PULPING DIVISION CELEBRATES A CONFERENCE ANNIVERSARY

IAN J. CLARKE-POUNDER

CELEBRATING 50—A FLASHBACK

On Oct. 28, 1996, members of TAPPI's Pulp Manufacture Division (PMD), celebrated 50 annual stand-alone conferences on pulping, thanks to the foresight and diligence of the 1944 Alkaline Pulping Committee (APC) and many others. Let's take a walk through time and note the accomplishments that have developed PMD and its committees to what we are today.



50th Anniversary Logo

WAY BACK WHEN

In 1914 a group of pulp and paper men under the initiative of Harry Fletcher was charged with forming a technical association—what vision at a time when pulp and paper manufacture was very much an art in the minds of many! Communication and travel was slow. Many mill sites were self-contained and isolated, making it tough to network without some kind of forum for meeting.

A year later, at the Waldorf Astoria Hotel in New York City, Fletcher gathered together some 35 men and formed our technical association. On Feb. 17, 1916, the first TAPPI Annual Meeting was held at which "TAPPI," the Technical Association of the Pulp and Paper Industry, was accepted as our organization's official name. The Soda Pulping Committee was formed, chaired by Martin L. Griffin of Oxford Paper.



Harry Fletcher

In the following year, 1917, the Sulfate Pulping Committee was formed under the chairmanship of Otto Kress of Forest Products Laboratory. This committee apparently went under and was recreated circa 1925.

Committees and particularly their members have always been the engine by which TAPPI achieves its primary goal—a forum for the exchange of technical information pertaining to and associated with the manufacture of pulp, paper, and paperboard. To this end pulping committees contributed by presenting technical papers and sessions at Association meetings only, until 1944.

THE ROARING '20s AND THE SOMBER 1930s

By 1920 the chairmen of the standing TAPPI pulping committees comprised :**Groundwood**: W. A. Munro, the Wisconsin River Pulp and Paper Co., Stevens Point, WI; **Soda Pulp**: G. K. Spence, New York and Pennsylvania Co., Johnsonburg, PA; **Sulfate Pulp**: Carl Moe, Stevens Point Pulp and Paper Co., Stevens Point, WI; and **Sulfite Pulp**: W. E. Byron Baker, The York Haven Paper Co., York Haven, PA. Not one of these committees listed more than five members.

The 1920s heralded tough times although significant expansion, especially in newsprint production, took place using northern softwoods and the abundant hydroelectric capabilities. The Sulfate Pulping committee (SPC) became the Alkaline Pulping Processes Committee (by 1931 the current name Alkaline Pulping Committee [APC] had been adopted). SPC incorporated Soda Pulping under the chairmanship of Elmer S. Hinman of P. H. Glatfelter.

During this period, significant plantings of eucalyptus species were instituted, particularly in Brazil. The decade ended with the stock crash of 1929. Hardship was widespread, yet our predecessors in pulping technology kept activity alive, exchanging ideas and experiences in the Technical Association Papers and the many papers that were published in *THE PAPER TRADE JOURNAL*. These media were superseded by *TAPPI JOURNAL*. Unfortu-

nately, the practice of printing minutes of discussion on paper presentations was discontinued.

Hot topics of the 1930s included grinding, waste elimination, and water usage affected by increased machine size and capacity. By 1937, TAPPI had grown to 1354 members. The annual meeting minutes record, "The development in the South (U. S.) is forcing the industry to be scientifically minded by the substitution of sulphate [*sic*] for sulphite [*sic*], specifically with regard to semi-bleached and full bleached pulps."

The decade closed with Europe in a state of war!

THE CRISIS-DRIVEN 1940s

TAPPI entered the decade with some 1700 members. Alkaline, Pulp Purification, Mechanical, Fibrous Raw Materials, and Acid Pulping committees were all active, providing standards and technical sessions to both TAPPI annual and fall meetings.

Driven by the need to support the war, technological advances and innovation abounded. The wood supply was constrained due to labor shortages in both U. S. and Canadian woodlands. Conservation of critical materials and shortage of manpower were the order of the day. Use of alternative cellulose materials, e.g., corn or straw, was the hot topic along with process changes and modifications to meet wartime product specs. It was said at the 1944 annual convention, "Waste paper has invaded the holy sanctums of the fine writing paper mills and become a respectable citizen in the U. S. economy," due to the crisis conditions of wartime.

During Oct. 18–20, 1944, the first conference on pulping (stand-alone), jointly sponsored by the APC and the By-Products Committee of the Pulping Manufacturing Division (PMD), was held in Savannah, GA. One hundred people listened and participated in discussion of such topics as chip size and cat-faced wood. The conference ended with a visit to Union Bag and Paper Corp.'s mill, arranged by the resident mill manager Gunnar W. F. Nicholson (1946 TAPPI President).



Gunnar Nicholson

In 1945, TAPPI continued to operate under wartime conditions that precluded the convening of TAPPI national meetings and presumably a second pulping conference. When the first post-war TAPPI annual convention was held on Feb. 28, 1946, more than 1000 members attended and celebrated. At that time PMD committees included Acid Pulping, Alkaline, By-Products, Paper Deinking, Mechanical Pulping, and Pulp Purification (the Fibrous Agricultural Residues Committee was part of the Industrial Division).

Undoubtedly sparked by the success of the first conference on pulping, the TAPPI Board suggested holding a number of fall regional meetings under the auspices of one or more committees. Two hundred forty people gathered for the second conference on pulping on Oct. 14–16, 1946, jointly sponsored by the APC and the Chemical Products committee. W. F. Gillespie (TAPPI President 1947–1948) was conference chairman. Hot topics covered were tall oil, turpentine, and pulp washing. The washing topics included diffusers, benefits of soaking, screw pressing, soda loss determination, rewashers, and vacuum drum washers.

This was the year that worldwide, three commercial-size chlorine dioxide bleaching systems started up. The first chlorine dioxide generator (one ton per day), based on the Rapson-Wayman process, was placed into operation at Temiscaming, QC, Canada.

Agricultural Fibers Committee (est. 1945), forerunner of the Non-Wood Plant Fibers committee, held its first meeting. At that time, some 25 mills in the midwestern United States were producing some one million tons per year of corrugating medium from straw pulp.

In 1948, the first International Mechanical Pulping Conference was held in Poland Springs, ME. Jointly sponsored by TAPPI and the Canadian Pulp and Paper Association (CPPA), this appears to be the first time that committees of two associations organized an international conference on pulping. Today there are many such cooperative conferences on various aspects of pulp manufacture including pulp bleaching, recovery, sulfite, nonwood plant fiber, and recycled fiber.

For undetermined reasons pulping conferences were not held in 1945, 1948, or 1949.

THE SIGNIFICANT 1950s

The industry was changing. Production assumed priority, effecting great improvement on productivity. New pulping processes were emerging, e.g., continuous cooking, use of chlorine dioxide, continuous debarking, close up of brownstock washing systems, and rejects recovery, all aided by the newly innovated process machinery.

Annual, stand-alone conferences on pulping sponsored by APC became standard. Hot topics included screening, washing, causticization, water reuse, odor abatement, lime burning, continuous cooking, and of course aspects of sulfite pulping. By contrast with membership today numbering over a hundred, the APC in 1951 had 16 members.

Other Division committees were also highly active in sponsoring and organizing conferences during this period. The first paper deinking conference in Kalamazoo, MI, held during September of 1956, covered topics on bleaching, stream pollution (with the National Council of the Paper Industry for Air and Stream Improvement Inc.), cooking and washing, and the removal of "pernicious contraries."

THE HECTIC 1960s

Television, communications, health maintenance, leisure activities, economic growth, etc., combined to radically change lifestyles worldwide. Global pulp production grew from 60 million metric tons per year in 1960 to 103 million metric tons per year in 1969. This growth was accompanied by increased use of innovations. High-consistency oxygen gas-phase bleaching and delignification, the continuous digester, 3000 HP-plus refiners for mechanical pulping, pump- through screening and knotting, flotation removal of contaminants in used paper pulping, sodium-base sulfite pulping to supersede calcium, process control, plastic piping and vessels, hi-consistency peroxide bleaching of groundwood, and sequential bleaching are but few of the many innovations that permitted great technical advancements in pulp manufacture.

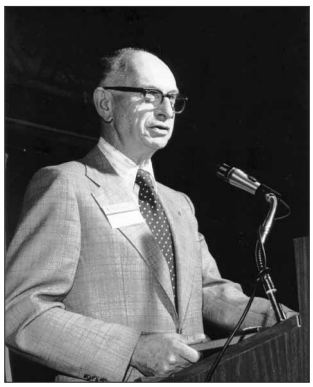
All aspects of pulp and paper production were becoming more complex, demanding a higher education and more technical ability from TAPPI members. The technical content and mill papers presented at the various conferences and symposiums on pulp manufacture showed a keen desire on the part of the committees to be responsive to demand, enhance technical competence, and inform on new technologies.

The first pulp bleaching conference was held in the Edgewater Beach Hotel, Chicago, IL, in 1960. It is believed to be the forerunner of today's International Pulp Bleaching conferences. The first official, jointly sponsored TAPPI–CPPA international conference seems to be the one held in 1964. The international participation is evident from the onset. The pulp bleaching panel participants included: H. W. Giertz, Norway; N. Hartler, Sweden; W. H. Rapson, Canada; R. J. Stevens, Canada; and J. A. Van den Akker, United States.

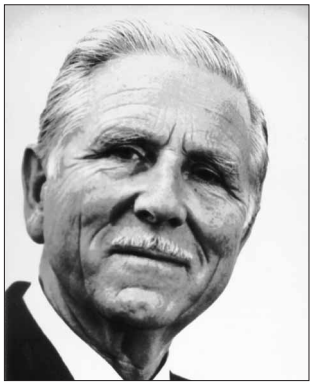
Under the chairmanship of R. P. Whitney, these internationally known authorities considered questions timely then ... and timely today:

"Where do we stand today in pulp bleaching? Are we progressing toward better performance? What are the "roadblocks" to further progress? Is our R&D geared too much to present-day technology and presently employed bleaching agents? What problems in bleaching will arise due to new developments in other areas of pulp and paper technology? Do we have an understanding of the mechanisms of bleaching? Are we adequately concerned with audacious thinking regarding entirely new approaches to bleaching?"

In September of 1966, at the 20th APC-sponsored Pulping Conference held in Richmond, VA, Roy L. Miller (TAPPI Fellow, Division Chairman 1972–1973, and APC Chairman 1966–1967) provided a historical celebration. Johan C. F. C. Richter, inventor of the Kamyr continuous digester, was presented with the first Division Technical Award.



Roy L. Miller



Johan Richter

The 1967 Division minutes reflect a desire to improve educational opportunities: "Individual secondary fiber, mechanical pulping, and pulp bleaching conferences should be continued. The annual alkaline pulping conference should be broadened to include additional sessions on bleaching and fibrous raw materials, mechanical pulping, secondary fiber, and dissolving pulp." A three-year trial of the proposed format was suggested to begin in 1971. A combined, annual PMD Pulping Conference, with all committees participating, was not to occur until 1979.

THE AGGRESSIVE 1970s

Worldwide societal conscious actions in the '70s signaled the call for legislation against pollutant discharge into receiving waters, earth, and atmosphere. In the United States alone, environmental capital expenditures in 1967 reportedly totalled US$ 564 million or 29% of all paper industry expenditures.

Demand for paper products grew significantly. An increased demand for pulp was accompanied by expanded use of hardwoods, used paper, and cereal fibers. Improved forest production and harvesting, together with increased use of sawmill waste including sawdust, also contributed to satisfying the increased demand for pulp. The discharge of water and pollutants was being drastically reduced.



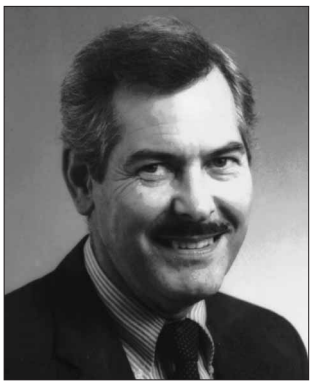
Joseph Atchison

In 1970, under the chairmanship of Joseph E. Atchison (1996 Gunnar Nicholson Gold Medalist, TAPPI Fellow, and 1990 Division Leadership and Service Award recipient), the Non-Wood Plant Fibers (NWPF) Committee was chartered as a full committee (previously it had been a subcommittee of APC). Atchison holds the record for having been a committee chairman—11 years!

During the 1970s, bleaching technology had high visibility. Conference papers and roundtables covered displacement bleaching; oxygen delignification; medium-consistency, hi-shear mixing; chlorination; oxidative extraction; rapid extraction; closed bleach plants; and the zero-effluent mill. Implementation of these technologies was reported on and the substitution of chlorine dioxide and, alternatively, the use of ozone to replace chlorination was described.

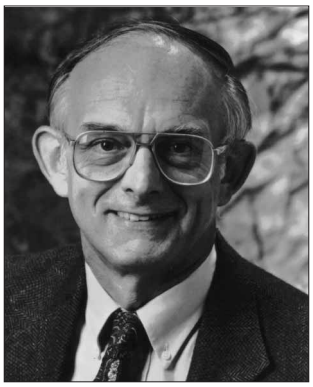
The use of modern printers, new inks, and associated deinking techniques and issues were presented along with new equipment to deink, bleach, and purify pulps from washed papers. In mechanical pulping, powerful pressurized refiners were developed to produce pulp for more economical, lightweight paper. Papers of the decade described the whitening of such pulps to meet brightness needs.

The 25th annual Alkaline Pulping Conference was sponsored by the Alkaline, Pulp Bleaching, Sulfite, and AdHoc Woodyard and Woodroom committees. The third NWPF conference was held on site at the same time, and Mechanical Pulping and Pulp Bleaching committees continued to sponsor international conferences every three years.



Jurgen Kleinau

The registration fee for the 1978 Pulping Conference in New Orleans, LA, was US$ 100 to attend 38 paper presentations plus six roundtables (each presented twice). For the first time, the program book included TAPPI's Statement on Anti-Trust and a layout map of the hotel.



Bill Fuller

In 1979 the first annual PMD Pulping Conference to be organized, sponsored, and directed by PMD under the chairmanship of Jurgen Kleinau was held in Seattle, WA, jointly with ATCP Mexico. The 60 papers and seven roundtables included hot topics on oxygen delignification, TMP and CTMP, energy flotation deinking, pulp from municipal solid waste, pulping additives, chip quality, and bagasse for newsprint. A number of sessions were presented in Spanish and English.

William S. Fuller (TAPPI Fellow, 1995 TAPPI Distinguished Service Awardee, and 1993 PMD Leadership and Service Award recipient) was elected chairman of the newly formed Fiber Raw Materials Committee. Other committees on the Division roster were the Alkaline Pulping, Pulp Bleaching, Dissolving Pulps, Mechanical Pulping, Non-Wood Plant Fibers, Secondary Fiber (non-recycle fiber), and Sulfite Semi-Chemical Pulping. With the exception of the committee on dissolving pulps, all continue to be active today. The joint Subcommittee on Oxygen Delignification subsequently became a part of Pulp Bleaching.

THE TURBULENT 1980s

By 1986, worldwide paper and board production exceeded 200 million tons per year; pulp production was almost 150 million metric tons per year. Market prices for all products fluctuated widely. Energy, wood, and raw-material costs affected profitability.

Governmental controls of timberland and environmental regulation, coupled with escalating environmental protection activity and supply/demand fluctuations, all combined to affect industry operations and financial performance.

Mergers, acquisitions, divestitures, expansion, and restructuring were but few of the methods used by the industry to become more efficient, cost-effective, and strategically focused. Pulp mills were changing drastically as was the use of recycled paper, softwood and hardwood mechanical pulps (new TMP, CMP, CTMP, and BCMP), eucalyptus (Brazilian and Portuguese), and bagasse (for newsprint) pulps in the production of paper and board.

Against this backdrop, pulping conference attendance rose to over 1300. Key topics during the decade centered on:

- environmental discharge issues
- replacement of chlorine as a bleaching agent by chlorine dioxide, ozone, peroxide, or both (dioxin and toxicity issues)
- alternative chlorine-free bleaching chemistry
- improved cooking and liquor recovery
- reducing energy requirements (e.g., low-energy cooking, fluidizing)
- odor abatement particularly in kraft pulping
- reducing and eliminating water usage (zero-effluent mill)
- improving washing and mixing efficiency
- improving the physical separation of contaminants, dirt, and shives in all methods of pulp manufacture
- increasing pulp yield
- increased use of recycled fiber and its purification.

The Division's committees escalated workshop and seminar offerings to the industry to promote and extend technical educational opportunities during the '80s; offerings covered kraft recovery operations, brown stock washing, bleach plant control, stock preparation, and oxidative bleaching. International conferences on pulp bleaching, mechanical pulping, sulfite pulping, chemical recovery, secondary (recycled) fiber, non-wood plant fibers, dissolving, and specialty pulps added to the educational opportunities made available by PMD committees. Significant improvement in Division operations was also achieved during this turbulent period as committees worked hard to elevate the quality of technical exchange and individual recognition.

In 1980, the Division Technical Award and Johan Richter Prize (US$ 1000) was given to Renata Marton in recognition of her contributions to the greater understanding of pulping processes and the nature and origin of substances in wood which detract from paper quality. A gracious lady, she was always willing to listen, help, and share.



Renata Marton

In 1988, the Division Leadership and Service Award was instituted. accompanied by the Joseph K. Perkins prize of US$ 1000, to be given in recognition of outstanding individual contribution to the Division and its committees. The first award was presented jointly to Jean-Claude Corbi (current Division Chairman and 1986–1987 PBC Chairman) and Earl Malcolm (1992 TAPPI Fellow and 1986–1987 Chairman of the Oxygen Delignification Committee) by Ian Clarke-Pounder of Ingersoll-Rand Co.

In recognition of suppliers' roles in the divisional activities, the Supplier Advisory Committee was chartered in 1988 under the writer's chairmanship. The Committee has since provided educational panel sessions at conferences on topical subjects such as "Buyers Needs Today," "Patent Law" and "Association Guidelines on Commercialism," among others.



(L–R) Earl Malcolm, Joseph Perkins, Ian Clarke-Pounder, Jean-Claude Corbi

THE 1990s AND NOW WHAT?

The essence of TAPPI and the Division is dedicated, caring, and sharing people, leaders, and staff. Each two years the Division recognizes, at the opening session of the conference, the individuals who have chaired and guided our committees. Each year recognition and an award of US$ 1000 is given to the author of the "Hi-Impact Paper" selected from the previous conference papers. Also, the APC recognizes the author/presenter of the best alkaline pulping paper with the David Wetherhorn Award.

The Division awards special Certificates of Appreciation, as the occasion arises, to individuals who have made special and significant contributions to Divisional activities and special events. Some of our committees also award Committee Certificates of Appreciation recognizing outstanding individual contributions to committee activities.

In 1991, the Division Leadership and Service Award and Joseph K. Perkins Prize was awarded to the late Wayne F. Carr (1990 TAPPI Fellow, past TAPPI Director, and 1984–1985 Division Chairman) in recognition of his outstanding leadership at all levels of TAPPI and his inno-



Wayne Carr



William Cullison

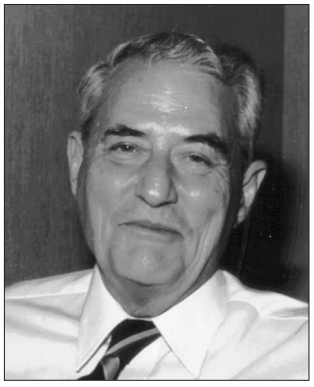
vative contributions to the Division.

In 1996 we were particularly saddened by the loss of two significant contributors to the progress of the Division over the years: William L. "Bill" Cullison, executive director of TAPPI, and W. "Michael" Kouris, editor emeritus of *TAPPI JOURNAL*.

Each moved quietly behind the scenes, always available to counsel, help, guide, and further our quest for improvement. Their input will be missed—but we go on.

It has been said "the only thing that is constant is change." Will PMD membership continue to grow? Will the Pulping Conference continue to grow? Will tele-visual conferencing replace conferences? Will this new computer-literate generation still desire hard copy, communication, and records? Will advertisers reduce the use of hard copy? Will-will-will?

D. Clark Everest (1944 TAPPI Medalist and TAPPI founding member) aptly summed it up this way, during the year of our first conference on pulping: "There are those who will continue to exist in the clear vision of hindsight but you will go forward to great accomplishment through *ideas* and in clear vision of foresight."



Michael Kouris

Carpe diem—ex fide fortis.

ACKNOWLEDGMENTS

In doing the research for this celebration I have had the opportunity to talk with and be reminded of many I met on my life's walk. Everyone took time to share their knowledge, experiences, and recollections. Space prohibits me mentioning each friend and expressing my heartfelt thanks. I never would have gotten this far without your input.