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A New World of Synthetic Materials

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Abstract

A history of synthetic materials from 1869-1939.
A New World of Synthetic Materials

Since the late 19th century, plastics made of polymers formed from elements of carbon and hydrogen have transformed the world. The many varieties of these synthetic materials have revolutionized all aspects of human endeavor. Lightweight and strong, flexible and easily molded, these relatively cheap and often beautiful materials have helped transform agriculture and industry, medicine and construction, household life and even war. Often affordable substitutes for costly natural materials—including bone, shell, and ivory from endangered species—plastics are novel substances that enable mass production of everyday items. Plastics also make possible high-tech devices that enable new human activity—think of space suits, deep sea submarines, and artificial joints that provide millions with relief and mobility. We live in an age of plastics that is wondrous but also worrisome. Among the 800,000 tons of plastic produced each year in the United States, a good deal ends up in landfill, polluting land and waterways, and posing serious threats to wildlife.

1869
Celluloid
One of the first plastic materials, celluloid was easily shaped and used as a substitute for ivory in jewelry and billiard balls before finding wider application in consumer goods such as, sport, art, culture, and film stock.

1909
Rayon
The first plastic made from synthetic compounds, this "thermosetting" material could be molded into rigid shapes or molded into flexible imitation, household items, and fashionable jewelry.

1936
Fiberglass
Combining men with glass fibers, this moldable, lightweight and high strength material was used in WWII aircraft and subsequently in all manner of products such as boats, cars, and windmill blades. The original 1938 Chevrolet contained a fiberglass body.

1908
Cellophane
A Du Pont invention that initially revolutionizedenters, newspapers, these transparent sheets of plastic come to symbolize the democratization of news of consumption of everyday items and products of all sorts.

1933
Flexiglass
A flexible material made from acrylic, this substance has been used in clear sheets that added weathering and erosion threat caused for WWII aircraft windshields and as the crack-resistant laminate of consumer products.

1939
Pyralin
When first made, this synthetic fiber was essential for war material during WWII but became best known for determining women’s fashion as it provided cheaper, easier, and more comfortable alternatives to women’s clothing made from fabrics of silk, cotton, and wool.

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