



The News Journal/**CHUCK MCGOWEN**

Joseph Labovsky, a member of the DuPont research team that developed nylon, shows one of the devices used in the fiber's original production.

A foot soldier recalls the 'nylon revolution'

His role then was a small one. It has grown with time.

By **PHIL MILFORD**

News Staff reporter 10/26/95
In the annals of the DuPont Co., Joseph Labovsky may forever be a footnote — but a footnote to a revolution.

Although he is rarely mentioned in the history of the company or its famed nylon product, Labovsky is one of the last surviving members of a group that helped make Delaware history.

The invention of nylon is at-

► Nylon still strong ... **A10**

tributed to Wallace H. Carothers. But the miracle fiber's development involved teamwork among a handful of chemists and technicians who labored in relative isolation during the 1930s at the DuPont Co. Experimental Station.

Labovsky, now 83, of Shellburne, was one of them.

Vibrantly healthy and often laughing, the diminutive Labovsky remembers those early days well, and his colleagues as true pioneers of research. Today, his car sports the vanity tag "NYLON."

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The efforts of those researchers is once again to be honored today, as the American Chemical Society designates the Seaford nylon plant — the first in the world — as a National Historic Chemical Landmark. Those attending will have a chance to relive the discovery and recognize the men behind it — thanks to Labovsky, whose collection of lab artifacts and memorabilia will be on display at the Seaford plant.

But this native of the Ukraine, at times philosophical, brings with him more than just lessons in chemistry and the history of DuPont. Labovsky is also an animated personification of the American Dream.

Indeed, his basement gallery is testament to two of the mightiest revolutions this century.

In one corner, he brings nylon history to the present, telling the story of the fabric through the artifacts of Carothers' early research. It was that research that led to a revolution in synthetic fibers and to the modern plastics industry.

Labovsky explains the original nylon-drawing process with a home-made apparatus — a paint can with a hypodermic needle protruding from the bottom.

Chemists would put a trial chemical mixture in the can and force it through the needle. If it worked correctly, Labovsky said, the thin stream of polymers would instantly solidify into a fiber that could be wound onto a spool.

Labovsky's job was to test the mixtures. He would see how much heat and cold the fiber could sustain, examine its elastic properties and test the breaking strength and other characteristics — then write a report for Carothers and other supervisors.

Today, he displays the legs of two female mannequins draped with stockings of the depression era — one woven of silk and the other of early nylon fiber. The nylon was so sheer "it compelled women to shave their legs," he said.

But Labovsky's basement also tells another story.

In a nearby corner are texts and photographs detailing the Russian revolution of 1917 — and the recent breakup of the Soviet Union.

"I went through two revolutions," one in Russia, one at

DuPont, he said.

"I was born near Kiev, in the Ukraine," said Labovsky, whose father emigrated to Wilmington and became a tailor for "the carriage trade."

The elder Labovsky planned to send for his wife, two sons and daughter as soon as he was financially able. But World War I broke out, then the Russian revolution and civil war. In the chaos, between 1914 and 1922, his father lost contact with the family, Labovsky said.

"How we survived was a miracle. It was like Bosnia — that brings back tragic memories. We were running in and out of the forest during the bombing. I never went to school," he said.

Finally, in 1922, Labovsky's father began making inquiries through the U.S. State Department and located his family. They eventually settled in a house at 215 West St. in 1923.

With little knowledge of English, Labovsky entered the first grade at age 12. "It was embarrassing," he said.

But he soon caught up. And in 1930, Labovsky graduated from Wilmington High School. Through a customer, his father got him a job at the DuPont Co. as a chemist's helper.

His first close contact with Carothers came one night, when Labovsky ran into him while attending a Russian concert at the Philadelphia Academy of Music. Back in the lab, Carothers struck up a conversation with him and a friendship developed.

When Carothers asked Labovsky if he planned to go to college, Labovsky said it was too expensive — so Carothers suggested he write to Lamont du Pont, the company president.

Labovsky said he received a scholarship from du Pont, and graduated from the Pratt Institute in New York in 1934, with a degree in industrial engineering.

When Labovsky returned to Wilmington, the city still mired in the Great Depression, he took the only work he could find — a two-week job as a laborer at the Experimental Station.

When Carothers strolled by one day, Labovsky, embarrassed by his lowly status, tried to hide. But Carothers recognized him, and hired him as a laboratory techni-

cian.

In the lab, the scientists at DuPont were investigating the characteristics of molecules.

They were basic researchers, more interested in discoveries than products. In fact, Labovsky said, when nylon was discovered, the chemists were trying to learn just how individual molecules bind together to form polymeric chains.

Labovsky remembers the excitement among lab workers when

the elusive "fiber 66" was discovered. But he also remembers tension among researchers from other DuPont plants, drawn together for projects at the Experimental Station.

He said perceptions of how to keep a lab in order, and whether it was better to do pure research or look for a marketable product, sometimes led to near-fisticuffs.

Carothers, particularly, "wasn't interested in the product at all," and went on to other things once applications were mentioned, Labovsky said.

He recalls the camaraderie when chemists and technicians gathered around him in anticipation, as he "spun" a new fiber and ran it through the usual battery of tests.

One of nylon's enduring mysteries has nothing to do with the product, but with Carothers himself. Even Labovsky seems shocked, six decades later, with Carothers' fate.

In April 1937, less than three weeks after DuPont announced the discovery, Carothers, 41, went to a hotel in Philadelphia, laced a glass of lemonade with cyanide and poisoned himself.

Labovsky said stories have circulated for years about Carothers' alleged disenchantment with DuPont — either for criticism about an alleged failure to recognize nylon's commercial potential, or for DuPont's failure to see the even bigger potential of another Carothers brainchild — polyester.

None of the above, says Labovsky. Carothers was manic depressive, he said.

Before retiring in 1975, Labovsky served in quality control, engineering, training and management positions in nylon plants across the country and worldwide, including a stint in Geneva.

He said the highlight of his career was the period from 1934 through World War II, when he saw nylon develop from small laboratory experiments to a major industry — with nylon parachutes, ropes, tires and clothing permeating the military and, eventually, global society.

And even though Labovsky recognizes he was "just a little cog in the wheel," he said, "even as an old man, I can't help but feel youthful when I think of being involved in all these great discoveries."