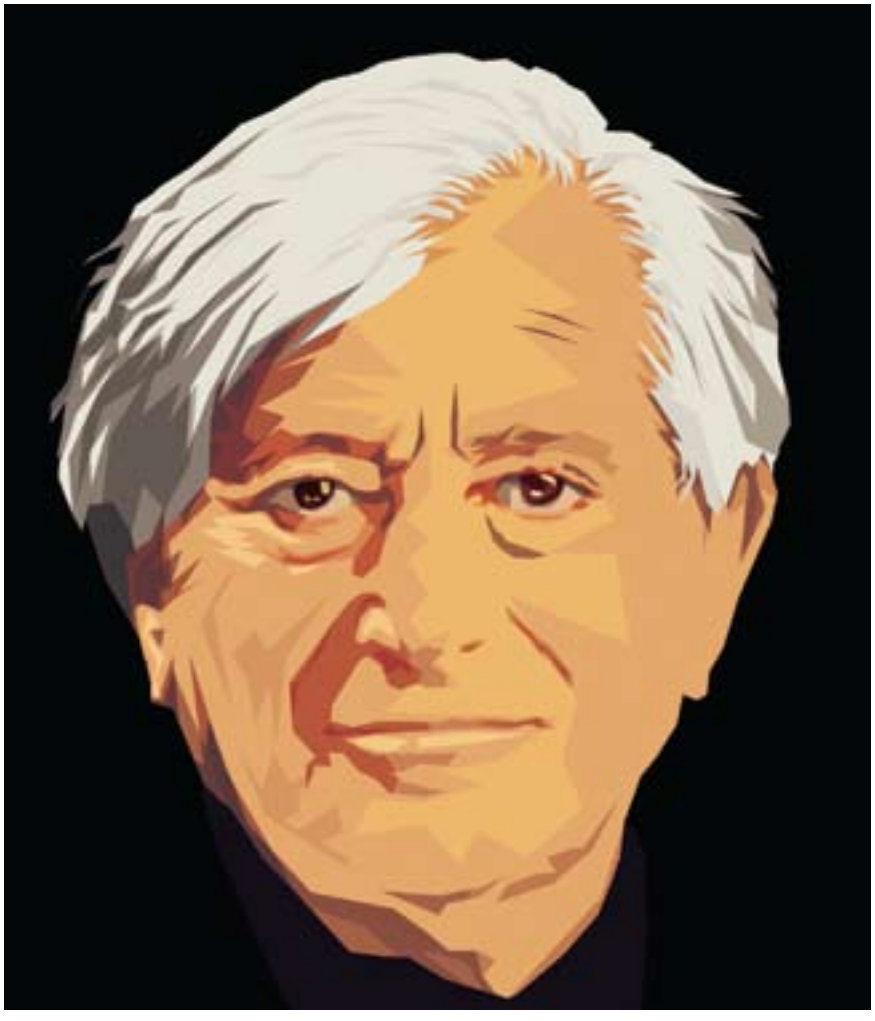
Teva

The Origins of Israel's Pharmaceutical Industry

Written by **Joseph Morgenstern**

Teva (Hebrew for "nature") was founded in 1935 by Elsa Kuver and Dr. Gunter Friedlander in Jerusalem. Prior to World War II, Germany was the center of the global pharmaceutical industry. Many immigrants from that country brought with them pharmaceutical expertise that provided a firm foundation upon which the Israeli drug industry was built. Notwithstanding the ongoing violence of the Middle East, Teva enjoyed some advantages over its competitors around the world. For one, Israel attracted a high concentration of scientists – more per capita than any nation in the world. Furthermore, the Israeli government granted Teva tax subsidies to encourage the development and production of new drugs. It was in this environment that Teva grew, going public in 1951 on the Tel Aviv Stock Exchange.



Having consolidated its domestic position, Teva began to expand geographically in the early 1980s. Eli Hurvitz, a kibbutznik who joined the company in a junior management position after graduating in economics and business administration from Hebrew University in 1957, was destined to transform Teva into a global pharmaceutical powerhouse. He perceived an opportunity to penetrate the U.S. market when the federal Waxman-Hatch Act passed Congress in 1984. This legislation concerned generic drugs, treatments that have lost their patent protection. Also known as multi-source or off-patent medicines, generics are chemically identical to branded prescription drugs, but they are priced 30 to 70 percent less than patented versions.

Hurvitz used the generics segment as Teva's entree into the U.S. pharmaceutical market. In 1985, the company forged an agreement with chemical conglomerate W.R. Grace to create TAG Pharmaceuticals, a 50-50 joint venture. In 1985, TAG acquired Lemmon Co., a Pennsylvania-based company. Lemmon became the sales and distribution arm for generics manufactured by Teva in Israel. Although CEO Hurvitz later said that "an Israeli who's coming to the States has a David and Goliath syndrome," he reminded himself that little David prevailed in that Biblical battle. The potential Teva saw in Lemmon soon turned to profits; the U.S. venture's sales more than doubled from $17 million at the time of its acquisition to about $40 million in 1987, by which time it was marketing seven generic versions of branded drugs.

The company's first major new drug, known as Copaxone, was originated more than two decades earlier in the laboratories of Israel's Weizmann Institute, where doctoral student Dvora Teitelbaum was studying the use of synthetic proteins to quell multiple sclerosis attacks in animals. Together with Professors Michael Sela and Ruth Arnon, Teitelbaum spent 15 years isolating and researching the polymer COP-1 (later branded Copaxone),

TOP: Eli Hurvitz, portrait by Daniel Morgenstern. ➤

passing preliminary clinical trials in 1986. The treatment reduced the relapse rate for people in the early stages of relapsing-remitting MS by anywhere from 25 percent to 30 percent in clinical trials. At that time, the Weizmann Institute teamed up with Teva to bring the drug to market. Since Copaxone's patent had expired during the long development process, Teva requested and received orphan drug status from the U.S. Food and Drug Administration. About one-third of the 350,000 MS sufferers in the United States stood to benefit from the treatment.

Initially launched in Israel, Copaxone earned FDA approval in 1997. The roll out achieved several milestones, both for Teva and for MS sufferers. Copaxone was the first drug developed in Israel to achieve FDA approval for distribution in the United States. Unlike its interferon-based competitors, it was also the first drug developed specifically to treat MS. Copaxone has been approved for the treatment of relapsing-remitting multiple sclerosis.

In a two-year, randomized, double-blind, placebo-controlled trial of 251 patients, Copaxone was shown to reduce relapses by an average of 29 percent when compared with placebo.

Multiple sclerosis is a chronic, often progressive disease of the central nervous system (brain, spinal cord and optic nerves), that affects 350,000 people in the United States (approximately 10,000 people are diagnosed each year).

For Eli Hurvitz, the approval of Copaxone by the FDA was one of the great moments in his life and ranks in parallel with his being awarded the Israel Prize.

Under Hurvitz's leadership, Teva has become a global pharmaceutical company specializing in the development, production and marketing of generic and proprietary branded pharmaceuticals, as well as active pharmaceutical ingredients. It is among the top-20 pharmaceutical companies – and is the largest generic pharmaceutical company – in the world.

Net income for 2007 reached $1.95 billion, a 5 percent increase over 2006. Net sales for 2007 were $9.4 billion, with global Copaxone sales of $1.71 billion.

Teva's share price and net profits rose thousands of percentage points during Hurvitz's active leadership tenure.

Hurvitz served as Teva's President and Chief Executive Officer for over 25 years and recently completed over 40 years with Teva. Hurvitz has served as Chairman of the Board of Teva since April 2002. Hurvitz received the Israel Prize for Lifetime Achievement for a Unique Contribution to the Society and to the State of Israel.

Hurvitz, 78, stepped down as CEO in 2002 but continues to serve as chairman.

"The dynamics of the generic industry are influenced by the growing number of people going on pension, people who are sicker and have less money for medicinals. As a result, the outlook for generics has become more expansive. When our generics are launched, in a few days we have 90 percent of the market and in a few weeks the whole market," says Hurvitz.

As a result, he points out Teva is able to post 20 percent after-tax profit margins. In the western world, generics are garnering 60 percent of the market. In Europe, the development is slower due to the splitting up of industry and an absence of drug chains.

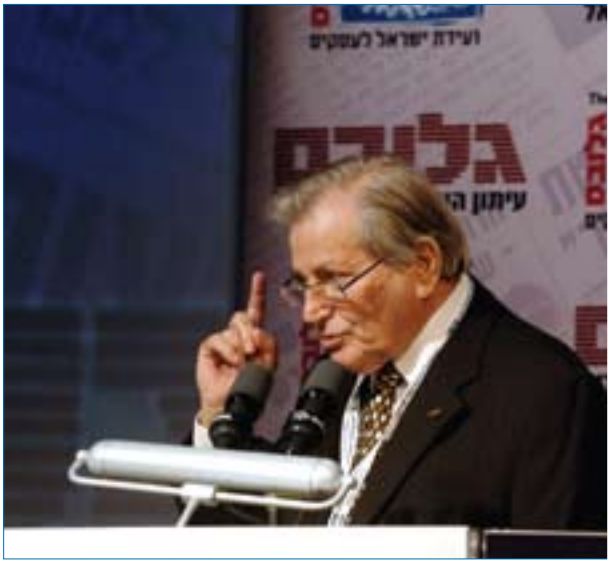
"Teva, by far, is the world's largest generic producer. It has carved for itself market leadership and future strategy," says Hurvitz. Teva has about 160 drugs in the FDA pipeline waiting approval. This sum is greater than that of the next two largest companies in the field. Teva is expected to double its sales in the next four to five years and to maintain its profit margins. ◆

WEB RESOURCES:

Teva:
www.tevapharm.com

Pharma Israel:
www.pharma-israel.org.il

"Teva ... has carved for itself market leadership and future strategy."



OPPOSITE: Ephraim Katzir, portrait by Daniel Morgerstern.

BOTTOM LEFT: Eli Hurvitz at the Israel Business Conference, held at the David Intercontinental Hotel in Tel Aviv.

BOTTOM RIGHT: The Weizman Institute where the science behind Teva's first drugs was developed.

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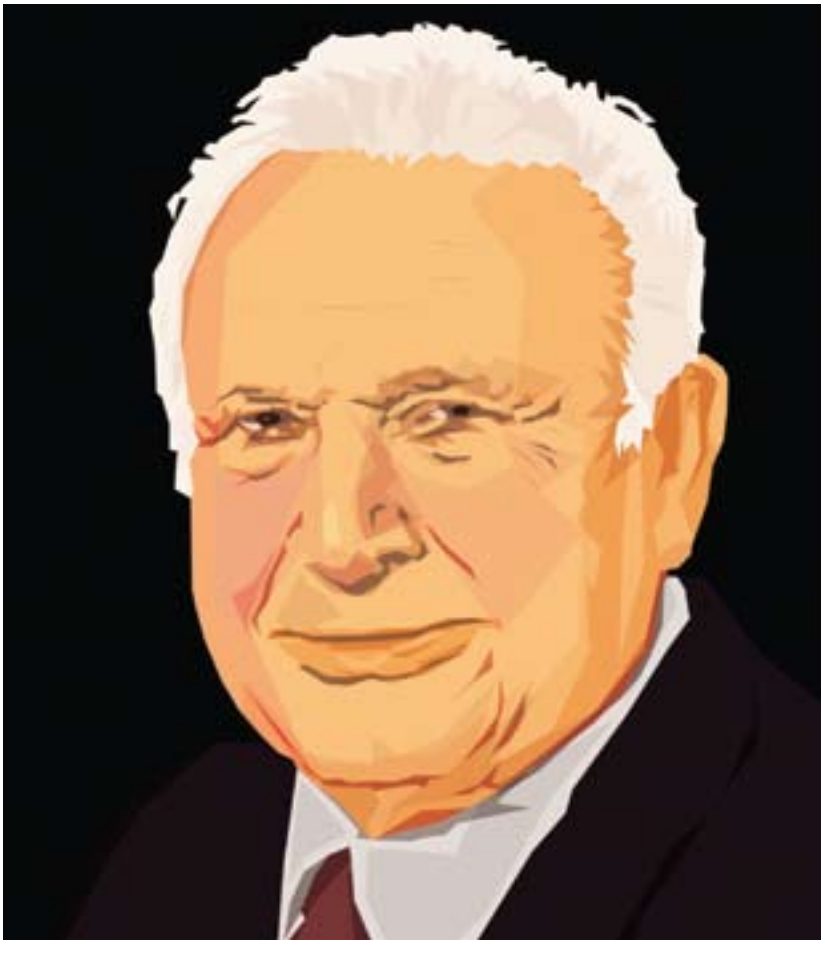
Professor Ephraim Katzir

Scientist, Educator and 4th President of Israel

Written by **Joseph Morgenstern**



Professor Ephraim Katzir (Katchalsky), the fourth President of the State of Israel, and a distinguished scientist of international repute, was born in 1916 in Kiev, Ukraine. In 1925, when he was 9 years old, the family immigrated to the Land of Israel and settled in Jerusalem.

He studied at the Hebrew University of Jerusalem, where he received a Ph.D. After studying abroad, he returned to Israel and became head of the Department of Biophysics at the Weizmann Institute of Science in Rehovot. In 1966, he became Chief Scientist of the Israel Defense Forces. Between 1966 and 1969, at the invitation of Prime Minister Levi Eshkol, he was charged with advising the government on organizing its scientific research. This led to greater cooperation among the government, academia, industry and agriculture. This also led to a dramatic increase in government spending both on applied research and science-based activities in the Israeli economy. One of the conspicuous consequences of this development was the establishment of science-based industries, with the encouragement and support of the Chief Scientist in the Ministry of Industry and Commerce. Katzir's brother Aharon, an internationally renowned chemical physicist, was murdered in 1972 during the Lod Airport Massacre. Katzir was at Harvard University when Golda Meir contacted him about being the President of Israel. He served as the fourth President of Israel for a five-year term, from 1973 until 1978. He changed his last name to the Hebrew name Katzir in 1973, after being elected President by the Knesset.

At the end of his presidency, in May 1978, Katzir resumed his scientific activity. He was not content just to remain at the Weizmann Institute. Following his initiative, a Department of Biotechnology was inaugurated at Tel Aviv University, which he headed. Following the recommendations of the governmental committee, the government began to encourage biotechnological industries (whose scale of imports approaches $1 billion annually). He also served as international President of the ORT vocational school network, helped establish other colleges, and continued to advise them. ◆

JOSEPH MORGENSTERN

Joseph Morgenstern has been the publisher of the Israel High Tech and Investment Report (www.ishitech.co.il) for 18 years.
At the age of 29 he invented and produced a "wonder material" which employed a novel chemical fusing process. This product revolutionized one segment of America's garment manufacturing.
After immigrating to Israel in 1963, Morgenstern served as an executive in industry and was the representative of Allied Chemicals in the Middle East.
Morgenstern entered the field of banking. As an employee of a major Israeli bank he spent a decade in developing the international securities activities of that institution...and became an expert in functioning of the local (Israeli) financial scene.
As an expert, Morgenstern became known as a writer and lecturer on money affairs. The Jerusalem Post offered him the chance to initiate the first ever English language coverage of Israel's high-technology industry in the pages of its local and international editions.