

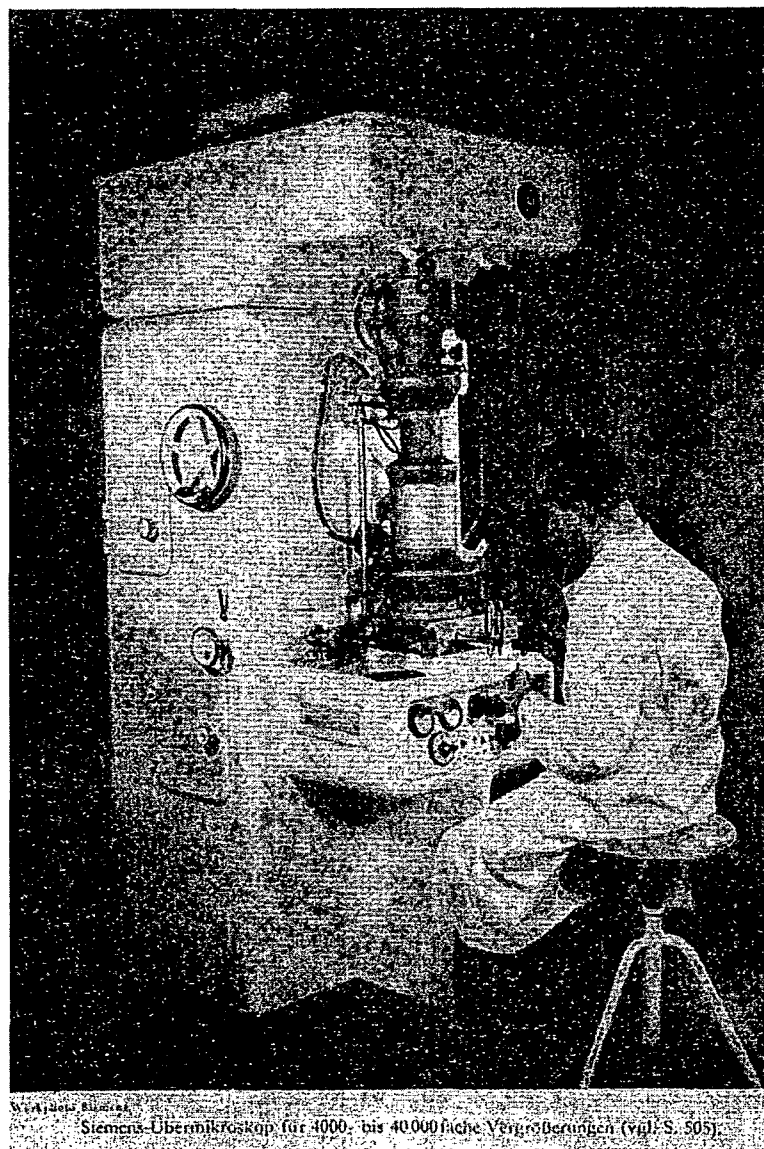


FIG. 4.2. The Siemens company's electron microscope (*Übermikroskop*), with a magnifying power of 4,000 to 40,000, used to identify asbestos particles in lung tumors. Source: Reiter and Breger, *Deutsches Gold*, p. 476.

Recognition of a lung cancer hazard spurred occupational authorities to strengthen dust exposure standards. On August 1, 1940, the Baader subcommittee issued formal guidelines specifying acceptable levels of dust and techniques to be used in its reduction. The guidelines barred anyone under eighteen from working with asbestos and reaffirmed the cancer danger.¹⁴⁵ Research also continued into the mechanisms of carcinogenesis. A 1942 article by a student of Nordmann's, Alfred Welz, reported a lung cancer in a worker who had worked only four years with the fiber.¹⁴⁶ One year later, Hans-Wilfrid Wedler of Berlin published a paper showing that asbestos workers were prone to suffer from a rare form of cancer known as mesothelioma, a cancer of the tissues ("pleura") lining the outside of the lung.¹⁴⁷

Germany by this time had become the world's undisputed leader in documenting the asbestos-lung cancer link. A 1939 textbook—Wedler's—was the first anywhere to state there was "not the slightest doubt" (*kaum ein Zweifel daran*) that asbestos in the lungs could cause cancer.¹⁴⁸ In 1941, Nordmann and his Hanover colleague, Adolf Sorge (a Nazi party member and SS officer), produced the first animal experimental evidence that asbestos could cause lung cancer (see fig. 4.3). Laboratory mice had been exposed to asbestos dust over a period of several weeks, and 20 percent of the surviving mice had developed tumors (a much higher percentage had developed precancerous growths).¹⁴⁹ A 1942 review praised the Hanover scholars' work, contrasting their affirmation of a hazard with the "reluctance" (*grosse Zurückhaltung*) of English and American scientists to admit a danger.¹⁵⁰ Nordmann himself noted that the head of Germany's Subcommittee for Asbestosis—Ernst Baader—was fully convinced of the reality of the cancer threat.¹⁵¹

In 1943, the Nazi government became the first to recognize asbestos-induced mesothelioma and lung cancer as compensable occupational diseases.¹⁵² U.S. attorneys would later use this Nazi-era research to prove that knowledge of an asbestos-cancer link predated the time when Johns-Manville and other asbestos producers claimed they could first have become aware of the hazard.¹⁵³ German experts in occupational medicine—even in major industries