

Jan Bergström named TAPPI's 1991 Gunnar Nicholson Gold Medal Awardee

Jan I. Bergström, a consultant with offices in Täby, Sweden, received TAPPI's highest honor during its Annual Meeting, held this year in Orlando, Fla.

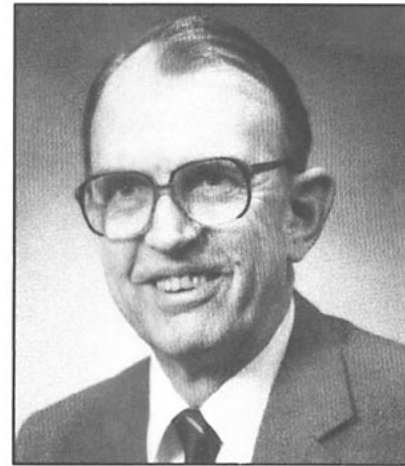
Journal: *Could you tell us about how you came to choose a career in the paper industry? Was your education at the Royal Institute of Technology specifically directed toward the paper industry, or did you choose later to work in this field?*

Bergström: At the Royal Institute of Technology, I studied in the Department of Applied Physics, which gave me the opportunity to learn a bit of just about everything—physics, chemistry, electronics, mechanical engineering, statistics, even some nuclear physics. When I was nearing graduation I heard about a pilot paper machine which was being completed at the Central Laboratory of the Swedish Paper Industry (part of what is today called STFI). I applied for a job there, and the next semester took paper technology from Professor Borje Steenberg, TAPPI's 1970 Gold Medalist. This delayed my graduation, but I never regretted the decision to get into papermaking research.

Journal: *Could you give us a brief overview of the highlights of your career in the paper industry?*

Bergström: After graduation, I worked for Steenberg for about eight years, which gave me a very good start. During that period, I had the opportunity to spend a year in North America. I was fortunate to be accepted as an exchange student in the Research Laboratory of Beloit Iron Works (now Beloit Corp.), where I worked for another TAPPI Gold Medalist to be, the late E. J. Justus. (*Editor's note: Justus received the Gunnar Nicholson Gold Medal Award in 1988.*) He asked me to find out what wet pressing is all about, and I did learn something about it during that year. I kept an interest in wet pressing, and many years later was fortunate to be back at Beloit and part of the team that developed and put the extended nip press together.

After 10 years at STFI (the Swedish Pulp and Paper Research Institute), I joined the Swedish Cellulose Co. (SCA) as research director, papermaking. This company



was just starting to change its profile from being a supplier of market pulp from a large number of small pulp mills to a papermaking organization with a few large paper mills, initially a newsprint and a linerboard mill. Soon thereafter SCA established itself in the corrugated board business.

I consider myself extremely fortunate to have been present and engaged in this restructuring of a major company, which meant that new technology was being introduced across the board. We were among the very first to introduce refiner mechanical pulping on a large scale. Later on, we put one of the very early twin-wire gap formers on a newsprint machine, and a few years after that we put a similar former with layering capability on a linerboard machine. I was in a very good school, working for the late Rune Hellerqvist, vice president of technology. He was often referred to as the technical philosopher of the company.

After my years with SCA, I returned to Beloit Corp. and spent 10 more years in the United States, most of them as vice president, R&D. This was the period when twin-wire forming came of age and when most of the hybrid formers were born. The most exciting development I was involved with, however, was that of the extended nip press. The development work through the pilot machine stage was very interesting, but to see the performance of the first commercial installations was truly exciting.

After a few more years, it was time to move back to

Sweden in preparation for retirement. My career had come full circle when I was named president of STFI. I had the good fortune to spend my last four years before retirement at the place where it had all started.

At the time, there was some uncertainty about the future direction of the Institute, and the support of the industry was not fully established for the long term. Most of these uncertainties were removed early on, and now the Institute enjoys very solid support from the Swedish industry. The Institute is well equipped and staffed to handle the many good research programs currently under way. The experimental former FEX, which has replaced the original pilot paper machine that got me into this industry, has also been modified and expanded. When I retired from STFI, no less than 40 years had gone by since I first walked through its doors.

Journal: *What are the professional innovations or accomplishments that you feel are your most important or significant work?*

Bergström: The mechanical pulping work I was involved with many years ago was quite significant at that time. When I was mostly busy with printability and runnability of newsprint in the 1960s, I certainly considered that work highly significant. The many years of research and development work in the wet pressing area, I think, may still be considered significant.

When you get absorbed in research management, it is more difficult to identify significant work of your own. While at Beloit, I was fortunate enough to be associated with the development of many new paper machinery parts or components such as headboxes, formers, presses, and innovations in coating, winding, and cross-machine profiling of basis weight, etc., all of which was highly significant.

Journal: *How did you get involved in TAPPI? How has your involvement in TAPPI affected your career?*

Bergström: When I was coming to the United States and Beloit the very first time—in 1957—I decided that it was time to apply for TAPPI membership, and I have been a member ever since. I have attended many TAPPI meetings, especially the Engineering Conferences, and have found this very beneficial. I have always encouraged members of my teams to become TAPPI members and to attend meetings. It is foolish not to take advantage of the vast knowledge that is available from fellow members of an association like TAPPI.

Journal: *You were named a TAPPI Fellow in 1984. What TAPPI committees and activities had you been involved in?*

Bergström: Since I was living in Sweden during most of my career, it

was difficult to be an active TAPPI committee member. While at Beloit, and for some time thereafter, I was a member of the Research Management Committee and found that very beneficial.

Journal: *What do you feel are the most significant changes in the paper industry during your career?*

Bergström: The restructuring of the industry which has taken place in most developed countries totally changed the basis for the technical development of the individual mills as well. The large units have been financially strong enough to take advantage of the possibility to build and install very large and highly productive paper machines. From 1950 to 1990, the maximum capacity of a new newsprint machine has increased by a factor of 3 or 4. For an uncoated white paper machine, the corresponding number is 6.

Apart from the financial strength of the companies and the technical capability of the equipment, a new type of papermaker has been needed to accomplish the major changes that have taken place in this period. Today's papermakers are often graduate engineers or have a corresponding formal training. Many of them have several years of experience in research and development, and they have a very good understanding of the entire papermaking process. TAPPI has had an important role to play in this development and will continue to play a vital part.

Journal: *Since your career spanned jobs in both Europe and North America, could you tell us your impressions of the critical differences between the Scandinavian approach to research and development and the approach taken in the United States?*

Bergström: In the comparatively small Scandinavian countries (Northern, rather, since Finland does not belong to Scandinavia), the individual companies in each country have traditionally been very close and have exchanged information, particularly on technical matters, with very few restrictions. People have also moved between these companies in such a way that it would have been rather meaningless to try and keep technical secrets from one another.

Formal cooperation in the area of research and development has existed over 60 years. In Sweden, all members of the trade association financially support the common research institute STFI. This has led to a togetherness that you hardly find in North America between companies. The research programs are agreed upon by all the companies, and together they now run a very effective recruitment program, with STFI handling many important functions.

STFI also has a training function for the industry, in

close cooperation with the Royal Institute of Technology in Stockholm. In Finland and Norway, you find similar arrangements.

Journal: *What are your thoughts on the future of the paper industry in Europe and North America?*

Bergström: I am in no way a specialist when it comes to forecasting paper consumption and such. I believe it is true, however, that the per capita consumption of paper and board keeps going up, and so does the world population. In the 1990s, the world consumption may increase by as much as 10 million tons per year. Even half of that quantity amounts to something like one more paper machine every week to meet demands.

The areas with well-kept natural forests or plantations have a growth rate which can match this increase in fiber demand. A large part of the increased paper production will appear in developed countries, and preferably in areas with an adequate fiber supply. There should be no great problems ahead for the North American and the European paper industry, provided the manufacturing costs can be kept under control. To do this, it will be necessary to have access to the latest research results and technical developments. Much of

this can be made available from jointly financed research institutes like the Institute of Paper Science and Technology in Atlanta and STFI. Companies not supporting these institutions will have to pay for their own research and run the risk of being left behind in the struggle for industrial excellence and profitability.

Journal: *What advice would you give a young person just starting out a career in the paper industry?*

Bergström: My advice to a young person would be:

- Get solid training, both theoretical and practical, and not too limited in scope.
- Travel and get to know papermaking in different parts of the world.
- Learn about paper from its users: printers and converters.
- Join technical associations like TAPPI and attend their meetings, conferences, and seminars as often as possible.
- Be prepared to work long hours, and you will enjoy belonging to the "international brotherhood of papermakers."□