

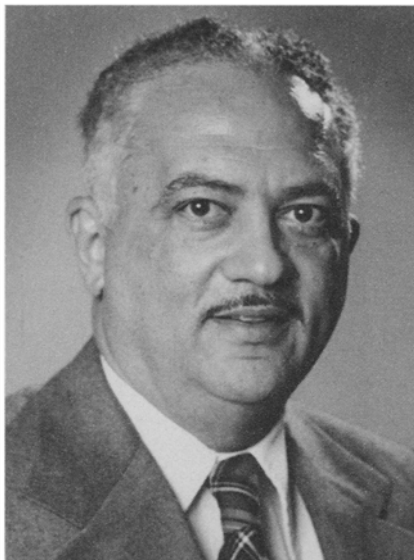
Profile

Cigar-chomping Arnold Gavin becomes president of the American Oil Chemists' Society next month, bringing with him to that task four decades of experience in fats and oils processing, more than 800,000 miles of international travel, and a results-oriented business attitude.

Along the way he's learned to fly private planes, played a lot of handball and become an ever-hopeful golfer. "One time in Argentina we were driving into town and there were police everywhere and confused traffic," he recalls. "We were told there was a revolution in progress, so we just turned around and headed away from town and toward the golf course." The revolution—actually a bloodless coup d'etat—was concluded with Gavin on the golf course.

That, however, occurred relatively recently in Gavin's career. Gavin grew up in Chicago, where he attended Tilden Technical High School, in the early 1940s. Attending a technical high school probably was what guided him into a technical career, he says. While he was in college, he recalls, his father one day, virtually out of the blue, told him, "You know, it looks like this fats and oils business might be a good one to get into." Gavin recalls seeing sledgehammers applied to Henry Ford's soybean Model T at the Chicago World's Fair of 1933, but his father's suggestion was shed as quickly as water from a duck's back in the young Gavin's thinking. He was 11 hours short of his degree at what is now the Illinois Institute of Technology "when Uncle Sam decided he couldn't successfully finish World War II without me," Gavin said. He became a chemical warfare officer with Gen. George Patton's Third Army, arriving in Europe to be officer-in-charge of an ammunition dump after the shooting had stopped.

Gavin was mustered out in 1946, returning home to finish his chem-



ical engineering degree in 1947 at IIT. His first job involved extraction, but not fats and oils. He was extracting vanilla with alcohol to provide flavoring for a chocolate drink manufactured by Bowey's Inc.

In August of 1947 he was hired by H. C. Dormitzer to work for Wilson & Co. in Chicago. Dormitzer, who had served as AOCS President in 1939, told Gavin he should join the American Oil Chemists' Society and also told him to start learning the standard analytical methods used in the fats and oils industry. Gavin spent his first months on the job at a lab bench with the AOCS Book of Methods. One colleague at Wilson was Hiram Spannuth, now an emeritus AOCS member, who originally joined the society in 1936.

As Dormitzer's assistant, Gavin was helping produce animal and vegetable shortening, pure vegetable shortening and lard. Gavin was in charge of Wilson's U.S. refineries when Dormitzer went to South America for four or five months in the late 1940s. At that time, sales of colored margarine became legal and Wilson's marketing staff demanded a yellow margarine "now!", Gavin said. He bought some old butter-production equipment and hooked it up to get Wilson in the market fast. Gavin met many people in these early years of his career whose paths he would cross again around the world and in AOCS activi-

Arnold Gavin

ties—Frank Khym, Peter Kalustian, Bob Hastert, Rodney Stewart, John Woerfel and others. It was just after a war, industry was expanding and there was new technology being developed in the fats and oils industry.

After a stint with Armour & Co. in Chicago, Gavin was with Podbilniak Inc. of Chicago. Although the firm, which developed and sold oil processing equipment, no longer exists, it may be of interest that Dr. Podbilniak's home on Chicago's Near North Side was bought in 1959 by magazine publisher Hugh Hefner and converted into the first Playboy Mansion.

After leaving Podbilniak in 1957, Gavin found himself back in the shortening business, working in Chicago to produce shortening for export. He was hired away by EMI Corp. in 1959. EMI at the time was a young company with specialists in oil extraction, but none in refining. Gavin brought refining expertise to the firm.

It was while with EMI that he learned to fly. Honeymoon in Mankato, Minnesota, was an EMI client. Gavin and other EMI staffers would travel by train to Minneapolis and then be flown to Mankato by a charter pilot. "I figured I better learned how to fly in case that guy ever got sick or something," Gavin said, so he began taking lessons from the pilot, who also was a certified instructor, while flying to and from the work site.

Gavin left the U.S. before obtaining his pilot's license however. Gavin obtained his first pilot's license in Argentina where he had moved in 1961 as manager of vegetable oil and soap products for International Packers Ltd. in Buenos Aires. With a once-a-month payday, Gavin developed a working relationship with local bankers under which end-of-the-month personal checks were kept in a desk drawer at the bank until payday

and, in return, the banker had access to the company larder stocked with foods from the U.S.

In Argentina, the non-Spanish speaking Gavin found a non-English speaking instructor with whom to complete his flying lessons. "We found ways to communicate real fast," he said. The examiner who took Gavin on his final test flight also did not speak English. It didn't matter, Gavin said, as the examiner took control of the plane shortly after take-off and spent the rest of the time showing off his own prowess. Gavin still has a valid Argentine pilot's license—and one for the U.S. as well, which he obtained after his return to the U.S. and EMI in 1963.

Gavin has been affiliated with EMI ever since, becoming known as a specialist in refining, helping build processing facilities in many nations and becoming more active in AOCS.

Gavin said he hopes during his year as president to support activities of geographical and speciality sections. He found many benefits from participating in section activities early in his career and now wants to strengthen those arms of AOCS. He thinks AOCS must continue to update and improve its methods programs. He began his fats and oils career learning those methods and in virtually all the plants he has helped build "we'd have to explain quality control methods and we'd always leave behind a copy of AOCS' methods," he said. Finally, he believes AOCS must decide how best to use the AOCS Foundation.

Gavin moved to Phoenix, Arizona, last year, maintaining ties to the Illinois-based EMI Corp. as president of the export-import arm which now has offices in Scottsdale. It's an arrangement that keeps him active but also provides more opportunity for golf—which has replaced flying as his avocation.

Gavin notes with pride, but perhaps a twinge of envy, that "all the golf trophies in our house are wearing skirts." When he took up golf seriously more than a dozen years ago, he warned his wife, Joan, that he wouldn't be taking her flying much any more and so she'd better learn golf if she wanted to

spend time with him. She did, and she wins tournaments. Arnold doesn't. He thinks it's because he really cares about winning, whereas Joan views it simply as something you do outside for exercise.

Whatever aspects of fats and oils you're involved in, you can find a common interest with Arnold Gavin—whether it's methods, or processing, or international expansion, or business conditions. If you're concerned about AOCS dues or registration fees, so is Gavin. At one point in the 1960s, he wrote a letter to AOCS protesting a dues increase and threatening to resign. He didn't, and obviously thinks he's been getting his money's worth. But he'll listen to your complaints and he knows your feelings.

If you don't want to talk fats and oils processing or AOCS business with Gavin, try golf. You'll find him at the tee next month in Hawaii, hoping to bring home his own trophy.

New section

The Mid-America Section of the American Oil Chemists' Society is to hold its first meeting on April 15, 1986. The section based in the Kansas City area was formally approved by the AOCS Governing Board at its November meeting.

Serving as temporary officers to organize the section are Frank D. Doca of the C.J. Patterson Co. as president, Edwin A. Koziol of Paniplus Co. as vice-president, James L. Knearem of Grindsted Products as secretary and Rex E. Garrelts of Procter & Gamble Co. as treasurer.

The April 15 meeting will be held at the Ramada Inn South, Longview Road and 71 Highway, Kansas City, Missouri. Speakers for the first meeting will be James Lyon, AOCS executive director, and David Berner, AOCS technical director.

Bailey Award

Edward G. Perkins was presented with the 1986 Alton E. Bailey Award during the Feb. 5 meeting of

the North Central Section of the American Oil Chemists' Society.

Dr. Perkins, who is a professor of food chemistry and nutritional sciences at the University of Illinois at Urbana, received a plaque that said the award was given "in recognition for his pioneering and creative contributions to lipid research in both food and nonfood applications."

Among Perkins' research interests are the development of techniques to standardize the methodology in detecting the flavor components in fats and oils and the establishment of chromatographic methods for the separation of complex triglycerides. In other areas of food chemistry, Perkins has made basic contributions to understanding the metabolic consequences of the Maillard reaction by using a model system approach with the initial Amadori product.

During his address, Perkins noted it used to take hours, days or even weeks to separate triglycerides. Now, it can be done in as few as eight minutes. Perkins said the challenge for the future will be to learn how to manipulate the biosynthesis of fats and oils within oilseed crops like soybeans so that new uses can be found for surpluses. Much of Perkins' talk covered new data on his work in cyclic monomers, linolenic acid and the use of high performance gel permeation chromatography to show the analysis of mono-, di- and triglycerides. He will elaborate on his latest research at the AOCS annual meeting in Honolulu next month.

Perkins is a native Illinoisan. In 1956, Perkins received his B.S. in chemistry from the University of Illinois. He finished his masters' and doctoral degrees in food science at the U of I in the next two years. Perkins began his career at the central research division of Armour and Co.; in 1962 he joined the Food Science Department faculty at the University of Illinois. Besides being internationally recognized as a researcher and teacher, Perkins has a distinguished record of service to the field of fats and oils. He served as president of AOCS in 1981 and has chaired many AOCS committees.

Inside AOCS

Donors to the 1986 Bailey Award fund include Akzo Chemie America, Archer Daniels Midland, Bunge Edible Oils Corp., Cargill Inc., Central Soya, EMI Corp., Interstate Foods Corp., Kraft Inc., CM/Durkee Foods, The Procter & Gamble Co., Ultimate Designs Inc., Unichema Chemicals Inc. and Wurster and Sanger Inc.



Dr. Edward Perkins (left) talks with previous Bailey awardees Dr. Frank A. Norris (center) and Dr. Edwin N. Frankel.

Fund honors Ev Pryde

A fund in honor of the late Everett H. Pryde has been established by his wife, Phyllis W. Pryde, at Amherst College, Amherst, Massachusetts.

The Everett H. Pryde Fund, a permanently endowed fund, is to be used for two purposes. One is to provide an annual award, to be known as the Everett H. Pryde Research Award, for an Amherst senior who has been an outstanding teaching assistant in chemistry and who shows great promise for



Gerald Szajer, vice-president of the North Central Section of AOCS (left), and Robert Regutti, chairman of the Bailey Award Committee (right), present Dr. Edward Perkins with the 1986 Alton E. Bailey Award.

PROBLEM: **COSTLY, OUTMODED CONTROLS**

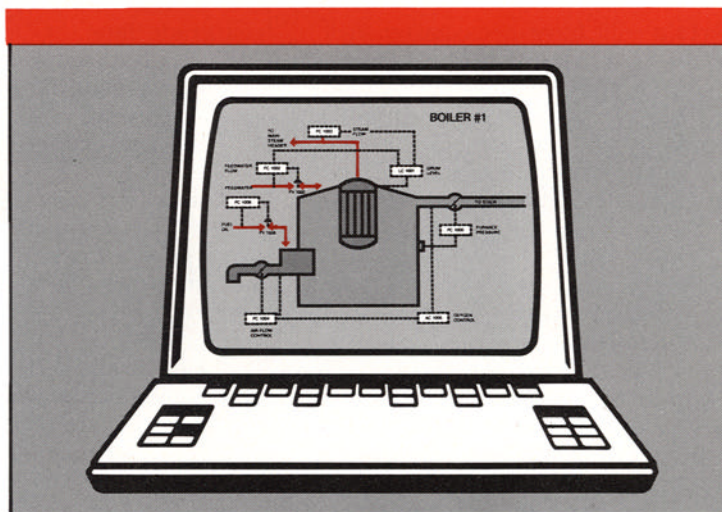
SOLUTION: **ADVANCED PROCESS CONTROL SYSTEMS FROM PSI**

Cut costs—improve quality—increase yields—with a state-of-the-art process control system designed specifically for your oil processing plant needs by PSI Process Systems, Inc.

PSI is the only engineering firm in the United States that has had complete hardware and software responsibility for a major grass roots edible oil refinery. PSI can furnish you a turnkey control system with loss monitoring, base stock recipes, alarm logging, daily inventory and production reports, continuous batch processing, scheduling and automatic start-up and shut-down. **The result:** lower labor costs, lower maintenance costs, better quality control and higher profits.

PSI is your single source for all the critical elements of a complete controls package:

- Hardware and software integration
- Programming and documentation
- Networking of PC's with supervisory computers.
- Installation, operator training and start-up



To learn more about how PSI can help you with a solution, write Phil Bollheimer or Joe Anglin at PSI today. 4466 Elvis Presley Blvd., Suite 300 Memphis, TN 38116, U.S.A.
901-345-8760
TELEX II 810-591-1122



carrying out research in science or medicine. The second is to provide the means to bring distinguished visiting scientists, particularly graduates of the college, to Amherst to lecture or give seminars on selected topics in the field of

chemical research.

Dr. Pryde received his B.A. in chemistry in 1939 from Amherst College. At the time of his death last August 16, he was research leader for exploratory organic reactions research in the oilseeds crops

laboratory at USDA's Northern Regional Research Center, Peoria, Illinois. Dr. Pryde, an active AOCS member, was respected as an expert on nonfood uses of vegetable oils, principally soybean and linseed oils.

Methodology



Analytical Q&A

(The following column is based on questions sent to AOCS technical director Dave Berner. If you have a question concerning analytical methodology of fats and oils or related products, please send your question to AOCS Technical Director, 508 S. Sixth St., Champaign, IL 61820.)

Q. Is there a Chemical Abstracts Service (CAS) number for soybean oil and, if there is, what is it?

Certain oils have been assigned a provisional number. While a search may be made under the provisional number, it is also advisable to search by the specific name of the oil. In the case of soybean oil, the provisional number is 8001-22-7.

Q. Where can I find values for the critical temperature of olive oil and vegetable oils?

One source listing the critical temperature of dissolution (Crismer Value) of fats and oils is Mehlenbacher's *The Analysis of Fats and Oils*, Garrard Press, Champaign, IL, 1960, Table 3, p. 240.

Q. For the testing of unsaponifiable matter, methods Ca 6a-40 and Ca 6b-53 are not applicable to feed grade fats. Why? Do you have a method for unsaponifiable matter in feed grade fats?

Methods Ca 6a-40 and Ca 6b-53 should not be used for fats and oils having a high level of unsaponifiable matter and fatty acids, like feed grade fats. AOCS method Cf 1-68 (73), Recommended Practices for Testing Feed Grade Products, cites the use of AOCS method Ca 5b-71 for unsaponifiable matter.

Q. When sunflower seeds are ground for oil analysis, a paste forms, preventing uniform blending and sampling. How can this be corrected?

The seeds should be ground with an equal weight of diatomaceous earth. This procedure is noted in method Ai 3-75, determination of oil content in sunflower seed.

Q. Are there any restrictions on the sale of vegetable oils deodorized by the use of Dow-therm as the heat exchange agent? Does AOCS have any methods for the detection of Dow-therm in vegetable oils?

Japan does not allow the use of Dow-therm in the deodorization

process and will not import oils processed by the use of Dow-therm. Similar restrictions apply to certain EEC countries. AOCS has no official method for the detection of Dow-therm in oils. A steam distillation/GC method (detection limit 0.2 ppm) appears in *JAOCS* 51:495, and a trap/GC method (detection limit 5.0 ppm) appears in *JAOCS* 59:278.

Q. Could you help me find the "original" article that described the work that was done to relate the iodine value of fats to the refractive index (n_D)?

The formula for converting refractive index to iodine value noted in the conversion table you sent with your letter was published in *JAOCS* 28:5-8 (1951). This is for refractive indices determined at 25 C. The formula for converting refractive indices determined at 40 C was published in *JAOCS* 36:304-307 (1959). The refractive indices for milk fat noted in the conversion table accompanying your inquiry were most likely calculated using the formula for 25 C.