AOCS PRESIDENT'S ADDRESS

New challenges for the decade ahead

The following is the text of AOCS President Frank Naughton's address to the Inaugural Breakfast on Wednesday, April 30, 1980, during the annual meeting.

This meeting of the International Society for Fats and Oils and the American Oil Chemists' Society opens the door to a new era of the 80s for our societies. If this meeting is a prognosticator, then ISF and AOCS are off to a bright and rewarding decade. The success of the meeting through the excellent technical programs and your interest and presence points the way to new challenges.

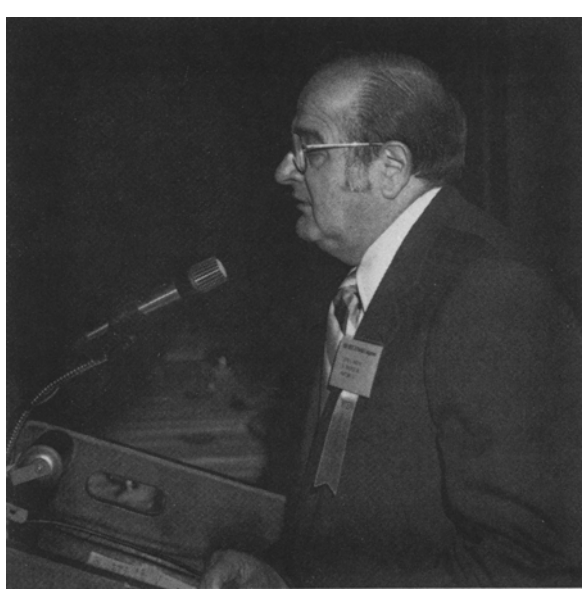
However, before predicting the future, it is well to consider not only what is here and now, but also the key challenges that face our industries, our government, our academic world and our societies. Predicting can be precarious, but it is not a mysterious process that requires a crystal ball. Except for occasional surprises, most events in the future have their roots in the here and now.

The decade of the 80s will bring an ever increasing reliance on renewable resources due to our dwindling supply of finite raw materials. Although we do not subscribe to the theory that we are running out of petrochemical-derived raw materials, economics and politics will force us to search for renewable sources. While there is a great deal of oil and gas to be found, a long-term switch to other biomass for raw material resources is inevitable. Vegetable oils, once displaced by less expensive petrochemicals, will be seriously reconsidered as an annually renewable source of energy and chemical derivatives.

Energy conservation looms as the major challenge of the 80s. We are not running out of energy, either, doomsayers notwithstanding. The shift from oil to synthesis gas as a feedstock of the future will be emphasized during the near term, along with nuclear energy and solar energy. New energy saving processes will become vital for the fats and oils industries. As technology develops and the price becomes competitive, currently unconventional energy sources from renewable raw materials and solar energy will play a major role in our economy.

In addition to energy, a major challenge will be compliance with regulatory laws. For industry in general, the cost of complying with the environmental regulations written in the 1960s and 70s to control pollutants will peak within the next several years. However, this decade will bring new environmental regulations and problems more challenging than those of the past. The Toxic Substances Control Act (TSCA), will have an impact over the next ten years similar to regulatory problems presented by the Clean Water Act and Clean Air Act rules. Regulation of pollution, toxic substances, potential carcinogens, occupational health and toxicology foreshadow dramatic and even revolutionary changes for our industries and technologies. In the next decade TSCA will force research and development efforts to concentrate on new and improved processes with fewer new products being developed and submitted for approval. TSCA's impact on international trade will force revisions in that act, and industry will intensify its efforts to influence regulations.

The need to predict a substance's behavior in the human body will lead to development of newer and shorter term testing procedures for carcinogenicity. These tests and finer measurements will turn up more genetic insults, leading to increased efforts to understand mutagenic, reproductive and neurotoxic effects of chemicals. The tests also will identify an increasing number of chemicals as suspected carcinogens, thereby overloading the regulatory processes. There appears to be little doubt that TSCA contains the seeds for major changes in our technology for the 80s. Monitored implementation of the laws and authority relegated to regulatory agencies will help environmental and toxic substances control bring the world closer together. The challenges are before us and how the laws are implemented will affect the future of small companies, the development of new products, the shift of research and development efforts and the effect on international trade.



Naughton: "We welcome the challenges and approach the future with confidence and a positive spirit."

Dramatic changes in testing procedures and analytical methodology, as well as a scientific approach toward risk assessment, must be developed to answer the underlying question as to what extent we will go to make the world risk-free. The real challenge in the new decade will be working with the regulators to shape philosophy on risk benefit analysis.

These are but a few of the challenges we face in the new decade. New technologies, unlike many we have been familiar with in the past, provide new opportunities. Our societies are enveloped in the progress and challenges of the future. The ISF and AOCS are no longer the associations they were ten years ago. They have changed to keep pace with the new demands of the environment, the members, the government and technological advances. Ten years from now our societies will have progressed even further with the helpful guidance of you, the membership. As a society abundant with members from a variety of backgrounds, markets and technologies, we welcome the challenges and approach the future with confidence and a positive spirit. The impact that is made is dependent upon the efforts that we are willing to expend. Your professional expertise will be needed, as well as your advice and active participation in our societies' affairs. We all have a stake in the future and, as your President, I request that each of you play an active part in fulfilling our responsibility to meet the challenges that lie ahead. □

AOCS PAST PRESIDENT'S ADDRESS

The following is the text of AOCS President Norman O.V. Sonntag's address to the business meeting during the 71st Annual Meeting of the AOCS held April 27, 1980, in the New York Hilton Hotel.

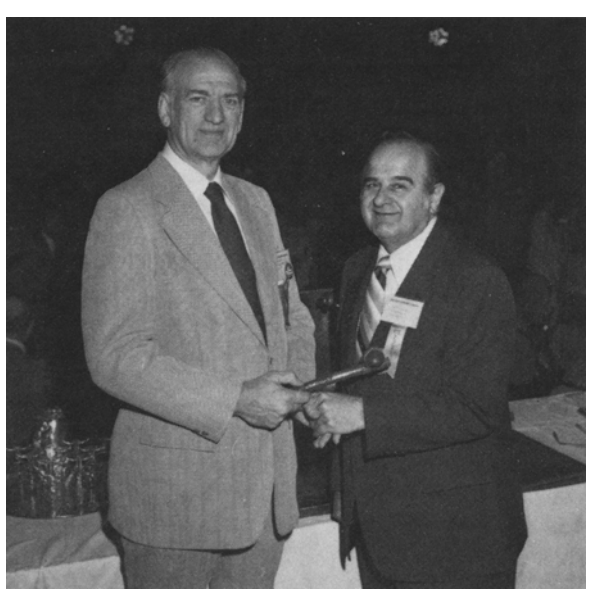
What can your President say in a year in which inflation finally caught up to everything, including the AOCS? There are so many things that could be said—but I shall restrict myself to a discussion of three things that our Society does well. These are the three M's, and I call them Meetings, Matriculation and Methods.

The AOCS runs excellent Meetings—no doubt about it, because we have two active and efficient committees—the Education Committee, which proposes, sponsors and plans Short Courses of all kinds, and the National Program and Planning Committee, which together with the Local Committee plans the technical makeup of national meetings. This is program and education in proper balance, the nub of our AOCS appeal. Meetings will always be a very important part of our overall effort—we can never afford any deterioration in meeting quality.

Our society is becoming more internationally oriented with regard to meetings. Simply because the U.S. does not produce palm oil or coconut oil is not a reason for not providing leadership in the science and technology in those areas; you will see the AOCS undertake worthwhile programs in the next five years on these and other international product areas.

Can you imagine the AOCS undertaking as controversial a subject as Fats in Health and Nutrition five years ago? That is exactly what we will do in Chicago in 1981. You can be sure we will do it scientifically and fairly, giving every view worthy of being heard a chance for expression.

And Matriculation, what is that? Why, that is our Smalley program, which we have operated successfully since 1915. With more than 100 billion pounds of fats and oils traded and exchanged internationally, and the U.S. involved in about one-fifth of it, the importance of having accredited, experienced and certified chemical analysts is of prime importance. AOCS in its Smalley program is the only organization engaged in this kind of effort, and we can hardly imagine what it would be like to consider the exchange of all these goods in the absence of accredited laboratories and accredited analytical chemists. We can expect to see our Smalley certificates hanging on the walls of analytical laboratories in Kuala Lumpur in Malaysia,



Outgoing AOCS President N.O.V. Sonntag, left, hands gavel to new President, Frank Naughton.

Manila of the Philippines, Rio de Janeiro or Buenos Aires, Zaire and many other places as we become more international in scope.

Methods, an area in which, up to the last ten or fifteen years, we held almost monopolistic sway? We now see several fat- and oil-type analytical methods on the U.S. scene whose parentage is of other than AOCS; that doesn't especially bother me. The AOAC can do a fine job of developing "regulatory-type" analytical methods—these are the ones that assay for the trace presence of highly toxic constituents, as, for example, 1,4-dioxane in ethoxylated fatty derivatives, traces of nitrosamines in fats and oils, even margarine, or for chick edema factor in fatty acids. This is their particular specialty, and frankly, AOAC does it well. There have been a number of key FDA regulatory methods that have followed this pattern of methods development. Many of the originators of these methods are AOCS members as well as AOAC members—and that's probably as it should be. But, in the area of analytical methods for fats and oils and their products that have a more specific utility in the province of production or quality control, AOCS *should not* and *must not* take second place to anyone.

I'm very proud of the *AOCS Official Methods*, the intensity and efficiency of the work that goes into methods development, and the caliber of the people involved. Our methods are without equal anywhere; we have a unique collaborative system to use and we publish precision data when we place the AOCS label on the final or intermediate product. But we need to be absolutely militant when we perceive the need for a new method anywhere in the field of fats and oils and their derivatives. If we don't originate it, develop it, evaluate it, officialize it, then someone else eventually will. And none of us wants that to happen, at least not too often.

Let me give you two examples of needs for analytical methods in fatty acid derivatives. The first is the need for an instrumental method for fatty acids with oxirane groups; we don't have one. There is a method for the determination of oxiranes in fats and oils to cover epoxidized soybean oil: it's a method based on hydrogen bromide addition, and the list of interferences such as soap, propenoids, conjugated unsaturation and "other types" is large and almost to the point where one wonders what samples *are* applicable to it. In addition, the specified reagent is to be restandardized frequently (the reagent isn't stable to storage) and the fact realized that evaporation of gaseous hydrogen bromide during the titration is "possible." Any analyst worthy of his Smalley diploma would think twice before using it. It is quite easy to say that the industry needs a method; it's quite another matter to say—"I have one that appears to be satisfactory right here—it's all ready for immediate AOCS collaborative evaluation". In this case, there should be, must be, and *is*, an infrared absorption spectroscopy method that could be adapted for our purposes.

And here is another need—an analytical method for tertiary amines in amine oxides—we don't have a single method for amine oxides. I'd like Lincoln Metcalfe of Armak Chemical Co. to know that AOCS would be proud and happy to have Armak's method for collaborative evaluation—his method appears to be the most reliable and suitable.

Outgoing AOCS President N.O.V. Sonntag, left, receives past president's key from David Firestone.

We can only be self-critical about our own methods when as a group our methods are superlative and without peer, and they *are*. But, General MacArthur said "old soldiers never die" and let me venture to say that old analytical methods don't die, either. They remain like skeletons in the closet, to haunt us for several decades. As a pristine example, we have an "official" method on the books called "Solid Liquid Fatty Acids," Method Cd 6-38, which I doubt has been used by anyone for over 35 years. In fact, the method was inaccurate and only roughly approximate when we adapted it in 1938. I rather suspect we did so to honor Dr. Ernst Twitchell, who is well-known for the Twitchell process of fat splitting still in use in Europe, and also, perhaps unknown to a majority of even this audience, was engaged in the water separation of solid from liquid fatty acids before anyone heard of the Henkel process. Even the great Dr. Twitchell knew, better than anyone, that his modified lead soap crystallization separation had serious limitations and shortcomings. He probably would have been the most surprised, possibly dismayed, scientist in America had he known his approximate method was accorded official analytical method status in 1938. Now what we should and must do is obvious—Method Cd 6-38 should be removed from our official listing of analytical methods—it's obsolete, it's misleading and worse than that—it's wrong. Dr. Twitchell will be in no way impaired or lowered by our action in removing a method bearing his name. I spent five years as a researcher in the Dr. Ernst Twitchell Memorial Research Laboratory in Emery's Cincinnati, Ohio, complex and no one has greater respect for the work of this brilliant man than I do.

The Thiocyanogen Method, AOCS Cd2-38, I doubt has been used in over 15 years. It's also known to be very inaccurate and the main reason that fat and oil analyses for

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fatty acid distribution are looked upon with wide reservation if published before 1945. The McNicoll Method, AOCS Da 12-48, an analysis of rosin in tall oil fatty acids, now has been almost completely displaced within the tall oil fractionation industry. And the spectrophotometric method for polyunsaturated fatty acids, AOCS Cd 7-58 during the late 1960s was used for linoleic acid assay with complete assurance, but about 15 years ago Reiners and coworkers at Corn Products at Argo, Illinois, published a disturbing report—statistical analysis of large numbers of corn-belt-grown corn oil samples showed 2.5 points lower in linoleic acid by the UV method compared to the new GLC method: that started us thinking. The Diene Value method, AOCS Th 1a-64, is regarded by all paint and coatings chemists as so very "approximate" as to hardly justify the term analytical method.

And, why do I say it's quite important that our *AOCS Methods* be put into a state of complete up-to-date usefulness and optimal efficiency? Our AOCS Foundation under the direction of Chairman Nicholas Pelick is stressing the importance of methods to American industry in a vigorous solicitation of funds, to develop and modernize our methods to make them more useful.

These three M's are but a small part of our programs. We are proud of what we do, and thankful for the contributed voluntary help and effort of all of those who donate their time and effort to make it all possible for a "good" today, and an even better tomorrow. □

Membership approves amendments

A series of 34 changes to the AOCS Articles of Incorporation and by-laws were formally approved during the 71st annual meeting.

Of the 3,366 members eligible to vote, 2,040 cast proxy ballots with 1,684 favorable votes required for approval. There were 1,874 ballots in favor of all the amendments, 24 opposed to all the amendments and 133 split ballots. Nine ballots were improperly marked and discarded as spoiled.

The changes permit transfer of incorporation from the state of Louisiana to Illinois, where the AOCS headquarters building is located. Several changes involved wording to reflect that action. Categories of membership were revised to substitute the term "student members" for "junior members" and to recognize the "active retired members" category. People in the "active retired members" category can maintain their membership at reduced fees.

The approved changes also add four nonvoting members to the Governing Board: the losing vice-presidential candidate, and the chairmen of the Education Committee, National Program Planning Committee and Smalley Committee.

Two or three candidates will be nominated for each Governing Board member-at-large position under the new by-laws, with the nominating committee instructed to try to balance representation geographically and among industry, academia and government.

Future changes in the articles and bylaws may be approved by a two-thirds majority of members voting, rather than by one-half of the members eligible to vote. Further advance notice of proposed changes also was approved to facilitate communication with overseas voting members.

Other changes were primarily to formalize what has been the practice in past years, or to provide explicit rules for filling vacant offices, improving committee communication with the Governing Board and similar items. □

Marcuse steps down as ISF secretary general

Dr. Reinhard Marcuse, secretary general of the International Society for Fat Research for the past decade, retired from that post officially during the ISF's 15th Congress, held as part of the ISF/AOCS World Congress.

Dr. Marcuse, who is with the Swedish Food Institute in Göteborg, will be succeeded by Drs. Ragnar Ohlson of AB Karlshamns Oljefabriker in Karlshamn, Sweden, and P.A.T. Swoboda of the Palm Oil Research Institute of Malaysia in Kuala Lumpur, Malaysia. All three officials are also members of the American Oil Chemists' Society. In his address to the ISF business meeting, Dr. Marcuse noted the ISF is unique in that it has no bureaucracy, no formal rules and no membership roles or fees. It has provided a truly international forum for researchers to present their work, he said.

A motion expressing appreciation to Dr. Marcuse for his service and dedication to ISF was approved unanimously

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