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David A. Hounshell, John Kenly Smith, 1988 Science and Corporate Strategy at Du Pont, 1902-1980 Cambridge: Cambridge University Press

Du Pont's R&D programmes have yielded a lot of products like Duco, cellophane, nylon, Teflon, Orlon, Dacron and Lycra. These products products have helped to transform our world.

The R&D of Du Pont started in 1902 with the Eastern Laboratory and has since been changed in nature, scale, scope, strategy and quality.

In the Eastern Laboratory the successful strategy was to bring science directly on practice to improve processes and products. There was no immediate pressure as in other industrial research pioneers but the R&D was led by a group of executives bent upon consolidating and rationalizing the industry. Research provided them important means of rationalization.

A year later the 'Experimental Station' was founded with the goal of dealing more rationally with inventions and inventors outside the company. Du Pont was then threatened by competition by the U.S. military. Believing that the military might build their own smokeless powder capacity, Du Pont's executives resolved to stay out in front of the government through scientific research in smokeless powder an ballistics. This strategy worked.

The antitrust sentiment had a great impact on the company. After being threatened again with the loss in the market of smokeless powder, Du Pont made the company less dependent upon the government by diversifying. In 1908 Du Pont purchased its first two departures from explosives, the Fabrikoid (artificial leather) Company and the Arlington (celluloid plastics) Company.

For the next two decades, Du Pont would diversify through the acquisition of new technologies and smaller companies.

After 1921 the corporation was decentralized. Each business was an autonomous department, responsible for its own manufacturing, marketing and research. Du Pont placed a small group of researchers from the old research organization in a new central Chemical Department to conduct research for all the industrial departments. With this organisation, Du Pont pioneered in in the management of industrial research but this scheme had also build up inherent tensions.

In 1927 the laboratory 'Purity Hall' was built and housed Du Pont's first formal fundamental research program. This research on polymers produces quite unexpectedly neoprene and nylon. These discoveries were commercialised successfully.

In 1946 a new strategy was developed because the old one on growth through acquisition was no longer politically feasible and fundamental research would more than fill the void. The new model of fundamental science inducing corporate growth became the foundation of Du Pont's corporate culture. It was also known as the 'nylon model.'

In the 1950s Du Pont was a fibers company that had some other businesses on the side. The company hoped to dominate the field of plastics, but this was impossible since World War II had produced a highly competitive climate in plastics.

Although the company's expenditures for research had grown dramatically since World War II, the productivity of research had not grown. Development had fallen through the cracks in Du Pont's organization. In 1961 the New Venture program started and rather than relying on the acquisition of new technologies and small companies, the program would be based on Du Pont's own R&D. Although the New Ventures program called for the creation of a diversification department, the approach to R&D remained unchanged. The program was a failure.

In the economic turmoil of the 1970s Du Pont employed its research organizations to keep its existing business healthy. Late in the decade Du Pont made an ambitious program of research in the life sciences to reduce the dependencies of textile fibres and to find new growth opportunities. In the 1980 the massive 'Greenwalt Laboratory' was built for the life science research, Du Pont's major R&D thrust of that time.

Du Pont has both depended on and contributed to the scientific community. The relationship has been symbiotic, but never entirely free from tension.