worth more.

If anyone of my contacts deserve special mention it would be Al Saldarini. He encouraged me and we had a very good working relationship. JS

Frank Szpak

Emeritus Member, SFC

Frank started out with the flavor labs at General Foods. Moved to Firmenich in later years.

George F. Talarico

Emeritus Member, SFC

Most of George's career in the industry was with Givaudan with a wide range of responsibilities. They included the manufacture of true fruit and WONF flavors, pilot scale aromatic chemical manufacture and encapsulated flavor products manufacture.

Daniel R Thompson, Esq. Attorney and Executive Secretary of the FEMA 1965-Date

At the 56th annual convention of the FEMA, President Arthur S. Wendt announced the selection of Daniel R. Thompson as attorney and Executive Secretary of the association. His offices were and continue to be in Washington, DC. He replaced John S. Hall, who had held that position for more than thirty years until he died in 1964. It was the first year of the new era for FEMA and the flavor industry. The February 1965 issue of *Food Technology* that year published the first list of flavor ingredients with their ranges of use levels, as "GRAS 3".

Before joining FEMA, Dan had been schooled at Queens College and Georgetown University. He was a member of the bars of the Supreme Court, the US Court of Appeals for DC, and the Courts of Appeals for Maryland and the District of Columbia. He was also a member of the Banking, Corporation, and Business Law (Beverage Committee) sections of the American Bar Association. He had been a special lecturer at George Washington University in Commercial Law, a city attorney, and in general practice in Maryland and the District of Columbia. He had served the American Bottlers of Carbonated Beverages as Legal Counsel and was the principal staff drafter of the petition for the Standards of Identity for carbonated beverages.

In the years that followed, he has provided legal assistance and valuable counsel to the Board of Directors and the industry, as their size and responsibilities have increased. These few decades have seen an escalation in the number and scope of new regulations in the State, Federal and overseas governments, and increasing acceptance of the GRAS programs in the United States and abroad. He earned the respect of the flavor and food industries, and the governmental agencies in the United States, and abroad.

The increasing responsibilities of scientific and regulatory work required a much larger budget for the Association than could have been imagined a few years earlier. Dan and the Board attracted, trained and supervised the necessary legal, technical and support personnel that enabled the FEMA to accomplish the many tasks approved by the Board of Governors. (See report of The 56th Annual FEMA Convention, 1965).
EJM/DRT

Thomas J. Ulinski

Certified Member, SFC

President, SFC 1981-1982

My interest in the flavor industry started when I was studying Pharmacy at Columbia University, College of Pharmacy. Fred Wesley of Fritzsche Brothers was conducting a course on Pharmaceutical flavoring. It was here that I was inspired to follow this path after completing my studies. During this time, my brother was employed by Fritzsche Bros Inc., as an analytical and process control chemist.

When I started with Fritzsche, there were no openings in the flavor laboratory, so I had to devote my time learning about the raw materials used in our field along with the various processes and manufacturing methods used. I worked in the subdividing laboratory in production, microbiological, spray drying and emulsion labs before I was offered the option of joining the flavor or fragrance R&D labs.

The people I feel were responsible for encouraging and training me are Bill Downey and Tony Clemente, both from Fritzsche Brothers. I worked at Fritzsche from 1963 to 1969, when I joined Bush Boake Allen in Emerson, NJ as a senior flavor chemist. I then worked for Neumann, Buslee and Wolfe from 1972-1973 as a senior flavor chemist. This was followed by Maumee Flavor and Fragrance, Inc. at Danbury, Connecticut as Chief Flavor chemist (1973-1975); Haarmann and Reimer Corp. at Springfield NJ as chief flavor chemist (1975-80); Silesia Aromatics, Piscataway, NJ as Chief Flavor Chemist, Technical Director (1980-1982); and finally Florasynth since 1982, where I am now Vice President of Flavor R&D and chief Flavor Chemist.

I like the challenge of the industry, new technologies and raw materials that develop, and the ever-changing market segments both here and abroad. And the people that I work with. They all contribute to the reasons that motivate me and keep my work exciting and enjoyable.

My advice to the younger folks just starting in the industry is not to be afraid or hesitant to "pay your dues". Make the effort to learn the basics. Taste. Smell. Remember whatever you come in contact with, because you never know when you will need that note or nuance, where it came from or what produced it. Be inquisitive, honest and sincere and open-minded!
TJU

Albert Venutolo

Deceased

President, SFC 1974-1975

Al went to college at St. John's University, served in the US Army in the Pacific. His start in flavors was at S. B. Penick. Leaving there to work at Givaudan Flavors, he performed his work in a thorough manner,

coming up with many hits. He was helpful to all in the lab, and started many young people along their way to being good flavorists. He left Givaudan to join Fries and Fries in their Elmsford, New York facility, and later joined Takasago. EJM

Manfred H. Vock, PhD

Emeritus Member, SFC

President, SFC 1973-74

Named the Distinguished Food Scientist by the New York Section of IFT May 1984.

My father was a pharmacist in Stuttgart Germany and he sold perfumes in his store at Christmas time. He had botanical extracts and essential oils on hand, and I was introduced to them at an early age. When we walked through the woods collecting plant specimens, I developed a keen interest in the odor of the flowers, fruits and other plants that we encountered.

I studied chemistry in college at The University of Frankfurt and Leipzig, continuing after the war to get my PhD at Stuttgart under Professor Brederek. My thesis work was on a method of preparing sucrose from fructose and dextrose. I don't know if anyone has ever been able to do that yet.

After the war, Haarmann and Reimer selected me from about ninety applicants to be trained as a flavorist. I worked under Dr. Schmidt. At the end of two years, I wanted to continue in the field of flavors, but wished to change companies. I could not do that in most European countries because of a contract restriction, but I was able to work for Adrian and Klein, one of the largest flavor houses in Spain, for three years. I subsequently worked for five years for Anton Chiris in France and for Haarmann and Reimer again, but in the USA. Finally, I worked for IFF until I retired in 1992.

IFF spends a lot of money on research in the aroma and flavor area looking for unique, safe and suitable chemical ingredients for flavors and perfumes. They have decided to protect that investment with patents. A large part of my job was to evaluate the taste and aroma of the many chemicals obtained or developed in the chemical research activities at IFF. I have tested more than 10, 000 chemicals during my career, describing their odor and taste in dilution, and giving my comments on their possible applications. These efforts were in part responsible for 120 patents assigned to IFF, and for many previously undiscovered ingredients being added to the list of ingredients for use in flavors.

Being a flavorist is challenging and rewarding. A flavorist must know his raw materials. Since he is working with chemicals, he must know of the possible interactions of the chemicals in flavors, and in the foods to which they are added. He must taste and smell the ingredients traditionally used in flavors at appropriate levels, and those newly discovered ingredients. His senses of smell and taste must be developed and he must put his descriptions of those tastes and odors into a common language. In this way, he is building up an inventory of ingredients for making future flavors closer to nature.

The flavor field is fantastic! Every day a flavorist is learning new flavor ingredients. With all of this knowledge combined, he is able to create ever more natural flavors. FV to EJM 6/94

Horst K. Walter

Emeritus Member, SFC

John Wenneis, PhD

Deceased

Honorary Member, SFC

Jack Wenneis worked for Monsanto Chemical Co., had his own company for a while which was bought out by Herman Kohl of Norda, and worked for Norda for the rest of his career.

Monsanto was one of the first US chemical companies to experiment with the manufacture of aroma chemicals. They had brought Gaston DuBois, a Swiss chemist to lead the group. He remained there many years, made the first vanillin produced in the US (from clove oil), and produced methyl salicylate, coumarin, methyl anthranilate and other aromatics. (Dorland & Rogers p 146-7)

Dr. Max Luthi also worked at Monsanto in the early days - before WWI. He ended up as research manager at Givaudan in Clifton NJ. Jack became director of research for Norda. Monsanto flourished during World War I making chemicals needed for the US war effort which were previously imported from Germany. Both Wenneis and Luthi have told of the hard times that followed the end of the war when they were asked to take a part of their salary in promissory notes convertible into stock when the company could again become profitable. Had any of those chemists held on to all of those notes and stock for a few decades, they would have been very, very wealthy.

Barney Kipperman, now 77, was a chemist who worked with Jack Wenneis since Dr. Kohl bought a small New Haven Connecticut Chemical factory (Harris Chemical) where Barney was a chemist. Jack also developed flavors for Norda in the early days. Barney says that Jack would always put his eyeglasses on whenever he smelled or tasted a flavor!

Jack was one of the first in the US to synthesize diacetyl. He was also one of the first to produce hydroxycitronellol on a plant scale.

Jack Wenneis selected the property for Kohl to build a factory in Boonton, NJ. The land was priced at \$15,000. It was estimated that a smokestack in the existing building (formerly a furniture factory) was still useful, and was worth at least \$50,000.

One of the first flavor items prepared at the Boonton plant was benzaldehyde, followed by the successful synthesis of racemic menthol. During World War II, the plant produced dimethyl phthalate to be used as an insect repellent. (This may have been the active ingredient in "Scat" by Avon.

Both Barney and Al Saldarini agree that Jack Wenneis was one of the most astute and ethical chemists in the country. Both of us consider him our mentor. AS.

Fred Wesley

Emeritus Member, SFC

Fred was a graduate pharmacist who worked first as a compounder for Fritzsche Brothers before World War II. He served in the armed forces and returned in good health to his job at Fritzsche. In the 50, he was transferred to the flavor labs, first with Dr. Rossig. Among other types of flavors, Fred had many successes with flavors for pharmaceuticals. He developed a system for the development and application of such flavors. He was a good speaker and writer in addition to being a good flavorist. He spoke, wrote and taught about flavors. His publications included company bulletins, pharmaceutical journals and trade journals included his tracking of the types of flavors used in new official remedies, syrups, elixirs etc.

Fred lived in Manhattan and learned that at least through the 1950's it was cheaper to pay occasional parking ticket fines than to rent high priced parking space in a commercial lot. And it was probably just as safe.

To keep in good physical shape Fred walked up and down the 12 or 13 flights of stairs of the Port Authority building that housed Fritzsche's offices, labs and compounding facilities. Ironically, when he had a stroke in the mid-70's he was strong enough to survive it, but much damage had been done. He lost his mobility and his power of speech. He was severely disable and did not return to work. EJM

David Wilkes

Emeritus Member, SFC

See the story of Globe Extracts in the "Companies" section of this book (Borthwicks), for Dave's close involvement with the flavor industry.

While attending the Johns Hopkins University as a chemistry major, I took a summer job at Naarden-Flavorex in South Baltimore during the summer of 1970. The old flavor extract company had just been acquired by Naarden a few years earlier. The current name is now Quest International. At Naarden, I was introduced to this new and fascinating world of flavor chemistry, which I had never heard of before. My first job was working with powdered milk and trying to mask the casein note with a spray dried flavor. I was unsuccessful but also undaunted. My mentor at the time was Primo Bader - still with Quest - who, being of Swiss/Italian extraction was a tough taskmaster and required a thorough examination of my notebook each night before I went home. In addition he cross examined me on every entry in that notebook and made me explain all my math and asked me why I did everything that I did.

So after being shell shocked with this scrupulous attention to detail I settled in as a summer lab technician absorbing as much flavor chemistry as I could. Primo was an excellent teacher and became a good friend. Among other notables at Naarden at that time were Barbara Taylor, Alfred Goossens, (fresh from a stint at Naarden South Africa where he had set up and monitored their new instrument called a GC), Jan Buchel, Bill Spangenberg, and Jack Rothenhafer Throughout the summer I learned and absorbed. I quickly developed my own flavor opinion of things and had the good fortune to work on the evaluation of spray dried citrus flavors to determine their suitability for sale. While most were acceptable as I made numerous dilutions in gelatin dessert for evaluation, I also noted what an oxidized citrus terpene note was and that was indelibly seared in my taste memory.

The summer before I was graduated, my father noticed an ad in the Baltimore Sun for a flavor chemist at McCormick & Co., Inc. That was too good to be true! I answered the ad and found that this was to be a full time job, not just a summer position. Well, one thing led to another and I ended up interviewing for the position by reporting to someone named Earl Merwin. Earl was initially impressed with my job experience at Naarden and hired me for the summer working in the seasoning lab with Ed Vining. Since I wasn't graduating until January, I couldn't accept a full time position at that time. Again, it was a fact filled learning experience type summer, and I once again met many new people and made many friends, not the least of which were Earl and Ed.

After graduation, I reapplied, and Earl, in a weak moment, and against his better judgment, hired me anyhow. Among notables I met at McCormick were Jim Etheridge, who showed me the ropes and taught me a lot of practical flavor chemistry; Carole Pollock, an ex IFF'er who had a Naarden experience in common with me; John Long, who taught me about quality control and who is now at Universal Flavors; Ed Albaugh, the honors Drexel co-op graduate who took Earl's position after he retired; Denny McCafferty*; Dennis Kucharczyk, of PFW fame, recently of Ungerer; Bob Peterson*, current principal flavorist at H&R, and Joan Gessler, another Naardenite whom I had the pleasure to train and is now one of the most successful and talented natural flavorists at McCormick-Wild. (*Past presidents of SFC).

After working several years with my mentor Earl, I started attending Society of Flavor chemist meetings, where Earl introduced me to the elder statesmen of the industry from Tom Bonica and Jim Broderick to Al Saldarini and Al Venutolo, and many alphabetically in between. On February 6, 1975, I too became a member of this prestigious group by being accepted into the Society of Flavorists, and always looked up to Earl and proud to follow in his footsteps. After attending several SFC sponsored symposia, one of Earl's CPA short courses, and in-house formal training, as well as the day-to-day flavor work and GRAS chemical evaluations, I began to develop my own style of flavor work.

Primarily, I took a chemist's approach using the literature wherever possible and weaving into it creative suggestions by Earl. This worked very well and I soon started specializing in artificial, unusual, and hard to make flavors. After fifteen years at McCormick and going through SFC jobs of Newsletter chairman, Treasurer, V. P., President, and Chairman of the Board, I received an offer that I couldn't refuse. That was to become the flavorist who would start up a flavor effort from scratch at Hershey Foods Corporation.

This move required again a specialization into the confectionery field. That was OK but it took longer than I thought to build a flavor operation within the R&D arm of a major food company. At first, there were no chemicals, organization, or trained personnel. All that took time and patience is its own reward. Finally, it took shape.

The perspective of working for a branded company breaks down along two lines-Advantages and Disadvantages. There is an advantage over a flavor house in that you see a wide variety of other flavor companies' quality, specialties and expertise, in addition to their sales force. A lot of this perspective within a given flavor house is perverse, reverse and at least biased toward your own company. For example, some companies of which you thought highly as a competitor aren't really that great in reality. Some companies which weren't your favorite or toward which you had negative feelings are actually quite good. The bottom line here is that a company is only as good as the flavor chemists doing the work. At Hershey, all flavor companies are given an equal opportunity to make flavor submissions. A disadvantage of working for a confectionery company is that you don't see a wide variety of applications e.g. ice cream, soup or savory flavors.

Another aspect of working at a food company was the initial skepticism by flavor salesmen that we really wanted a flavor submission, since I was here and could provide any flavor Hershey wanted. Anyone in the branded foods area will tell you that you would have to be superhuman to do that, and I'm not. As a matter of fact, Hershey's requirement of *external* flavors has grown exponentially since I've been here. In that sense, the internal flavor group at a food company acts as flavor consultant on flavor problems rather than a significant flavor provider. You even get to work with other flavor chemists at their facilities to solve flavor problems.

Finally, food companies are very, very exacting with respect to their flavor requirements. That is, they are all competing for an ever-decreasing amount of shelf space at the grocery store and they have to have absolutely the best-flavored product in their category. Nothing less will do. So, when an excellent flavor is developed at a flavor house and isn't bought by the customer, don't feel bad. It's up against very stiff competition and sometimes the company will abandon the product rather than face a poor product withdraw at a later date, which is very expensive.

As far as advice to young flavorists starting out, I leave the following. Stay close to the bench (that one I stole from Frank Fischetti). Taste as many flavor chemicals as you possibly can. If you are a good flavor chemist, resist the temptation to get into "management". Use the current published literature. And a corollary - Read your reference books. Work for a good mentor. Actively seek advice and flavor opinions from your mentor. Formulate your own opinions and style of working. Specialize in an area if possible, but only after obtaining a broad range of flavor training and experience. Get other flavor chemists to critique your flavor work while in progress. It's humbling, but you'll learn a lot and grow from the experience both emotionally and intellectually. And finally, attend as many seminars, symposia, IFT, ACS, and other flavor and technical meetings as possible. Good luck on your creative flavor career!
KZ

E. THE COMPANIES

Manufacturers of Flavors, Ingredient Suppliers, and Other Related Businesses, including those Members in CSA as listed in the 1995 membership list.

ADRON, Inc.

Formed in 1991 by Robert Amaducci, who was related to Dr. Kohl, and had acquired some of the assets of the former Norda organization after Quest - Unilever had purchased Norda.

ALDRICH Flavors & Fragrances **Member** **Chemical Sources Association**

ALFREBRO, Inc. **Member** **Chemical Sources Association**

ALLURED PUBLISHING CO. **Publisher** **The Perfumer & Flavorist**

Every industry relies on the publishing industry to provide a forum for keeping its customers apprised of the state of its art via advertising, knowing the availability of its basic raw materials and pending regulatory restraints, and for keeping up with the development of people and companies within the industry. The flavor industry is no different. In a small rather secretive industry, this did not involve many publications. We have been lucky to have good trade and technical journals.

One of the earliest trade journals published in the United States was "The American Perfumer", the precursor of **Perfumer & Flavorist**. It was started in 1906 as a "house magazine" of Ungerer & Company which was founded in 1893 by the Ungerer family. This very progressive company conceived the idea of a regular publication of news of the industry as an important service to their customers. The title "The American Perfumer" tells the aim and emphasis of this publication. At the time, the industry was dominated by French companies for natural materials and perfumery, and German companies for aroma chemicals. The interests of Ungerer and the other importers, traders and dealers was to promote American perfumery in competition with European imports. The position of editor and writer was given to a young office clerk named Louis Spencer Levy who gathered the news from the salesmen of Ungerer located on Pearl Street, and such companies as Antoin Chiris on Platt Street, Innis Speiden on Cliff Street, George Leuders on Pearl Street, P. R. Dreyer on Cedar Street, Fritzsche Brothers on Beekman Street, all located near the piers of lower New York City, as was the whole industry.

Ungerer found a very creative way of financing their publication by selling advertising to the European companies that they represented on the American market. The initial subscription price was \$2.00 a year.

Before the first year was over, Ungerer and Company felt that the magazine had grown too large for the company and some arrangement was made to turn the ownership of the magazine to Lou Levy, who gradually built this magazine into the dominant publication in this field over the next thirty years.

In 1935, Mr. Levy sold the magazine to Moore Publishing Company which published several business magazines. Howard Moore was the initial manager until his son, James Moore, took over in the 1950's. During those twenty-five years, the industry changed dramatically with a gradual separation of the cosmetic industry from the perfume industry, and further, a division of the development of specialized fragrance suppliers from the soap and cosmetic industry. In 1960, the magazine was still called "The American Perfumer and Aromatics". It was during this time that special flavor articles began to appear. Of course, the first year's issue carried news of the Flavor and Extract Manufacturing Association, and much of the news and technical information on essential oils was equally interesting to the flavor, as well

as the perfumery industry. Articles by Ernest Guenther and on such subjects as "Tobacco Flavors", "Glycerin in Flavors", and "Solvents" appeared in 1941.

In the next few years, it became clear that the tradition of mixing a few oils and extracts by perfumers in the cosmetics and soap industries, and flavorists in the food and beverage industry could no longer keep up with the specialists. That development began in the essential oil houses. The development of powerful aroma chemicals required far more study and experience than in-house perfumers and flavorists could develop. The result of these developments meant that it was time to divide the magazine so that the two industries could be properly served by a specialized publication. In March 1960, Allured Publishing bought "The American Perfumer". In 1974, **Perfumer & Flavorist** appeared as a specialized publication dealing with essential oils, extracts, and aroma chemicals with specialized uses in manufacturing flavors and fragrances. At the same time, **Cosmetics & Toiletries** became a separate publication concentrating on the technology of cosmetic raw materials and the process of formulating and evaluating personal care products,

Perfumer & Flavorist has continued to develop as the only specialized business magazine for the flavor and fragrance industry. More than 60% of the magazine's subscriptions today are outside of the United States and it is truly a worldwide publication.

As an adjunct to the **Perfumer & Flavorist**, Allured Publishing started the **Journal of Essential Oil Research** in 1989 to provide a specialized place for the publication of research studies on essential oils and related flavor and fragrance products.

For the 90-year history of this magazine, there have been only three publishers. The longest serving is now Stanley Allured, who has directed this magazine for more than 34 years. S. E. Allured

AROMA & FLAVOR SPECIALTIES INC. Member Chemical Sources Association

AFS was founded in 1989 by Yunus Shaikh in Danbury, Connecticut, its president. He worked for fifteen years previous to that in the flavor and fragrance industry. The company specializes in offering a line of specialty FEMA GRAS Aroma Chemicals, including Alkenals, Alkadienals, Cis and Trans compounds and heterocyclics. AFS is one of the leading suppliers of natural nootkatone worldwide.

In 1993, AFS formed a joint venture with International Frutarom to develop and manufacture flavor and fragrance specialty chemicals in Israel. The work will be done under the direction of AFS, Inc. The products are to be marketed in the USA by AFS, Inc. In the rest of the world, they will be sold by Frutarom, Ltd. and its subsidiaries. In 1996, AFS was purchased by Frutarom. Dr. Shaikh was retained as Executive vice president, Technical.

BASIC FOOD FLAVORS

Basic Food Flavors, Inc. business began in 1979 with the building of an HVP plant in Pomona, California. The owners, Don Staley, Kami Patel and William Robertson incorporated the company in California and began producing liquid soy products, serving California and a few other densely populated areas. They expanded their line into a line of dry products, generating enough capital to invest in decolorizing equipment to produce light products for chicken and seafood type flavors.

In 1989, they relocated to larger production facilities in North Las Vegas, Nevada. They now serve North America, Europe, Australia, and the Pacific Rim. RJK

BASKIN-ROBBINS NAT'L LAB Member Chemical Sources Association

BECK FLAVORS**Member****Chemical Sources Association**

Beck Flavors was founded in 1914 by Jacob Beck as Beck Vanilla Products Company. Today it is a third generation, family run business. Over the years, the company expanded its flavor technology capabilities significantly, and in 1986 was renamed Beck Flavors, to reflect this expanded focus. The company is based in St. Louis, Missouri and also operates a West Coast sales office and warehouse.

Today Beck Flavors' focus is to supply high-quality vanilla and flavor systems for sweet goods, with particular capabilities and experience in flavors for dairy, coffee, bakery, confections and beverage systems. For each of these areas Beck Flavors provides its customers full applications support, from product concept to commercialization, and is fully equipped to profile, develop and test both liquid and powdered flavor systems.

Beck Flavors' vanilla product line includes natural extracts, vanilla-vanillin and artificial vanilla flavors. Beck sources various types of vanilla beans from around the world in order to meet its customers need for high quality, consistent and unique vanilla products. Using its proprietary extraction process, Beck Flavors manufactures and markets natural extracts, single fold to 25 fold, in both powdered and liquid form. Heat stable vanillas are also available to meet the special needs of products subjected to heat during processing.

The company's flavor product line includes over 1000 different items, including natural and artificial flavors. Fruit flavor technology and flavor technology for the flavored coffee segment are among the company's strengths. In addition, the company offers sherbet concentrates, ice pop flavors, flavors for flavored milk and background ice cream flavors for the dairy industry.

As a full line flavor supplier, Beck Flavors provides applications support to its customers, employs flavor chemists focused on developing new technology and has full sensory evaluation capabilities. Its St. Louis laboratories are equipped with complete instrumentation and are staffed by certified flavorists and application specialists.

Beck Flavors is a growth company, focused on providing high quality, cost competitive flavor technologies to its customers while maintaining the highest standards in customer service. Its long-term growth strategies are centered on increasing its service and penetration in market segments where they can offer unique value, technology and expertise. CP

BEDOUKIAN RESEARCH, INC.**Member****Chemical Sources Association****BELL FLAVOR & FRAGRANCES****Member****Chemical Sources Association**

International Headquarters: Northbrook, IL. European Headquarters: Miltitz, Germany.

The company was founded in 1912 as the Wm. Bell Co. by Wm. Bell and produced flavors for the dairy, bakery and confectionery industries around the Midwestern states.

Wm. Bell Co. was purchased by Ed Heinz Jr and was joined by his three sons, Edward, Raymond, and James, and a family friend Charles Rogers. The name of the firm was changed to Bell Flavors and Fragrances, Inc. in 1977.

Over the years, Bell has grown and made acquisitions of a number of flavor, fragrance and aroma chemical companies.

- 1978 Maumee Flavors & Fragrances (Division of Sherwin Williams) Developed by Dr. Paul Bedoukian.
- 1979 Roubechez

- 1981 Stepan Flavors (Division of Stepan Chemical). In 1958, Fred Trieste separated from Fries and Bro., New Jersey, with the tobacco business. Fred and the business went to Stephan Chemical, and eventually to Stephan Flavors.
- 1981 Fries & Bros.
- 1982 General Aromatic Products, Inc, Northbrook, IL. This company was formed as a perfume manufacturer in about 1961 by Murray Hartstien. They expanded into flavors with the arrival of Ira Litman in 1966. The flavor division was spun off to become a part of Stepan Flavors.
- 1983 Synfleur. Founded by Alois von Isakovics, a young Austrian Chemist as Synfleur Scientific Laboratories in 1889. Run by the family: his wife, who was a chemist who was graduated from Cooper Union, their son, and later, their son in law, Luis de Hoyos. The company was sold to Nestle in 1975, and acquired by Bell in 1983.
- 1984 Aroma Labs, Inc.
- 1985 Ritter International, CA. (Alexander Katz)
- 1993 F&C Tobacco Flavors
- 1993 Miltitz Duft und Aroma, Miltitz, Germany Purchased by Bell, renamed Flavors & Fragrances Duft und Aroma GmbH. It is located at Schimmel Strasse 1, Miltitz, Germany 04205. It was founded in 1829 as Schimmel & Co by Herman Fritzsche. It is now Bell's European headquarters and production facility for flavors, fragrances and aroma chemicals.
- 1993 Bell Flavors & Fragrances Ltd. was founded to serve the growing Bell Market in the United Kingdom. It is located at Eastney, Kingswear, Dartmouth, TQ6 OBS
- 1993 Bell Flavors & Fragrances International, Inc. was founded to service the growing market in the Far East. The plant is located at No. 1 Tung Yuen St., Tau Tong Bay, Kowloon, Hong Kong. It manufactures flavors and fragrances for the Pacific Rim countries.
- 1994 Purchased the PFW flavor plant located in Middletown, New York from Tastemaker

BELMAY FLAVORS AND FRAGRANCES

England

BERGHAUSEN CORPORATION

See Flavor Systems Corp.

BLUE PACIFIC FLAVORS AND FRAGRANCES, INC.

Santa Monica, CA

Formed in 1991 by Donald F. Wilkes to sell flavors etc. to the Pacific Rim market Joined in 1993 by Gerry and Eva Kraus of Kraus and Co., of Oak Park, Michigan, the company offers their flavor and aroma products in the USA as well.

BORTHWICKS FLAVORS, USA

Member

Chemical Sources Association

A UK Company that has included Barnett ingredients for carbonated beverages in the UK, Borthwicks in 1993 (headed by William Zick) & Foster, a leading supplier of flavor and in the US, combined as a division of Borthwicks Flavors USA. In October 1989 Barnett & Foster, International, the natural flavor subsidiary of Borthwicks Flavors, Ltd purchased Globe Extracts, Inc.

Globe was formed by David Wilkes in Brooklyn, NY in 1951. In 1954, he was joined by Carl Jensen. Sr. who acquired a one-third interest in the company. Carl had previously worked for Albert Verley & Co. and for Givaudan as head chemist.

The company grew very rapidly with Wilkes heading the management and sales and Jensen heading the laboratory.

At first, the company specialized in products for the dairy, ice cream and baking fields, but later spread out through the years into beverages, confectionery, wine, liquor, gelatin desserts and many other areas.

The company moved three times to larger facilities. The first twelve years Carl was a super flavor chemist and Globe was able to compete with most major flavor companies in the field.

Carl became sick with cancer of the bladder, after a partnership of fourteen years with Wilkes, and forced him to buy him out, because he thought he would die very soon.

Two years later Carl was still alive. Wilkes allowed him to form Jay Cee Labs for his son Carl Jr. Carl lived for another fifteen years with the cancer.

Wilkes acquired Eclipse Food Products of Warwick, RI, who had just built a new modern plant, and specialized in Coffee and Ice Cream flavors.

Dave, Carl, Eugene Sturman and another Seeley employee acquired Seeley & Co. in 1968 and sold it in 1972 to H. Kohnstamm & Co.

Eclipse, through the years, became a major producer of coffee extracts for the flavor industry, as well as for industrial use and consumers.

Globe built a new plant in 1965 in Farmingdale, LI, NY. Dom Bellevigna (formerly of MM&R) joined us as manager. The company continued to grow and expand. In 1970 we opened a complete manufacturing facility and laboratory in Los Angeles. The plant was managed by Dick Kitsuse, formerly chief chemist at Ritter & Co. A second plant was opened in Oakland California in 1980.

In 1968, Globe opened a plant in Lima Peru and later in Quito Ecuador to serve the South American market, under the name Sabores Globe del Peru with Rodman Rockefeller, son of Nelson, as partner. The two companies specialized in flavors and developed carmine color from Peru as well as annatto, bixin and other natural colors.

In 1979 Globe built a new large plant, headquarters, extensive laboratories in Hauppauge, LI. Globe grew rapidly because of the excellent technical staff that Wilkes hired through the 45 years he owned the company. Besides Jensen, the following flavorists worked for Globe for many years: Sol Reiss, Bob Maleeney, Harold Janovsky (manager), David Straus, Carmine Donnarumma, Paul Perry, Ray Thompson, David Frankel (previously chief flavorist at Felton), and, for eight years, Frank Fischetti.

In 1981, Wilkes sold two thirds of the company to Knudsen of Los Angeles CA. Wilkes became a limited partner in some operations.

In 1985, Knudsen acquired Foremost Dairies of CA and Wilkes sold his interest to Knudsen. Knudsen had a leveraged buyout and had to file for protection from his creditors in 1986. In 1987, Donald and David Wilkes, and Phil Rosner, purchased Globe back from Knudsen creditors.

A year later, Donald and David purchased Rosner's share and he left the company to take over Globe Aroma, the fragrance division. This was later merged with TFF by Rosner.

In 1989, Wilkes sold the Globe operation, with the exception of the two South American operations, to Barnett & Foster, Division of Borthwicks of London, who was looking to establish an American manufacturing base. David retired; son Donald stayed on for two years as CEO and then left, later to form his own company in Irwindale, CA.

BURNS PHILP FOOD CO.

San Francisco, CA

The parent company is based in Australia. They are one of the worlds largest producers of bakers yeast with 24 plants located in 14 countries. They are developing a strategy of focusing on the expansion of its food ingredients concerns. Having acquired Durkee Spices, they then acquired Karl Ostmann GmbH & Co. of Germany. Ostmann was founded in 1902 and had a leading position in the German retail spice market and exporting to many countries. This makes Bums number one in the German retail spice market and number 2 in the western world. (Indust. Food Ingrid. 1994, No. 1/2. p. 4.)

BUSH BOAKE ALLEN (BBA)

Member

Chemical Sources Association

W. J. Bush, at age 22, started trading perfumery raw materials in 1851 in London. He expanded to Australia, New Zealand and the USA by the end of the century, and later to Canada, South Africa and India. **A. Boake Roberts** (ABRAC Essential Oils) started in 1869 selling brewery materials, expanding to serve the soft drink manufacturers in 1890 with essences and flavors. In 1919, they expanded to produce perfumery isolates and synthetics. Early in the 19th century, William Allen wanted to produce pure drugs and galenicals. He discussed it with a nephew (Stafford) who formed a company in London to supply them to the pharmaceuticals trade in 1833, (Stafford Allen). They grew herbs, distilled Essential Oils, and extracted botanicals, and prepared chemicals for perfumes, foods and pharmaceuticals. (PEOR Golden Jubilee Summer 1959 pp 1, 9, &15.)

These three companies (all of the United Kingdom) were combined in 1966 as Bush Boake Allen, Ltd. (BBA). BBA was taken over by Glidden, who later (1982) sold it to Union Camp, where it is their largest chemical operation. Well-established in flavors and fragrances wherever the British pound was used for commerce, they were slow to gain a foothold in the USA. They acquired the **Seeley Co.** in 1966, and the purchase of **Food Materials** in 1990 helped them to grow. Food Materials (FM) was founded in 1926 by R. C. Rooney, E. E. Feight, (Research), W. F. Leonard (sales), and J. K. Breen, all, of whom had prior associations in the flavor industry. FM grew to be a factor in supplying high quality, custom designed flavoring materials to companies in the food, dairy, confection, baking, beverage, pharmaceutical and snack industries. (D. Sail)

Bush Boake Allen bought **Monsanto Flavor Essence Co.** in. This company was originally The **George Leuders Company**, one of the early dealers in Essential oils and flavors located in downtown NYC.

In 1994, Union Camp offered stock in NY in the BBA unit, retaining a major share of the stock (NYSE symbol BOA), and relocated their headquarters to New Jersey. They were reported to have been one of the ten biggest flavor houses in the world with sales of \$336 million (The Dynamic World of BBA. Euro cosmetics 1-2 1995)

CALIFORNIA BRANDS FLAVORS, Inc. Member

Chemical Sources Association

California Brands Flavors is a custom flavor company in Oakland California formed by Chaim Gur-Arieh, PhD. Dr. Gur-Arieh heads the professional staff. Fred Farago is president of the company. Fred was also president of **Mutual Flavors**, also in Oakland, CA. CBF specializes in supplying flavors and assistance in new product development for a variety of products: beverages, confections, baked goods, dairy products in a wide range of flavors.

CBF is allied with **American Fruit Processors** in Pacoima, California. AFP was created by its president Fred Farago in 1972. APF may be successor to the fruit processing company begun by Bob Army at the close of **WWII**. They offer fruit juice concentrates from individual fruits and mixtures of two or more, with or without other fruit juices (WOFJ) or other natural flavors (WONF).

In 1986, AFP developed a line of concentrates processed to be low in acids and color, but high in natural sugars. They are known as R-FAC: Natural Fruit Sweeteners. (Reduced Flavor, Acid and Color)

CARMI FLAVORS

Commerce, CA

Founded in 1980 by Frank Carmi who had been in the flavor industry on the East Coast with American Flavors & Fragrances. He had been a flavor consultant. It was started in 1980. The company is in Commerce, California and Frank has been joined by his son Elliott.

CITRUS & ALLIED ESSENCES, LTD. Member

Chemical Sources Association

Citrus & Allied Essential Oil Co. was founded in 1933 by Charles Pisano. A chemical engineer by profession, he began working in the industry in 1922 after graduating from Pratt Institute.

Citrus and Allied began importing citrus such as lemon oil, mandarin oil, bergamot oil, and orange oil from Italy and Spain, and offering them for sale in the United States. In those days before frozen concentrated orange juice, the world's citrus industry was primarily in the Mediterranean. At that time, one would travel by passenger liner with business trips to Europe lasting four to six weeks. By the late 1930's, Citrus & Allied had established itself as a well-known source for concentrated and rectified essential oils of various origins. In 1939, the company founded a distillery in the Dominican Republic to produce Lime Oil and Bitter Orange Oil

The business was run conservatively and grew steadily. In 1952, Charles established a factory in Cuba to manufacture Lime Oil. By then the company had begun to specialize in other oils of West Indian origin. The trading and processing of Mint Oils followed in the 50's.

In 1956, Richard Pisano joined the company. His business degree from the Wharton School gave the company expertise and direction. He established a worldwide network of representatives to sell the company's products. Richard also became active in the important industry associations in the United States including the EOA (later FMA), RIFM, FEMA, and IFEAT.

By the mid 1960, the company began to trade in aroma chemicals, especially small volume unique chemicals of particular help in flavor formulations. In 1969, the founder passed away. A year later, William Fankhauser joined the company marketing team. Fast growth and reinvestment in plant and equipment characterized the 1970's. New products were launched regularly. By then the flavor industry was as important as the once dominant fragrance industry, so the company's focus on citrus, mint and spice oils helped to sustain its growth.

In the 1980's, the company saw the infusion of another generation of Pisanos, as Richard Jr., Christopher, and Stephen joined the company. In 1989, the company purchased seven acres in Belcamp, Maryland and built a factory. This factory has the capacity to produce over six million pounds of processed essential oils and aroma chemicals, and can be expanded easily.

As with any third generation family business, the names change but many of the attributes of the business remain the same. At Citrus & Allied, the company's basic mission has remained unchanged, and that is to specialize in high quality raw materials, and to supply those materials to every market in the world. R. P. Jr.

COMAX MANUFACTURING CORP. Member

Chemical Sources Association

Formed in 1976 by Peter J. Calabretta, PhD, and Frank S. Keppel, PhD to manufacture aromatic chemicals. They located in Glendale, LI, NY. Both had been at Felton Chemical Co. In 1977, they expanded into flavors, and took on new partners from Italy which gave them a sales branch in that country. In 1984, they moved a few miles away to Mineola, NY, and in May 1995, they moved to larger quarters in Melville, NY.

The company is divided into Comax Aromatics, producing natural and synthetic chemicals, and Comax Manufacturing Company, producing flavors and extracts. DS

CONSUMERS FLAVORING EXTRACT COMPANY, INC.

Consumers started in New Jersey late in the nineteenth century. It was then established in the State of New York in 1902. From the beginning, the company enjoyed success as a purveyor of seasonal novelties, essential oils, and flavoring materials to the food industry.

At the turn of the century, Consumers advertised its products in the prestigious periodicals of the time. The company remained at its 1902 location until 1950 when Kings College of Columbia University exercised its right to the land under Consumers. This location eventually became known as Tribeca (adjacent to the World Trade Center). Contemporaneously with this occurrence, it became necessary for Consumers to enlarge its facilities because of the growth of its sales to the food industry in the United States during the 1950's and 60's. For a short while, Consumers maintained a temporary location in Brooklyn, New York so that it could properly plan for its own facilities, which would take a few years to realize.

During the 1960's and 70's Consumers, which was already well known nationally and in Canada, further expanded its business internationally. During the next thirty-year period, Consumers achieved strong and steady growth, as it continues to do to this day. The company will be celebrating its 93rd year of progress during 1995. Consumers thanks all of its employees, clients and friends in the food and flavor industry without which such success would be impossible.

CROMPTON AND KNOWLES CORP, Member Chemical Sources Association INGREDIENTS TECH. DIV.

This company dates back to the Crompton and Knowles Loom Works formed in 1900. They entered the industry with the purchase of the Flavor and Fragrance business of Gentry Inc. in 1975. Its related businesses are included in their Specialty Chemicals division, which includes flavors, colors, sweeteners and fragrances.

They purchased **Gentry**, CA and NY in seasonings and savory flavorings. They purchased **Magnus, Mabee and Reynard**, an early dealer in essential oils and flavors who were located in lower NYC. They purchased the flavor business only of **American Flavors and Fragrances**, (AFF) LI, NY.

They also purchased the Flavor & Fragrance Division of **Ingredient Technology Corp** (ITC) in 1982. ITC had been the successor to a business founded in 1869 in New York known as American Molasses Co. of NY, changed to American Molasses Company in 1939, to Sucrest Corporation in 1961, and to ITC in 1977. In that year, they sold most of their refining of raw sugar and molasses and began acquiring spice, seasoning, flavor, and fragrance businesses. (From 10K report)

ITC had purchased **American Food Labs, Inc.** (AFL) of Brooklyn NY, and Los Angeles CA in April 1979; AFL specialized in flavors, fruits and stabilizers, serving the dairy & ice cream industries and was founded in 1916 by Joseph Glaubman. His son, Milton was a lawyer educated at Syracuse, NYU and St. John's Law School. Milton joined the firm in 1937, and became president in 1954. Milton's sister Gladys was also active in the company, being involved in the establishment of a west coast sales office and warehouses, and manufacturing operations in California.

Willis S Steinitz joined the firm in 1938. Willis was initiated into flavors by Carl Jensen during the next two years. Willis became technical director, vice president and president of the firm. He was active on the board of FEMA in the era of the development of ice cream and vanilla Standards of Identity. He was also a president of NAFFS.

In April 1979, ITC purchased Davis Flavors, Inc. of Clifton, New Jersey, who dealt in flavors and other ingredients for Baked Goods.

In June 1979, ITC purchased Neumann Buslee and Wolfe, Inc., a Chicago flavors, color, and fragrance house strong in the Midwest. In 1986, they bought Gama Foods, fruit juice processor. Its five divisions were Ingredients, Flavor and Fragrance, Spice & Seasoning, Gama Foods Division, and Specialty Products Division (malt, honey, etc)

in the title of the company. It was initially run by Jon P. Fries (4th generation), and Andrew Bloom (3rd generation), with their respective fathers looking on.

Cino Chemical Products Co. was founded in Cincinnati in 1924 when Ralph Bloom left Fries and Fries to strike out on his own. He provided flavors for soft drinks, bakery and confectionery. Son, Frank took over, and Frank's son Ralph also joined the company.

By mid 1991, F&C was promoting its products internationally in multicolor ads, etc. Jon Fries was Chairman and chief executive officer. F&C bought Felton's US flavor business and the Felton Worldwide Fragrance business in 1990. This was reported to have doubled F&C's annual sales.

There were four divisions: Flavor, Fragrance, Ingredients, and International. They claimed "locations" in Ohio*, New York*, California, Canada, France*, Hong Kong*, the UK, Australia, Dominican Republic and the Philippines. New Cincinnati administrative and new manufacturing facilities (200, 000 sq ft) were prepared.

In 1993, the tobacco flavor business of F&C Int'l was purchased by Bell Flavors and Fragrance, and the Fragrance Division of F&C Int'l, part of which was only recently acquired by F & C from Felton International, was purchased by Technology Flavors and Fragrances Inc. (TFF), of Amityville NY, Philip Rosner President. The Far East business of F & C International was purchased by Borthwicks of the UK.

At the end of 1993, the rest of the company was in Chapter 11. When this part of the company was purchased by Rudolf Wild, he announced that he intended to leave the F&C Wild Headquarters in Cincinnati.

(Promotional material from F&C received 9/12/91.)

*Includes manufacturing capabilities)

**FANTASY-BLANKE BAER /
UNIVERSAL FOODS**

Member

Chemical Sources Association

**FIRMENICH, S. A.,
Geneva, Switzerland**

Member

Chemical Sources Association

The largest independent Flavor and Fragrance company with worldwide presence. Founded as a partnership between chemist, Phillippe Chuit, and businessman, Martin Naef, in Geneva in 1895. Joined by Fred Firmenich, fluent in French, German and English (and able to get along in Spanish and Italian), related by marriage to Philippe, in 1900, and was soon running the sales department. Before 1920, the company was selling nearly fifty chemicals which they could manufacture. Chuit did purchase chemicals from others in line with his admonition that "Do not attempt things that other people can do as well as we can". There were 50 people working for the company in 1920: four chemists, thirty-five male and female production and maintenance workers, and eleven office employees. (From Chapter I "Chuit & Naef to Firmenich S. A. " by Roger Firmenich, Printed in Switzerland by Atar, 1990)

In 1921, chemist Leopold Ruzicka was engaged to collaborate with Firmenich. This resulted in the elucidation and synthesis of civettone and muscone. Perfumer Maurice Chevron's talents began working for the company, including advice to customers on the application of perfume bases. (Chapter II)

In 1934, the Firmenich family acquired the company outright and gave it its present name. In 1936, Firmenich USA was established in New York. They had been represented by Ungerer and Company for 40 years prior to that year.

Continued expansion in the 1930's in size and in new products was experienced as the result of research. Max Stoll was director of research. Trials were made in the areas of pharmaceuticals, sunscreen agents, and flavors, (with the discovery of Raspberry Ketone and the development of the Tetraromes [citrus]). (Chap. III)

Following the war, dermatological testing was continued and other toxicology capabilities were increased. Their labs tested 150 flavors.

The need to have production facilities in the US caused a series of discussions that could have involved a purchase of an existing plant or an alliance with existing Flavor & Fragrance Companies (*e.g.* van Ameringen) or organic chemical manufacturers (*e.g.* Hoffmann La Roche). Twenty five years after that search began, in 1985, they acquired Chem-Fleur aromatic chemical facilities in the US and Puerto Rico, (*ibid* Chapter IV)

Research continued. In the flavor area work was done on coffee in conjunction with General Foods, on strawberries resulting in the identification of Furanol (and eventual synthesis), and on other foods in cooperation with Dr. Buchi at MIT. (Chapter IV)

Since 1960, many new facilities have been established for management, research and production in Switzerland, New Jersey, and elsewhere around the world. In 1988, Firmenich acquired Intercit, in Florida for their citrus ingredient and flavor interests.

Prizes and distinctions conferred on Firmenich scientists and their collaborators include:

1 Nobel Prize Dr. L. Ruzicka 1939

7 Ernest Guenther Awards (ACS) 1951, 1953, 1955, 1958, 1961, 1966, and 1974

4 Ruzicka Prizes (The most promising young Swiss chemist of the year) 1957, 1967, 1988

4 Honorary doctorates conferred by Geneva University: 1968, 1982, 1988

9 Other distinctions and awards, including the Bill Littlejohn Memorial award (Chapter VII)

In 1991, they acquired the Industrial Foods Division of Borden, Inc., which had natural dairy flavors and ingredients, and had gathered the companies producing similar encapsulated flavors by extrusion, like MCP (Mutual Citrus Products). ("How Firmenich Makes It Irresistible", I. C. Cuthill Food Mktg & Technology June 1993 p. 52). In 1993, they acquired James Dalton Ltd, Harrogate (UK), a family owned flavor supplier of savory flavor systems for snack foods, soups, seasonings, frozen foods, meat products, and ready meals. (Int'l Food Ingredients #6, 1993 p. 7)

FLAVORCHEM CORPORATION **Member** **Chemical Sources Association**

FLAVOR CONSORTIUM, INC.

A cooperative effort of two well established Japanese companies that began exporting their products to the United States in 1981. The companies are Shiono Koryo Kaisha, Ltd, which was founded in Osaka in 1808, and Riken Bussan, Ltd. of Tokyo.

Located in Commerce, California, their research and development facilities have in-house application and design capabilities. They specialize in seafood flavors for surimi-based products, but also produce fruit and sweet flavors and savory flavors for many uses in fresh, frozen and microwavable applications.

FLAVOR DYNAMICS, INC. **Member** **Chemical Sources Association**

A flavor-manufacturing firm in Somerset NJ formed by Dolf DeRovira, its president and CEO in 1989. DeRovira was formerly owner of Flavor Innovations, general manager of Scientific Flavors (subsidiary of National Starch and Chemical), Flavorist at Flavor Resources division of Biddle Sawyer, and flavorist at Polak's Frutal Works.

FLAVOR & FRAGRANCE SPEC., INC. Member Chemical Sources Association

Founded in 1983 in Hawthorne, NJ by Robert Maleeny and Steve Vanata.

Purchased Palmer Laboratories of Baltimore, MD, a regional supplier of sweet flavors primarily for beverage and bakery in 1984; Flavorscents of Montvale, NJ in 1995. Palmer Laboratories was founded by Ed Palmer in 1957. Ed had worked for Flavorex, Blue Seal Extract, and the Felton Chemical Company. Ed retired, but his son Willy is one of the principals of FFS. The company has offices and laboratories in New Jersey. Manufacturing is in Baltimore.

FLAVOR INNOVATIONS, INC. Member Chemical Sources Association

Originated by Dolf DeRovira in 1985. He was joined by Charlene Brach, who is the current owner.

FLAVORS OF NORTH AMERICA

Formed in Northfield, Illinois in 1986 following the sale of Food Materials to Bush Boake Allen Inc. They are manufacturers who market their flavors from the mid-west. In April 1994, they moved to larger quarters in Carol Stream, IL.

FLAVOR SYSTEMS INTERNATIONAL, INC. FSI

In 1994, Flavor Systems International was formed in Cincinnati, Ohio from The Berghausen Corporation. At a Midwest joint meeting of CSA & SFC, this data was part of the presentations showing the extent of the flavor industry in Cincinnati. Berghausen had acquired General Flavors in 1979. General Flavors developed from General Flavoring and Extract Company which was formed in 1926 by Lou Greiser. Lou had had experience in making flavors for carbonated beverages. His sons Dick and Bob joined him. The company was sold to Berghausen Chemicals, manufacturers of caramel color. Graham Perry was hired to be their technical director in 1989. Bob³ was still with the company at age 78. Berghausen lost their stature in the caramel business with the advent of double strength caramel (in the 30's!). After that, they no longer burned the sugars themselves. They developed a few specialty extracts primarily for Eastman Kodak. These were Yucca, Quillalla and other saponin plants. These products were also used in the beverage industry as foaming agents. They have not yet been replaced in many of Kodak's products. Bell F&F has the major beverage foam product, Yucca foam, after having bought Alexander Katz's California flavor firm, Ritter. FSI specializes in developing custom flavors designed to perform in complex products.

FLAVURENCE CO, Commerce, CA

Founded in 1972 by Chuck Prichard who is no longer with the company. In 1980 Dick Kitsuse, Dennis Beck and Bill Rocamorra acquired it, and it is now in the business of developing and selling flavors and specialty products, including natural colors, and natural foaming agents, process flavors and spice extracts. Dennis Beck is the son of Norman Beck, originally of St. Louis.

FLORASYNTH, INC. Member Chemical Sources Association

In 1888, Florasynth was a family-run sales agency for a European supplier of flavors and fragrances. During World War I, when trade with Europe was disrupted, Florasynth started to manufacture its own flavors and fragrances. Florasynth was officially incorporated in New York City in 1916.

³ Added by EJM 9/13/

In 1935, Florasynth established flavor and fragrance production in Quebec, and a few years later in Mexico City, Mexico and Chicago Illinois. Throughout the 1950's Florasynth was mostly involved in the personal products end of the fragrance business. In the 1960's, they started to acquire new product lines and expand geographically.

This growth began with the acquisition of the Lyons Flavor Company in the United Kingdom and was followed by the purchase of Narva, a New York based fine fragrance house with an international reputation. In 1972, Florasynth purchased the French company Isnard Maubert.

Florasynth was the first flavor and fragrance company in the world to establish a manufacturing operation in the Peoples Republic of China. In 1981, Florasynth entered into a joint venture partnership with the Chinese government to form Shanghai Cosfra Ltd. As a majority owned Florasynth subsidiary, Shanghai Cosfra began manufacturing in 1982 and is the only foreign owned manufacturer in China that can produce a full line of custom made flavors and fragrances.

Also, in 1981, Florasynth acquired Lautier Aromatiques SA. First established in 1795, Lautier is one of the world's oldest flavor and fragrance houses. This acquisition included Lautier's manufacturing operations in Paris, Grasse, Japan, the US, Great Britain, Australia and Brazil.

In 1985, Florasynth acquired I. C. S. A. of Milan Italy; and Fabrique de Laire of France. In 1990, Florasynth entered a joint venture with Spain's Compania General de Esencias (CMA), and in 1991 assumed full ownership of CMA's fragrance compounding Division, and also began operations in Ecuador and Columbia.

In 1992, a 120, 000 square feet extension of the European creative center was started. The now completed complex houses flavor and fragrance R&D, quality assurance, commercial services and administrative services departments along with ultra-modern manufacturing operations. Florasynth has recently received ISO 9002 certification for Grasse.

In 1994, Florasynth entered into a joint venture to build a new world-class flavor and fragrance center in the southern city of Bangalore, India

With the aging of the owners of this privately owned company, the company was sold to Bayer, owners of Haarmann & Reimer, to be included in that group, but to be run independently.

FONTAROME CHEMICALS

Member

Chemical Sources Association

This French based company with a modern plant in St. Frances Wisconsin, near Milwaukee manufactures flavor and fragrance chemicals derived naturally and synthetically. They do business in twenty countries.

FOOD INGREDIENT SPECIALTIES, Inc.

Member

Chemical Sources Association

L J MINOR FOOD SERVICE DIVISION and FIDCO INDUSTRIAL DIVISION OF THE NESTLE COMPANY, recently combined under this new name, with headquarters in Solon, Ohio. The L. J. Minor Co. was formed by L. J. Minor, PhD, and professor of in the Food Science Department of Michigan State University. He was also a product developer at Hercules plant at Harbor Place, Michigan before he formed his own company. His products contained meat extracts and combinations of meat and HVP's for use in food service companies' sauces, gravies etc.

FOOTE AND JENKS Corp.

Member

Chemical Sources Association

Founded in 1884 in Jackson, Michigan by Pharmacists Charles E. Foote and Charles C. Jenks to manufacture lotions, perfumes and household extracts for their retail customers. In 1900, they eliminated the retail sales because dairy, candy and beverage manufacturers had discovered their products.

During World War I, they were able to continue their business in spite of the loss of their sources of raw materials from Germany. Similar problems in World War II were dealt with by developing flavor business making C Rations and armed forces beverage powdered beverage mixes taste better. Flavoring the host of new oral medicinals also presented opportunities for growth. They established a clinic in which they described the necessary steps to good flavors in medications.

Frostie Enterprises (a public corporation) acquired F&J in 1972, moving it to Camden, and running it as a division. In 1981, Mr. Robert Rapaport purchased F&J and the Twitchell Caramel Color Company, and consolidated all operations in Camden NJ in a one block long plant. Twitchell had been manufacturing caramel since 1869.

A recent Camden newspaper describes this small company (30 employees) as being devoted to providing customized service to manufacturers making soft drinks, cough syrups, gravy mixes and tobacco.

ALEX FRIES & BROS.

Member

Chemical Sources Association

Alex Fries & Bro Chemical works was founded 1854 to manufacture paraffin, ethers, acids etc from coal oil. Alexander Fries was born in Bavaria and educated in Germany. His partner was Dr. Alfred Springer. Descendants still live in the Cincinnati area.

The market for his products dried up due to the discovery of petroleum. In 1873, he began offering flavors, blenders and caramel color for use in whiskey, along with aromatics from coal oil. The company is now a part of Land O'Lakes, and is operated by Vic Levey. Before the sale to Land O'Lakes, Alfrebro Inc was set up to manufacture specialty chemicals not generally available to smaller flavor manufacturers for use in their own flavors, and for sale to others. David Moats provided the Organic Chemistry expertise. Pyrazines and sulfur compounds were among their products. Alfrebro was not a part of the sale to Land O'Lakes. Levey went with Alex Fries, but maintained a financial interest in Alfrebro.

The Kay Fries Company in New Jersey may have been derived from the original Alex Fries, but they do not appear to have been in the flavor or related business in the past 50 years.

Added by EJM 9/13/91

(Based on a discussion before the Society of Flavor Chemists at a mid-west meeting in 1988, By Frank Bloom of F & C, and Robert Koch, President of Food Materials.) With additions as they became available.

FRIES' COMPANIES

Fries Brothers (Dr. Harold and ?) were operating a small aromatics plant in Bloomfield, NJ with an office in downtown New York, for some time prior to 1914. In 1919, George G and Robert G Fries organized Fries and Fries in Cincinnati, Ohio (Incorporated 1920). (D&R)

In 1930, Kay-Fries Chemicals, Inc started operations, having obtained the right to use the Fries name, by buying F&F from a receiver. F&F had come on hard times during the depression. Later in 1930, the same brothers bought back the flavor and extract business and the perfume oil department from Kay Fries.

Another Fries - George (brother to Harold?) was in the manufacture of aroma chemicals. He and his partner, Harold Simons operated plants in Brooklyn, NY. Fries Brothers was purchased by Stepan Chemical Company (D&R) in the 60's, and is now a part of Bell Flavors and Fragrances. Fries and Fries went to Mallinkrodt, Division of Avon, and then to International Minerals, and finally to Tastemaker. Robert (Jr.) and Jon (of the next generation) Fries, were in business combined with the Cino Company in Cincinnati. They were enjoined from using the Fries name in the company title, which became "F&C International". Their stock was publicly owned.

INTERNATIONAL FRUTAROM CORP. Member Chemical Sources Association

The parent company was founded in 1933 by ex-PFW employees. Worked with Dr. Alexander Katz of F. Ritter and Co., California, which is now a part of Bell Flavors and Fragrances. Shlomo (Sol) Reiss and Dave Frankel are two Frutarome employees who entered the US Flavor force on leaving Frutarome.

Frutarom Ltd. is a wholly owned subsidiary of Electrochemica Industries (Frutarom) Ltd, which is in turn 60%, owned by ICC Industries Inc., a New York Corporation Frutarom has two subsidiaries: Frutarom USA, and Frutarom UK. They are producers of Aromatic Chemicals and specialties for the flavor and fragrance industries, and producers of flavors, fragrances and spices. They have been major producer of citrus oils and specialties, and some specialized aroma chemicals.

1993 Frutarom USA purchased Flavor Key, a New Jersey manufacturer. They established a flavor manufacturing facility in New York City.

1993 Purchased Meer Corp. Natural gums, Extracts oleoresins and other natural ingredients. Also in 1993 a Joint Venture was formed with Aroma and Flavor Specialties Inc. (AFS, Danbury, Conn., USA) to produce specialty products. In 1996, Frutarom purchased AFS, retaining Dr. Shaikh as Executive Vice President, Technical.

GILLETTE FOODS, INC. Member Chemical Sources Association

GSB Flavor Division, Kennesaw, GA

Formed by Eugene Buday in 1984. Gene spent many years working for flavor companies, several of them in the Atlanta area. He liked the area and remained there as a flavor consultant. This resulted in the formation of a new flavor company to manufacture and sell flavors for beverages, food products and tobacco products.

GIVAUDAN-ROURE CORP. Member Chemical Sources Association

A subsidiary of Roche Holding Ltd., Basel Switzerland. Formed in June 1991 by combining Givaudan, Fritzsche-D&O and Roure.

Givaudan SA Geneva already owned by Hoffmann La Roche producing and selling aroma chemicals, fragrances and flavors worldwide.

Givaudan was founded by brothers Leon and Xavier Givaudan in 1895 in Geneva Switzerland. At the start essential and flower oil producers "were not reluctant to denounce the advent of synthetics as a corrupting influence on the art of perfumery". (The Givaudan Index, 1st edition, 1949, p. 2). In the early years, they produced commercial quantities of ionones, musks, vanillin, phenethyl alcohol and many other aromatics.

They have been in operation in the US since 1924 when they acquired Burton T. Bush Inc. and a factory in the Delawanna section of Clifton, NJ. B. T. Bush had represented them in the US. Their chemical and fragrances had also been available for several years earlier thru George Leuders, Morana and others. Industrial odorants and related compounds were handled by Sindar Corporation.

Under the first President, Dr. Eric Kunz, Givaudan acquired the essential oil dealer George V. Gross Inc. They coined the slogan "Sell by Smell" around 1930. They developed a fungicide G-4, which was used widely by the US Army on much of its equipment, and the germicide G-1 1 (hexachlorophene that was unchallenged for years for its effectiveness, after having been approved in the first consumer brand of germicidal soap Dial. The company has always been Research oriented. (Dorland and Rogers).

Givaudan had purchased **Fritzsche, Dodge & Olcott**, of New York in 1990. FD&O was strongest in flavors, flavor ingredients and aromatic chemicals, but also produced fragrances. (Delaire)

Givaudan had also purchased Esrolko in the early 50's. They were an Italian manufacturer of general flavors. This company name survived as the European flavor arm, located in Dubendorf, Switzerland.

They also purchased Stewart Brothers, a Canadian flavor and extract manufacturer in 1968. Located in Montreal, Canada.

ROURE

Paris, France

Founded in 1820 to produce and sell natural raw materials. For several years, Roure was one of the leading companies in the creation of fine fragrances. They have been manufacturing and selling fragrances worldwide. In 1963, Roure and Givaudan were integrated in the Swiss pharmaceutical group of Roche.

FRITZSCHE D&O

Started as a partnership of the Fritzsche brothers Paul, Herman and Ernest, and Schimmel & Company of Leipzig, Germany to establish an essential oil business in the United States. The plant was in New Jersey, and the offices were in New York. World War I ended the relationship with their German source and they established other sources of essential oils They acquired **Dodge** and **Olcott** and ran the two companies independently until they merged them in 1969 (Dorland & Rogers p 181).

Fritzsche D&O had been purchased by the German pharmaceutical company BASF, who sold them to Swiss Hoffmann LaRoche to become a part of the Givaudan Roure Group.

GRIFFITH LABORATORIES Worldwide Member Chemical Sources Association

Formed in 1919, they make seasoning blends; flour based coatings; breadcrumbs; cures and marinades for the meat industry; gravy mixes; batters; breadings and biscuit mixes.

Dr. Lloyd Hall, Senior Technical Officer at Griffith in 1940, recognized the opportunity to add value to the seasonings for its predominantly meat industry client base, developed a commercial process for the production of HVP's for Griffith. Originally manufactured in Newark, NJ, in 1940 and sold under the trade name "Vegamine", production was relocated to Chicago in 1965 when the company opened a new headquarters and plant in Alsip, Illinois. Their Vegamine products are used internally and sold to others throughout the world. They are one of the larger HVP manufacturers in the World. RJK/RBH/RFH

HAARMANN & REIMER CORP.

Member

Chemical Sources Association

Haarmann & Reimer began in 1874 when Dr. Wilhelm Haarmann from the Weser Valley town of Holzminden, Germany first synthesized vanillin from coniferol, an alcohol naturally occurring in the sap of local pine trees. Dr. Haarmann studied organic chemistry and did his doctoral dissertation on vanillin synthesis under Professor Ferdinand Tiemann. Later Dr. Carl Reimer, in collaboration with Dr. Tiemann, synthesized vanillin using guaiacol as a starting material. Ironically, today H&R does not produce Synthetic vanillin.

The firm continued to produce synthetic flavors and fragrances. In 1954, Bayer AG acquired the company from the Haarmann family, but continued to maintain Holzminden, Germany as the main headquarters, principal R&D center, and a production location for flavors, fragrances and aroma chemicals.

Holzminden also maintains the international sales and marketing headquarters for flavors, fragrances and aroma chemicals.

In 1964, H&R established a USA entity, Haarmann & Reimer Corp., headquartered in Springfield, NJ. This entity has become the largest business organization outside of Germany.

Growth at H&R Corp. has come through internal development as well as acquisition. In 1978, a synthetic menthol and aroma esters plant was opened outside Charleston, SC, and in 1982, a flavors and fragrances production facility was constructed in Branchburg, NJ. The menthol facility has undergone many capacity and product diversification expansions; the flavor and fragrance facility has had three major expansions, most recently in 1994.

H&R acquired Felton Sunscreen business in 1990; also in 1990 H&R acquired the worldwide assets and fragrance business of Creations Aromatique; and in 1992 acquired the Fragrance Division of Hercules PFW.

H&R is represented in 97 countries and exports to more than 120 countries. In Germany, H&R also has an alcoholic beverage flavor and extract facility in Nordingen, and related subsidiaries Dunning and Krause in Braunschweig and a juice drink manufacturer, Frucade Essenzen in Rosenheim.

The Holzminden flavor and fragrance facilities have undergone expansion, last in 1990. In 1990, Bayer merged its acidulants business, operating through the Bayer subsidiary, Miles Laboratories, into Haarmann & Reimer. This brought the citric acid facilities in Elkhart, IN and Dayton, OH along with the malic and fumaric acids facilities in Duluth, MN into H&R Corp. In addition, the company's citric acid plants in Mexico, Columbia and Brazil became part of the H&R Group. In 1991, H&R acquired Sturge's United Kingdom citric acid facility.

G. T. B.

H. T. AROMATICS

Member

Chemical Sources Association

A division of Hartog Trading Co, which has been a supplier of imported fruits, fruit juices, concentrates since the end of World War II. H. T. Aromatics was formed in 1991 by Jack Hartog and Jan Buchel on the tatter's retirement from Pepsico. They specialize in the location and sale of flavorful distillates and essential oil fractions naturally produced from natural raw materials. Located in New York City.

HAGELN & Company, Inc.

Member

Chemical Sources Association

From the founding of the company by Roy W. Hagelin in 1967, the philosophy that has guided the company has been expressed by the statement "Our success as a company is completely dependent upon the success of our customers' products."

Based in Branchburg, New Jersey, Hagelin is a worldwide organization with customers throughout North and South America, Asia and Europe.

The company develops and offers Flavors and fragrances. A Flavor Division supplies flavors for beverages, bakery products, confections and dairy products, health care, hygiene and dental products. Flavors have been developed for products that will be aseptically packaged and those that are to be microwaved.

HALDIN International Corp.

Member

Chemical Sources Association

T. HASEGAWA Co. Ltd.**Member****Chemical Sources Association**

Manufacturer and seller of fragrances and flavor compounds, aromatic chemicals, industrial aromas, food additives and natural products. Headquarters in Tokyo, Japan Research laboratories in Kawasaki, Japan Production facilities in Fukaya and Itakura. Flavors for a wide range of alcoholic, non-alcoholic beverages, confections and chewing gum, dairy based foods, meat and savory flavors desserts, pharmaceuticals, animal feeds, tobacco, etc

Sales representation in the Orient, the USA and Europe, through an agent in France, and distributors in England, Netherlands and Italy.

1988 Sales and exports have doubled since 1983. In 1983, a New York Sales office was established. In 1978 T. Hasegawa, USA Inc. was established in Lawndale, California.

HERSHEY FOODS Corporation**Member****Chemical Sources Association****LIONEL HITCHEN (Essential Oils)****Member****Chemical Sources Association****INTERNATIONAL FLAVORS
AND FRAGRANCES (IFF)****Member****Chemical Sources Association**

International Flavor and Fragrances, incorporated in New York in 1959, is a leading creator and manufacturer of flavors and fragrances used by others to impart or improve flavor or fragrance in a wide variety of consumer products. Fragrance products are sold principally to makers of perfumes, cosmetics, hair, and other personal care products, soaps and detergents, household and other cleaning products and air fresheners.

Flavors are sold primarily to makers of dairy, meat and other processed foods and beverages, snacks and savory foods confectionery, sweet and baked goods, pharmaceutical and oral care products, and pet foods.

The present worldwide scope of the company's business is, in part, the result of the combination in December 1958 of the business previously conducted primarily in the United States by a company under the name of Van Ameringen & Haebler, Inc, and the business conducted primarily in Europe by N. V. Polak & Schwartz.

Polak & Schwartz (P&S) Enterprises, founded in Holland in 1889 was also engaged in the manufacture and sale of flavors and fragrance products, with operations in a number of countries.

IFF has made other acquisitions, including Kerr Fruit Products in the 1960's, a flavor company in Egypt in 1993, Auro Tech, a biotech company in 1992.

IFF has major manufacturing facilities in the US, Holland, France and England, with other manufacturing facilities in Argentina, Australia, Brazil, Canada, Hong Kong, Indonesia, Ireland, Italy, Japan, Kenya, Korea, Mexico, Philippines, South America, Spain, Sweden, Switzerland, Venezuela, Germany and Yugoslavia.

The company's World Headquarters is located at 521 West 57th Street, New York, New York, 10019. IFF's Bayshore NJ sites encompass four separate locations, spanning two New Jersey communities- Union Beach and Hazlet. The company's US Flavor Administration and Laboratory buildings are located in Dayton, NJ.

Union Beach is home to the company's Fragrance Ingredients Plant, the first IFF facility in the Bayshore area. It began operating in 1952 and is the largest such facility in the world. The approximately 140-acre site is IFF's major fragrance manufacturing facility, employing approximately 237 men and women. The

fragrance ingredients manufactured are used as the principal ingredients in the creation of a variety uses including soaps, detergents, perfumes and colognes.

Also located in Union Beach are IFF's Corporate Research & Development Center and the company's Electronic Data Processing Center. The site upon which these two buildings sit is approximately 13 acres. At the present time, 243 people are involved in the company's research and development projects at the R&D Center. In addition, the approximately 40,000 square foot office facility houses the company's worldwide data processing function, Sensory Testing Center, and safety departments.

Hazlet is the home for the company's Fragrance compounding facility, which also houses several corporate functions, including export/import, materials management, and fragrance quality control. The fragrance compounding facility, which began in 1971 is located on 52 acres and employs 272 people. The majority of fragrance ingredients blended at the facility are used as base components in fragrance that are produced and sold by our customers. The ingredients are blended according to created formulae, which are the result of the creative work of IFF's perfumers.

In 1991, IFF opened a 43,000 square foot two story creative and commercial center for the company's US Soap and Household Products division. The facility is located in Hazlet with the Fragrance Compounding Facility. The soap and household division creates and markets fragrances that are used in a variety of household and functional products such as soaps and detergents. Approximately 100 employees relocated from the World Headquarters in New York City, bringing the total IFF Bayshore employment to approximately 850 people.

IFF's US Flavor Administration and Laboratory Buildings dedicated in 1987 are located on 75 acres in South Brunswick, NJ. Incorporated in this 345,000 square foot facility is the most modern technology in computerized flavor production processes. There are executive offices, conference rooms, and laboratories for researching and developing new products with production areas consisting of individual airtight rooms, each of which with its own controlled climate to prevent intermingling of flavor aromas.

At this spacious plant, approximately 330 men and women are working to develop products with lower levels of calories, sugars, sodium, fats and caffeine to meet consumer demands, as well as to produce products for customers desiring more natural foods and beverages that require higher levels of juices and fruit essences. The company has relocated its entire flavor division from its World Headquarters in New York City to this facility, the largest of its kind in the world.

Approximately \$165,000,000 is expended annually by the company for state and local taxes, salaries and utility costs, in addition to local purchases. Additionally, the IFF Foundation annually supports, through charitable contributions, many organizations, including hospitals and social service agencies in Monmouth and Middlesex Counties.

KATO Worldwide Ltd.

Basic producers in growing, extracting and distilling for more than fifty years, Kato has established facilities in Westchester County, New York to serve the US market. From Bitter Almond through spice oils, to onion and garlic, their naturals include floral and herbal absolutes, isolates, and natural flavor chemical (e.g. aliphatic acids).

Perfume and flavor laboratories have been established. Max Sturges, who spent many years at Loe Lowe Corp., is in the flavor lab.

KRAFT FLAVOR TECH. GROUP Member Chemical Sources Association at Kraft General Foods Corp.

The Flavor Technology Group at Kraft Foods is an extension and amalgamation of two development groups from the former Kraft USA and General Foods companies. General Foods was one of the few consumer products companies that made a serious investment in flavor research from its earliest

inception. Realizing the importance of flavor in so many of its fabricated food products (products essentially built on non-volatile functional components like sugars, gelatin, starches), GF decided to expend great effort in giving its products the distinctive, quality "aromatization" that would make the difference in marketplace versus our competitors.

The earliest flavor research was an outgrowth of coffee analysis, coffee being from the beginning an important part of the product mix. The early research led to the identification of key volatile ingredients that enabled the company to be more than competitive in the development of brand improvement and market leadership. Following WWII, much flavor research was dedicated to problems involving flavor delivery - especially in the development of spray drying technologies for instant coffee and the ever-growing line of gelatin dessert products. In the early part of the century, dry flavors generally meant plated flavors, not a superior technology for delivering volatile components. A gelatin flavor fixation technology was first perfected at GF for flavor delivery in its gelatin line. Later immense effort was put into the development of the now standard spray dry flavor technology, eventually leading to its predominant utilization as the method of choice in dry flavor delivery.

Some of the outstanding achievements at this time were the development of stable fixations of acetaldehyde and maltol/ethyl maltol. There was also much research work conducted on flavor losses in the drying process, one result being the development of tables of "compensation factors", an aid to the flavor developer in the translation from liquid to powdered form.

During the late '50s and early '60s, much work was done on the identification of volatiles responsible for the "freshness factor" of fruit flavors. As a result, combinations of leaf alcohol and maltol found their way into our strawberry gelatin, an innovation that was quickly picked up and utilized by the flavor industry. This was a time of explosive growth in flavor knowledge, and GF's research efforts at this time were very important not only to its own product line, but also to increasing the general state of the art in the flavor industry as a whole.

The 70's led to an evolution of the Flavor Technology Group to how it more or less exists today. Although there had always been some representation of flavor industry personnel on our staff, 1976 saw the re-establishment of a creative group based largely on industry-trained personnel. The group's mission was to further push the state of the art, to concentrate primarily on the company's product line, enabling continued improvement and delivery of quality to our consumers. Never seeing itself as competitor for the flavor industry, we entered into many joint research products with industry leaders. The flavors that were developed were for internal usage only, not made available to other consumer companies. There was one exception: our development of a very unique grill flavor, a definite advancement in the state of the art. Not finding much utility in our then current product line, we decided to make the unique character available to the outside world. The flavor industry quickly became our largest outlet for this product.

The group's efforts through the '80s and early '90's centered on natural flavor development. At one point, our internal production accounted for more than 50% of all natural flavors utilized by the corporation. More recently our challenges have revolved about problems of flavor delivery with new food technologies (microwaves, extruded products), and the improvement of preservative-free, fat-free and sugar-free products. The synergistic combination with Kraft USA's primarily research oriented flavor group has led to a broadening of our flavor interest, with dairy flavors (cheese primarily) becoming a major focus. The difficult goal of fat-free, low salt, clean-labeled products continues to provide us with challenging assignments.

No doubt, the company (and our product line) will continue to change, as will the flavor group's fit into the total picture. There is much to be said for the close-knit approach between flavorists and product developers that exists in our in-house environment. It makes the flavorist a part of the product development team, never working in a vacuum. It enables flavor considerations to be built in from the very beginning of the product development cycle — not considering flavor a mere add-on, but an integral and important part of the product as a whole.

The current group is staffed by several of the Society's well know certified flavorists (Joe Cipriano, Farid Fahmy, Rich Skrobanski, Susie Sadural, Meg Johnson, and Bob Vogt), in addition to other in-company developed flavor personnel.

International business is important. Willoughby McCormick was a founding member and first president of the Flavor and Extract Manufacturers' Association. Four other company officials have also been presidents of the FEMA (see 1909 on the Time Line.)

1947 Purchased Schilling Co. Inc. of San Francisco, Cal. A spice, extract, coffee and tea firm founded in 1881.

1961 Purchased Gilroy Foods, California--Dehydrated onion and garlic

1962 Purchased Baker Extract Co. of Springfield, Mass. A Flavor Extract manufacturer

1964 One of the first overseas acquisitions was McCormick de Venezuela, a wholly owned subsidiary.

1981 Purchased Stange and Co. Inc of Chicago for \$24 million, as a subsidiary that was merged into McCormick's Flavor Division. Stange produced Flavors and oleoresins.

Stange was founded in about 1903 by William Jan Stange, a pharmacist in Chicago. Started as a flavor company servicing local bottling, bakery, ice cream and confectionery companies, expanded to include service to companies in Canada and Japan.

In 1992, McCormick purchased Glenthams Ltd. of England, seasoning manufacturer that was previously owned by Felton International.

McCormick-Wild

A joint venture between McCormick & Co. and Rudolf Wilde of Germany in 1990 developing fruit flavors primarily for the beverage markets in the USA.

DAVID MICHAEL & Company, Inc. Member Chemical Sources Association

David Michael & Co., Inc. stems from a partnership established between Herman Hertz and David Michael. Herman operated a bar on Ohio Avenue in Atlantic City, while David was a salesman for Fleeer Chewing Gum of Philadelphia (a firm renowned today for their bubble gum baseball cards). David was a native of Atlanta, Georgia, and a confirmed bachelor. His principal pastimes were fishing and motor cars. In fact, before there were income taxes, David carried large amounts of cash and enjoyed purchasing motor cars off the showroom floor.

Herman Hertz's expertise was in distilled spirits ingredients. He originated our "Oldtime Special Body and Age"TM (B&A), a few drops of which will make raw corn whiskey taste like a ten year old bourbon in just a few hours. (Today David Michael sells many DSP ingredients based upon this time-honored formula, which is mentioned in "The Social History of Bourbon"). B&A's popularity grew in these early years, but slowed down in the 1920's and did not revive until Prohibition was repealed in 1933. But then B&A was adopted by several nationally branded products in which it is still used today.

Vanilla sugar as a flavor for ice cream was another company specialty in the 1890's. The ice cream industry started as an offshoot of small confectionery stores. During the 1860's a Philadelphia family German confectioners, headed by Henry Breyer, achieved a substantial following. Their small shop grew into the Breyer's Ice Cream Company. Later, during the 1920's and 1930's, when the formation of giant milk and ice cream companies, was purchased by National Dairy Products Corporation. Other prominent ice cream manufacturers in Philadelphia were Abbott's (Jane Logan), Philadelphia Dairy Products (Dolly Madison), Shearer's, Supplee's (later changed to Sealtest), Bassett's and Pott's. Thus, Philadelphia became known as the ice cream capital of the United States. (Of all these companies, only Breyer's, Pott's, and Bassett's are still within the City. The Abbott's label belongs to Labatt, the Canadian food conglomerate.)

In 1919, following their respective war service, the three young men formed the R&R Chemical Company. Two of the men were brothers, Eli and Robert Rosenbaum. The third was Walter Rosskam, a

University of Pennsylvania Chemistry major and classmate of Eli Rosenbaum. The two had become friends because they sat next to each other in Chemistry class. The R&R Chemical Company dealt in such items as cigar wrappers and cigar binding fluids. Their wrappers were laced with minute explosive charges, which enabled the tobacco leaf to burn quite effectively. One day in 1920, they called on Mr. Michael to purchase some gums for their small cigar-wrapping base. David Michael suggested that, with growth in the ice cream industry there was great opportunity for sales of a vanilla sugar he had developed, called Michael's Mixevan™, the vanilla powder in a can. (Mixevan is a unique blend of Mexican, Bourbon beans, sugar, and vanillin that, when heated, produces a sweet, slightly caramelized, richly aromatic flavor that has made Mixevan quite famous.) Since Herman Hertz had died, David asked Eli, Robert and Walter to join him as part of his management team. Eli moved to Chicago and became sales manager. He called on the major mid-western ice cream manufacturers, including

Beatrice Creamery, Hydrox, Tellings (Ohio), Belle Vernon, and Pevely's. Robert was also in sales, covering the Northeast United States. Walter and David ran the manufacturing operation, located initially at Ridge Avenue and Green Street and then Front and Master Streets, Philadelphia.

In a free wheeling era of the 1920's, the business grew. Sales reached several hundred thousand dollars and taxes were low. Michael's Mixevan™ gained wide acceptance as a vanilla ice cream flavor, and it was advertised as "America's Flavorite". In the days before air conditioning, the powdered vanilla was ground through rotating hammer mills driven by pulleys. On a hot summer day, the temperature could go well over 110° F in that marvelously aromatic room! Each mill had to be fed by a hand scoop from a movable truck filled with caked pieces of vanilla sugar, which resulted from the vanilla being hot air dried in our shelf dryer.

In 1935, David Michael died and the ownership of the company passed on solely to Eli, Robert and Walter. Then came World War II and sugar was being rationed. The company refused to purchase black market sugar, so the only way we stayed in business was to toll sugar from our customers, who then surrendered their coupons to us. Thus, we were able to get sugar needed to make Mixevan™.

During World War II vanilla beans continued to be available from Mexico and also from Madagascar (through Vichy French). By tacit consent, Madagascar still got its vanilla bean production safely to the United States during the early part of the war. Of course vanilla from Java, then called the Netherlands East Indies, was completely unavailable due to the Japanese occupation.

Walter's son, William B. II and L. George Roskam both served overseas during World War II. Bill was a Marine and took part in numerous crucial Pacific landings, and George was a radio operator with Patton's Third Army. With the conclusion of the war, they both returned safely to the United States, and joined David Michael Company. In 1949 Robert's son, Edward W. Rosenbaum started work at David Michael. With the overwhelming success of Mixevan™, David Michael & Co., Inc. expanded their product line in the 1950's to include a wide range of vanilla extracts.

There were recurring shortages of pecans, walnuts and pistachios, which were used in the manufacture of numerous ice creams. David Michael & Co. Inc. saw this as an opportunity to develop a natural nut extender to add to ice cream as a background flavor. Thus was born our line of "Fairway" nut background flavors. We developed a pecan base first, since butter pecan was (and still is) such a popular item.

Maple sugar was also cyclical and presented another opportunity. So we created a line of maple walnut products. These were found to have applications beyond ice cream, and eventually we developed a dry powder program for maple flavor that led us into breakfast cereals,

(Consequently, we have developed a wide range of powdered flavors including strawberry, chocolate and, of course, vanilla, all of which have application in a wide range of consumer products, including pharmaceuticals).

In the late 1950's we developed a significant line extension by making a variety of distilled spirits blending agents, using our Old Time Special Body and Age as a base. These were initially designed for various blends of American whiskeys and later for gin, vodka, rum and brandy.

What happened next caused our business to take a dramatic leap forward. One evening in Chicago bar, Bill Rosskam, who assisted Eli Rosenbaum, was having a conversation about various cocktails. Bill conceived the idea of putting cocktail flavors into frozen desserts. This was the start of our line of "Creative Flavors". The first entries were pink champagne, daiquiri and sparkling burgundy for sherbet and grasshopper and pink squirrel for ice cream. These flavors, especially champagne, caused a great stir in the marketplace. After their initial run these flavor became an integral part of our product line.

The next step involved the premise that, since we were doing so much in distilled spirits with Body and Age, why not apply our ice cream "creative Flavors" to cordials and liqueurs. Apricot, peach, amaretto and crème de menthe were developed, among others. This led us into cocoa distillates and cream de cocoa. In turn, these flavors were made available for pharmaceuticals and yogurts.

Building upon all of these flavors, we began to spray dry our natural and artificial flavors. The spray-dried flavors were marketed under the TM Michaelok™. Next, we expanded into production of Maillard Reaction flavors to include various meat, seafood and poultry products. This product line is known as dm "CHOICE"™.

Our technical capabilities also include such new techniques as nuclear magnetic resonance. We can, thereby, look into the deuterium hydrogen ratios of specific molecules of flavoring chemicals. The work is conducted in Nantes, France. Our analytical equipment includes mass spec, HPLC, GLC and more.

In 1969, we constructed a 43,000 square foot building in Philadelphia's Northeast Industrial Park. Included is office space, R & D laboratories and manufacturing operations. Since then we have added 15,000 square feet of warehouse space and 8, 000 square feet for additional office space.

In 1973, we opened a 20,000 square foot manufacturing facility in Paramount, California. This operation has greatly enhanced our ability to service our customers in the western states.

To serve the European Economic Community we established David Michael Europe SARL in 1992. Headquartered near Paris this company has been constituted under French law. It has laboratory bench facility access at ENSIA (Ecole Nationale Superieure Des

Industries Agricoles et Alimentaire), in Massy-Palaiseau. We have a manufacturing arrangement with S A. Rene Laurent in LeCannet France, close to Cannes.

We have sales representation in Japan and other Pacific Rim areas through Kyoritsu Bussan in Tokyo, manufacturing capabilities are being considered. We can truly say that we offer a "one world service, as we also have representation in many other countries.

We are proud to be an independent corporation, privately held by second and third generations of the Rosenbaum and Rosskam families. Our strong management team has developed considerable depth, the combined same company experience of 238 years. In an age of rapid corporate personnel turnover and instability, we are pleased to share this record of our company's management accomplishments. As we approach 1996, and the celebration of our 100th birthday, we look forward to the continuation of David Michael & Co., Inc., as we meet the challenges of the next century.

Top management is vested in the four members of the Board of Directors: Edward W. Rosenbaum, chairman of the Board and Chief Executive Officer; Skip Rosskam, President and Chief Operating Officer; George A Rosskam, Executive Vice President Operations and Steve Rosskam, Executive Vice President- Sales and Marketing Officer.

MISSION FLAVORS & FRAGRANCES

Rancho Margarito

PHILIP MORRIS, USA

Member

Chemical Sources Association

Asia, South Korea, Europe, Oceania, the USA, and other parts of the globe. A new factory and laboratory were set up in Okayama, Japan in 1983.

O. S. F. Corporation

Member

Chemical Sources Association

The initials stand for Oils, Senses and Flavors. The company was formed by Edwardo de Botag in Connecticut in 1980. They specialize in natural flavors, extracts and products compounded from natural ingredients.

OTTENS Flavors, Inc.

Member

Chemical Sources Association

"Ottens" is a century old name that dates back in the City of Philadelphia's history to 1884. The earliest origins of the business are sketchy at best, but we do know that Henry Ottens, a local businessman with strong real estate ties to the New Jersey shore area, saw an opportunity to provide flavors and colors to the local area food establishments. Mr. Ottens was joined by Mr. H. Birehnstock, a German immigrant with technical training. They began to manufacture extracts and colors in an eighteenth century building on the Philadelphia waterfront, which years before was used as a stopover for slaves making their way to freedom on the underground railway. It wasn't too long before the quality of the company's bakery extracts became a staple item at many of Philadelphia's finest wholesale and retail outlets. The pure taste of Ottens' own percolated vanilla was second to none. The company eventually expanded into New York, Boston and other Eastern markets. Well into the 1930's and '40's the company, through modest growth, became known as a fine purveyor of bakery extracts, its specialty. In the early 1950, Ottens was purchased by George Robinson, a Philadelphia banker whose family maintains ownership.

In the post war years, the company operations were guided by John Duffy and eventually by George Robinson Jr, son of the owner. In 1977, Richard Mangiere was hired to assist in the company's growth. Now located in central Philadelphia the company emphasizes technology and customer service. It is recognized as a successful, privately owned, midsized, full line flavor company. Ottens is making the transition into a third generation of ownership while realizing the importance of providing customers with continued quality, innovation and service for years to come.

OXFORD ORGANICS, Inc.

Member

Chemical Sources Association

This is a young British manufacturer of fine organic chemicals that began distributing their products through an office in Elizabeth, New Jersey office. They have a line of some of the more powerful new flavor ingredients prepared by the natural guidelines, and many otherwise hard to find sulfur and cyclic organics. They were acquired in 1995 by Revertex Chemicals Ltd, and are operated as a division of that company.

PEPSI-COLA Company

Member

Chemical Sources Association

PERLAROM Technology

Perlarom is the U S operation of Perlarom SA, a Brussels, Belgium based company. It was founded in 1973 by Jacques Engles and his son Michel. It has grown in part by acquiring three other flavor companies in France, two in Belgium, and one in Britain in the years between 1988 and 1992.

"Last year's sales [1994] have been reported at about \$45 million, mostly in Europe. The US branch was established initially by Jan Buchel with temporary offices in White Plains, NY. David Bowen is now president of the US company whose headquarters and manufacturing will be

located in the Oakland Ridge Industrial Park in Columbia, MD" (*Perlarom brings... operation to Maryland*, The[Baltimore]Sun p 15c, 9/4/95).

Perfumery and Essential Oil Record

A British trade Journal founded in 1909 by John C. Umney. It provided a place for advertising the sources of essential oils available and for articles on raw materials and developments in flavors, perfumes, soaps and cosmetics. The editor in the 1950's was W. R. Littlejohn who kept contact with several in the U S flavor (SFC) and perfume societies. He was instrumental in the establishment of the British Society of Flavourists.

PFIZER Food Science Group

Pfizer was founded in 1849. US based, it is global, with over 50% of its business overseas. This Pfizer business group was formalized in January 1993 to advance its food ingredient business. It contributes about 4% of Pfizer's total sales. Having tried several areas of the flavor market with ingredients for flavors, they now have these ingredients: "Veltol" (trade marked Maltol), and Ethyl Maltol; and natural maltol; and C. A. L Natural Flavors, Essential Oils and PfiCO2 Specialty Flavors. Many of the naturals are obtained by extraction with liquid and Supercritical Carbon Dioxide. (Camilli Albert et Laloue - a Member of the Chemical Sources Association)

This group also markets other food ingredients (flavor adjuncts) of interest to the flavor industry including antioxidants, preservatives, colors, sweeteners, and bulking agents. (From Food Mktg & Technology June 1994 pp 49-52)

In 1994, Pfizer purchased Flavor Technology Corp. of New Jersey, including it in their Food Science Group. In 1996, FSG was sold to a Finnish firm. It is operating in the US under the name Cultor Food Science.

The Proctor & Gamble Company **Member** **Chemical Sources Association**

Pyrazine Specialties, Inc. **Member** **Chemical Sources Association**

PMC Specialties Group **Member** **Chemical Sources Association**

QUEST International Flavors and Food Ingredients Company **Member Chemical Sources Association**

Subsidiary of Unilever, the Netherlands. Fragrances, Flavors and Food Ingredients. Founded in 1987 with the merger of PPF International and Naarden International.

Developed by Unilever, starting with an in-house perfume group: PPL Proprietary Perfumes Ltd supplying fragrances to Unilever's soap and detergent businesses.

PPF, Proprietary Perfumes and Flavorings, was formed in 1977 by combining PPL with Birmingham Chemical and other flavor units, and Bertrand Freres (Purchased in 1974).

Naarden International was the Dutch Flavor manufacturer that had purchased Flavorex in 1974. It was a Baltimore Beverage & Bakery flavor company that helped to expand Naarden's US business. Naarden

was purchased by Unilever in 1986 and merged with PPF. The name of the enlarged company was changed to Quest International in 1987.

Norda (purchased by PPF in 1984), had been formed in 1924 by Herman Kohl. Kohl had been a chemist-salesman for Company Morana. Kohl ran the company until his death in 1971 His products included essential oils, extracts, oleoresins, flavors, perfumes, and aroma chemicals.

Among the companies that Norda acquired and the year in which each was acquired are:

1929 Van Dyk	1932 A. A. Strobel
1933 P. R. Dryer	1948 Orbis, and J. B. Home
1955 Heine & Co.	1961 Schimmel and Co.
1961 R. D. Webb	1965 F. Huber

When Norda was purchased by PPF in 1984 and was combined with the National Starch Flavor and Seasoning Group.

In 1988, the Unilever Flavor Group bought Allied Lawrence of Australia and New Zealand, and Distillers Ltd. In 1989, they bought Sheffield Products from Kraft (Vanilla, proteins and lactose) and Biocon Biochemicals for enzymes and colors.

Microlife Tencnics and Foodpro Canada were transferred to Quest from National Starch in 1990 and 1988 respectively. They have recently moved into newly built facilities in Illinois.

Quest has integrated all acquired businesses into a North American Food Division, consisting of six business units.

RED STAR BIO-PRODUCTS, DIVISION, UNIVERSAL FOODS CORP.

Universal Foods acquired Champlain Industries in 1993, renaming it Red Star Bio-products division. Champlain, a Canadian company, had three periods of growth by acquisition. With these companies, they acquired technology of hydrolysis and enzyme reactions:

- on dairy products dating back to 1925 with Champlain Milk Products.
- on hair dating to the 1920's, and casein and vegetables dating back to the 1950's with the Keratene Co.
- on Protex products (from the UK) dating back to 1938,
- on yeasts dating back to 1931 (Ardamines), made from products of Ballantine beer in New Jersey, and
- from the originators (about 1900) of HVP's in America (Huron Milling) in Michigan. It was they who learned the method of producing MSG from the Japanese.

R. J. Reynolds Tobacco Co.

Member Chemical Sources Association

ROBERTET FLAVORS, Inc.

Member Chemical Sources Association

An independent company founded in France in 1850. Originally involved in processing only flowers and plants of the Provencal area. They now deal in essential oils, fragrances and flavors, with plants in Oakland, New Jersey, USA, Brazil, Argentina, Turkey and England. Their US plant is in the home of Jay Flavors, which they purchased.

SBI Systems Bio-Industries, Inc.

Member Chemical Sources Association

Formerly Sanofi Bio-Industries, which was formed in 1985 as a subsidiary of Sanofi, Inc, a very large French company, Elf Aquatane. Initially named Mero-Rousselot-Satia, the company has combined other units (from 1985-1990) which were involved in flavors, pharmaceuticals, fragrances, gelatin and other meat byproducts. SBI had purchased Continental Flavors and Fragrances, one of the larger independent California based flavor companies at the time. They specialized in beverage and yoghurt flavors and fruit preparations. SBI also bought Dairyland Foods, with enzyme modified cheese and seasoning capabilities. Headquarters are now in the Philadelphia area.

Harris Shore continued to work on true fruit flavors for Synfleur, Felton and Fries and Fries. Seeley & Co. was then run by Ray Smith, a Seeley salesman, Eugene Sturman, Bob Maleeny and Wilkes. Ownership went to a few companies, ending up with BBA.

SUNPURE Ltd.

Member Chemical Sources Association

TNO

This is the Netherlands Organization for Applied Scientific Research. Through the efforts of Dr. van Straaten, the first edition of "The Volatile Compounds of Food" was published. New editions have been issued about every five years, with interim supplements between new editions. The most recent editions have included the quantitative data when they exist or can be determined. A computerized version is also available of the most recent data.

TAKASAGO Int'l Corp. USA

Member Chemical Sources Association

Takasago International Corporation has nearly 75 years history as a major company in the global flavor, fragrance and aromatic chemistry business. Based in Japan, it has grown to have offices laboratories and production sites in many of the major areas of the world.

Mr. K. Kainosyo founded Takasago in February of 1920. He received a great deal of his training in the European aromatic chemical industry. In 1913, he returned to Japan to engage in work involving the synthesis of certain aromatic chemicals. There was an urgent need to consider domestic manufacture of synthetic chemicals during that period, so he established a corporation of renowned scholars in chemistry at Katmata, Tokyo. This has been considered the starting point of the Flavor and Fragrance of Japan.

In 1927 Takasago developed a unique ozone oxidation technique for producing high quality Vanillin and Heliotropine from Camphor oil by-product. This was a major breakthrough in the utilization of a basic aromatic raw material available in Japan. During the following years, synthetic chemistry has played an important role in Takasago's commercial success. Important chemicals such as l-Menthol (1954), Isophytol (1963) and cis-Jasmone (1967) were synthetic chemical accomplishments of the basic research group at Takasago's Kamata Laboratories. Other major aromatics produced by Takasago are Musk T (ethylene brassylate), Santalex T, (l-hydroxycitronellal), Ionone, and intermediates of Vitamin A and E, plus some 150 other aromatic chemicals used by the industry.

One of the original plants for Takasago's chemistry was started in 1947 at Hiratsuka, about 50 miles south of Tokyo center. This plant has been expanded over the years and now shares the site with the new Technical and Basic Research Center that opened its door in July 1993, to replace the former research center at Kamata. Other major production facilities now include an aromatic chemical synthesis plant at Iwata, an ultra modern multi-product food plant at Kashima and a subsidiary called Takasago Food Products with biotechnology production abilities and supercritical carbon dioxide extraction equipment.

The United States company was established in New York City in 1961 with an initial focus on selling fine aromatic chemicals to the USA trade. Growth in the US led to the creation of a Fragrance Division in 1974 (in Rockleigh, New Jersey) and the Flavor Division in 1984 (in Teterboro, New Jersey). Today Takasago International Corporation (USA) consists of three facilities: A Flavor Production and Technical Center located in Teterboro, NJ, a Fragrance creative center and Corporate Headquarters located in Rockleigh, NJ, and a Fragrance Production and Aromatic Chemical Division located in Northvale, NJ. In 1994, a new Flavor Technical Center and Corporate Offices will be constructed in Rockleigh NJ. In addition to the commercial operations in the USA Takasago maintains a basic research laboratory known as the Takasago Institute for Interdisciplinary Science at Walnut, Creek, CA.

Originally named Takasago Perfumery Company, the company, recognizing that it is a major world producer of flavors, fragrances and aromatic chemicals, changed the name of the corporation to Takasago International Corporation in 1986. Shortly after that, the company changed its logo to the now familiar mark of a maroon square that is trisected by a clearly defined T-line. It symbolizes Takasago's philosophy of "Contributing to Society based on Trust through Technology and Teamwork".

Worldwide Takasago operates out of some 40 offices and/or laboratories including some plantations. The company also has some joint ventures with a number of countries through out the world. During the expansion years, the company was lead by a well-known leader of our industry Mr. Kenji Nakanishi. He served as president and CEO of the company from 1961 to 1987. Mr. Masabumi Sugarwara currently serves as the company's worldwide president with Mr. Tony Griffiths serving as president of the company's North American operations and is also responsible for its European operation. The management of the commercial part of the company is divided into three operating parts: The Fragrance Division headed by Mr. Yoshinari Nimura (Executive Vice President); The Flavor Division headed by Mr. Shigeru Muraki (Executive Vice President), and a newly created Fine Chemicals Division headed up by Dr. Haruki Tsuruta (Senior Vice President). The International Offices are headed up by Mr. Hajime Ohtsuki (Senior Vice President). The company reported worldwide sales of \$767 million for 1992 and is considered to be one of the top five in international flavor and fragrance sales. The Company has not made any significant acquisitions during its history, as its philosophy is growth through internal development and expansion.

Takasago has been one of the leaders in basic research into flavors and fragrances. Over the years, Takasago's scientists have developed optically active chemicals, reported on the chirality of natural flavor and fragrance materials, investigated how the brain responds to aromas, and isolated and characterized important natural products found in various plants. Well over ten percent of Takasago's sales is invested in research to continue to expand man's knowledge of the aromatic world we live in. CM

TASTEMAKER

Member Chemical Sources Association

Joint Venture formed in 1991 between Hercules' PFW and Citrus Specialties, and the Imcera/Mallinkrodt flavor group Fries & Fries, Inc. creating a company that was the fifth largest flavor company in the world.

A) Polak Frutal Works (PFW)

PFW owes its origin to the same antecedents as IFF. In about 1890, the firm of Polak & Schwarz was founded in Holland and in 1896 moved to a new factory in Zaandam. In August 1914, because the ruling families of Polak and Schwarz had disputes, the Polaks resigned and set up Polak's Frutal Works in Amersfoort, The Netherlands. In 1928, the US subsidiary was set up on Long Island and in 1931 the English daughter company, called Soflor Ltd., was founded. In 1947, the US company was relocated to Middletown, NY and this became the worldwide headquarters.

- * 1964 a sister company was formed in Sydney Australia.
- * 1967 a sister company was formed in Bremen Germany
- * 1974 PFW was purchased from the Polak family by Hercules Inc.
- * 1976 PFW acquired Redd Citrus Products.
- * 1988 PFW acquired Zimmermann -Hobbs (UK F&F supplier).
- * 1989 PFW purchased Florex Inc., Florida Citrus oils/Flavors
- * 1991 The Hercules flavor interests were combined with those of Mallinkrodt (Fries & Fries), at which time the fragrance interests of PFW were sold to Haarmann & Reimer. J. Knights

A . H . Suurhoff, who worked for over 40 years, wrote a seven-page history of PFW on the years from 1914 to 1984 for use with new employees joining the company. He wrote articles for PFW employees in a newsletter named "Two Scents". Before World War I Eric Vles came to the US to see if there was a market for PFW flavors. He became well known in the industry. He was always "Mr. Vles", and he knew everyone. Both world wars gave PFW problems, but they did not last forever and they recovered. There were tragic accidents, which shortened the lives of several of the active family members, but those remaining persevered, and the company has been a success. The names of the originators will long be remembered.

B) Fries & Fries (Also see The Fries' Companies)

Fries & Fries was started in 1913. Their earliest beginnings were as a partnership between George and Robert Fries, Sr. In the beginning there were the two brothers and six employees. The original plant and offices were located at 1500 West Street, Cincinnati, Ohio. The original products were vanilla, whiskey blenders and soap perfumes.

In 1913, Cincinnati had 364,000 people. F&F was incorporated in 1931 and enjoyed a slow but steady growth. They began to expand their perfume and vanilla business during the war. Despite prohibition, our whiskey business had expanded as well.

F&F then moved to Brewster Avenue. The product line had been expanded to lemon, cinnamon and vanilla. In the 30s, they developed a caramel and a scotch sugar that were very popular. Our chemists created turmeric extract and used saffron to give honey a boost of color as well as flavor.

At Fries & Fries, we were busy in our liquid department making flavors of cherry, sloe gin, raspberry, strawberry and peach. We also made limburger cheese through a slow and arduous process that saw some of our employees literally thrown off city buses because of the stench. By the late 50's, (we still only produced flavors in liquid form), we had added products such as prune cordials, molasses and creme de cacao, as well as herb and spice extracts such as sage, marjoram and thyme.

In the 50's, Cincinnati had 504,000 people and F&F had 40 employees. We found we could make experimental samples of dry flavors by spraying them. We were smart enough to hire the world's expert to help us. We hired Neil Revie from England to perfect the spray dry process and eventually bring it to production in volume. Because of the expense of the equipment, we were able to get our most interested customer to guarantee a market and help to amortize it. Orange was the first flavor, but we added butterscotch, brown sugar, and vanilla flavors. Our liquid line expanded to chocolate, and our existing lines continued to grow.

In the 60's, Robert Fries, Sr. died and his widow Mrs. Frances Fries became Chairman of the Board in 1962 and stayed on until Robert, Jr. took over as president.

Growth meant that the company had need of more cash for further expansion. In 1970, the company was purchased by Mallinkrodt, a chemical and pharmaceutical company. Mallinkrodt, then owned by Avon,

was sold to IMC, which included Mallinkrodt Specialty Chemicals in IMCERA, which was spun off. Fragrance business went to H&R. F&F continued to be run under Robert Fries Jr. They entered a joint venture with Hauser Chemical Research to develop vanilla flavors.

Recent technical focus has been on processing and extraction methods. Operations have been developed in Mexico, Canada, England, and Cincinnati, with offices in Singapore and Korea. J. Moon

TECHNOLOGY FLVS & FRAG., Inc.
Amityville, NY.

Member, Chemical Sources Association

In 1989, Philip Rosner, who had been president and part owner of Felton Chemical Co. when it was sold to Harrison & Crossfield, joined with Gary Fromberg, with whom he had worked at Felton, to form Aroma Globe Inc. In 1991, they acquired Technology Flavors and Fragrances, to compound and sell flavors and fragrances. In 1993, they bought the Fragrance division of F&C International, which had, for a while, been a part of the Felton Chemical Co. They are now a public company, having issued stock in 1994 through the Toronto, Canada stock exchange.

In addition to their headquarters in Amityville, NY, they have offices and/or warehouses in California, Canada, Mexico, Columbia, Chile, and the Far East, and are seeking to expand their business in Europe. ("The Marketing of Taste" by Ian Cuthill in Food Marketing & Technology October 1994).

TOBACCO TECHNOLOGY, Inc.

Member

Chemical Sources Association

R. C. TREATT & Co.

Founded in London, England by Richard Court-Treant, a retired diplomat, in 1886. He began trading animal fixatives ambergris, musk, and civet. The company was incorporated in 1913. Richard died in 1924. The company has prospered under the stable management of only five managing directors. They have traded essential oils from the Seychelles, Zanzibar, Africa and the West Indies. In 1990, they established FLORIDA TREATT in Haines City Florida, USA to manufacture natural concentrated citrus products and isolates from the fruit.

UNGERER & Co.

Member

Chemical Sources Association

Formed on September 13, 1893 by W. P. Ungerer in New York City. He had had training as a perfumer in France, and had emigrated from Basel Switzerland to the USA in 1865. He spent some time in Rochester NY as a supplier of aromatic ingredients. He then worked as a perfumer for Colgate for twenty years. His son W. G. Ungerer joined the firm in 1895.

In 1906 W. G. Ungerer founded, edited, and published the *American Perfumer and Essential Oil Review*. This was the forerunner to *Cosmetic and Toiletries* and the present day *Perfumer & Flavorist*. For many years, Ungerer advertised on the outside back page of every issue of the *Perfumer & Flavorist*.

W. G. Ungerer formed the Ungerer Fund to assist the French War Orphans at the close of WWI, and was named a Chevalier of the Legion of Honor in 1927 by the French Senator Eugene Charabot. On the death of W. G. Ungerer in 1930, he was succeeded by his brother Frederick G. Ungerer. F. G.'s son-in-law, Kenneth G. Voorhees, Sr., joined the company in 1932 and became president in 1949. This was at a time when the industry began to expand under other charismatic leaders including Herman Kohl, Frederick Leonhardt, Fritz Leuders, Percy Magnus, A. L. van Ameringen and the Polak family.

In the 1940's, the expansive Totowa, NJ facilities were established. The company established itself as one of the major suppliers of essential oils to the carbonated beverage industry. They were major suppliers of Sunkist branded California Citrus Oils. Expansion in this period also included the addition of Budd Aromatics in 1935 and J. N. Hitchcock & Sons in 1947.

In 1957, Kenneth G. Voorhees, Jr. joined the company, and he succeeded his father as president of the company in 1977. In 1983, Kenneth Voorhees III joined the company. The company was reorganized from two divisions to four, adding a flavor division and a fragrance division to the existing essential oil and ingredient divisions.

In 1990, a new essential oil and flavor manufacturing complex was built in Bethlehem, Pennsylvania. The Totowa plant was retired after 45 years in service. In 1993, the Bethlehem complex was expanded by 50%.

The company expanded also by establishing Ungerer, U. K. Flavors and Fragrances in Chester, U. K., and Oxiquimica, an aroma chemicals and essential oil distillation facility in Puebla, Mexico. A sales and distribution facility was set up in Paris, France in 1993, and joint ventures were made in Canada and Egypt.

P. J. C.

**UNIVERSAL FLVS. AND FRAG.,
a division of Universal Foods, Inc.**

Member

Chemical Sources Association

Dates back to Meadow Springs Distillation Co, formed in 1882⁵. With the advent of prohibition reorganized as Red Star Yeast Products in 1919. Universal Foods currently has six divisions, which include a Flavor and Fragrance Division and a Color Division, which retains the name of one of its acquisitions in that area, Warner Jenkinson. They sold off any fragrance business that they had in Universal Flavor Group (Hurty Peck)

Hurty-Peck & Co. was started unincorporated in 1903 in Indianapolis by Gilbert Hurty, a 1900 Chemistry graduate from Amherst College, to distill and sell water. Developed a ginger ale to compete with the Irish imported ginger ale of Cantrell and Cochran⁶. Clear and colorless Lemon came next and was the most popular drink at the time. That was followed by Root Beer, White Soda (Cream soda?), and Apple.

Hurty was joined by Norman Peck, and the company was incorporated in 1909 in Indianapolis. A line of bakery emulsions had been developed. In 1988 Imperial Flavors

VIRGINIA DARE Extract Co., Inc.

Member

Chemical Sources Association

Virginia Dare is one of the few remaining flavor companies still owned and operated by members of the original founding family. Company founder Dr. Bernard H. Smith's career had begun in 1906, concurrently with the first Food and Drug Act legislation. He was part of Dr. Harvey W. Wiley's original FDA group in Washington. In 1912, he was sent by Wiley to establish FDA's Boston laboratory. He was its supervisor until 1917, when he joined Baker Extract Co. as its chief chemist. Two year later, the Virginia Dare story began.

The name of the company derives from the historical Virginia Dare, the first European child born in America, August 18, 1587. She was a member of Sir Walter Raleigh's "Lost Colony", which mysteriously vanished from Roanoke Island, N. C. The surrounding area, Virginia Dare County, then as now abounds with native Scuppermong grapes, and in 1835, a winery began using them to make "Virginia Dare Wines".

The flavor company began in the days of Prohibition when Garrett and Co., the winery producing Virginia Dare wines, considered manufacturing flavor extracts in order to utilize the surplus alcohol it obtained as a byproduct of its de-alcoholized wines. Dr. Bernard H. Smith, then technical director for the Baker Extract Co., was brought in to form an extract division in 1919.

⁵ Moody's Industrial Manual 1992, NY

6 A. W. Noling "History of Hurty-Peck & Company-Its First Fifty Years" Indianapolis Ind., 1969 was acquired. In 1989 H. Kohnstamm, Warner Jenkinson, Fantasy Flavors and Felton Int'l (Int'l flavor business) were acquired.

In 1923, he purchased the division, establishing the independent Virginia Dare Extract Co, and became its first president. He was succeeded in 1952 by his son, Lloyd E. Smith. Howard Smith, grandson of the founder, became president in 1960 and is the current CEO.

All three also served as FEMA presidents: Dr. Smith in 1932-33, Lloyd Smith 1942-43, and Howard Smith 1967-68. The fourth generation, Howard Smith Jr., joined the company in 1984 and is currently the treasurer of the company. There are probably people in the industry today who can still recall some of the leaders who served with Lloyd Smith 50 years ago.

In addition to the Smiths, the company has provided two other FEMA presidents, Dr. Clark E. Davis (1939-40) and Anthony Filandro (1980-81), the first member of the Society of Flavor Chemists to become president of FEMA.

Virginia Dare's Dr. B. H. Smith had purchased some acreage in Teterboro N. J. before World War II, with the thought of a possible expansion from its Brooklyn plant into what was then undeveloped, rural farm country. The war and other factors caused changes in plans and Dr. Smith sold the land to Polak & Schwarz, which proceeded to build the flavor factory that Dr. Smith had dreamed of. P&S soon was merged to form the newly created IFF, which then occupied the premises for several years. IFF eventually sold the property to Takasago Corp., who is the present occupant at 100 Green St., Teterboro, -now in the heart of town!

Warner Lambert Co.

Member

Chemical Sources Association

E. A. Weber & Company

This company has been making and selling flavors for 94 years concentrating of the beverage industry. It is one of the several flavor companies that National Can purchased a few decades ago in an effort to enter the flavor business. The previous owners were glad to have it back again when the unit was broken up.

Wynn Starr Flavors, Inc.

Member

Chemical Sources Association

A few members of different companies of the flavor industry from the creative, sales and technical sides started their own company with labs in New Jersey and state of the art microbiological lab and USDA inspected production facilities in Kentucky.

9/7/96

Photos

The pictures that follow were selected from the scores that were taken by Al Saldarini over the years at CSA and SFC meetings. Al has taken the pictures, developed them and submitted them, along with the names of those in the pictures and the location and the occasion, to the editors of trade magazines around the country.

They have not all been published, but that has not been due to the quality of the pictures. Many CSA member companies and those companies who employ SFC members have placed effective ads in trade journals that cover those companies who sell flavor ingredients, and flavors.

That has not deterred Al from continuing to take pictures, develop them, and send them out to editors after each meeting.

Thanks, Al



Several old-timers at a meeting at the Chemists Club in New York City. Left to right, coming from the back: George Talarico, Bob Fries Jr., Tom Bonica*, Tony Clemente**; Al Saldarini** and Al Venutolo** (both with glasses); and Jim Broderick***, Fred Schumm***, Cliff Desch** and Jerry DiGenova***. (*=Charter Member, **=President, ***=Both.)**



Presidents of the Society of Flavor Chemists: From left to right: John Baranowski, 1982 - 1983; Thomas Ulinski, 1981 - 1982, Marion Sudol, 1985 - 1986; Colman Goldhammer, 1984 - 1985; and Frank Fischetti 1983 - 1984.



Society of Flavor Chemist officers 1980—1981. From left to right. Alfred Goossens, Chairman of the Board; Dieter Bauer, President; Thomas Ulinski, Vice-President; and John Baranowski, Treasurer.



1980 SFC President Dieter Bauer (L) has just presented Dr. Paul Bedoukian with a plaque indicating his selection as an Honorary Member of the Society of Flavor Chemists. Jim Rogers of Fritzsche Brothers who introduced Dr. Bedoukian to the group, looks on (R).



Dr. Richard Ford delivered a speech to the Society of Flavor Chemists at a Sheraton Hotel in New Jersey. Officers Alfred Goossens and Tom Ulinski are to his left.



Officers and committee chairpersons of the Chemical Sources Association 1981- 1982. From left to right Mike Mandel*; Richard Lane (Patent Comm.); Eliot Graham, Exec. Director from CSA HQ; Earl Merwin (Membership); G. Mosciano* Treasurer; F. Fischetti*, President; R. Swaine Jr. (Sample Comm.); Dale Eskin (Program Comm.); Harvey Farber*(v.p./Sec'y); Bob Maleeny, (long range planning). Not shown are Alan Perry*; R. Mangiere*; Dave Straus (Source Listing Comm.); and R. Chapman (Midwest meeting Comm.).

***= Member of the Board of Directors. Picture was from Flavor & Fragrance Materials 1981, Allured Publishing.**



1991 At a joint meeting of the American Society of Perfumers, The Women in Flavor and Fragrance Commerce, and the Society of Flavor Chemists, the Presidents of each group, from left to right were John D. Zanone, Jo-Ann M. Orzo and Denise McCafferty.



Chairman of the Board, Carole Pollock, of the Society of Flavor Chemists presents a plaque to Robert Erickson, PhD. He was honored as “Man of the Year” for his service to the flavor industry and to the Society.



The Society of Flavor Chemists had two speakers several years apart, on the flavor subjects of global interest. The first was Dr. Richard Ronk (L), then director of Product Policy Staff and Special Advisor to the Deputy Commissioner for Policy of the FDA at an annual meeting in Alpine, NY. The other was Jack Knights, a flavorist who is a member of both the US and UK flavorist societies. He has also been President of the BEMA, UK equivalent to the FEMA). He spoke to those who attended the symposium Flavors '94 in Princeton, NJ.



The Society of Flavor Chemists Officers for 1994—1995, at the annual meeting at the Tamcrest Country Club. From left to right: Edward Albaugh Secretary; Leslie Blau, President; Richard Heinze, Vice President; Carole Pollock Chairman of the Board; Carl Holmgren, Treasurer.