

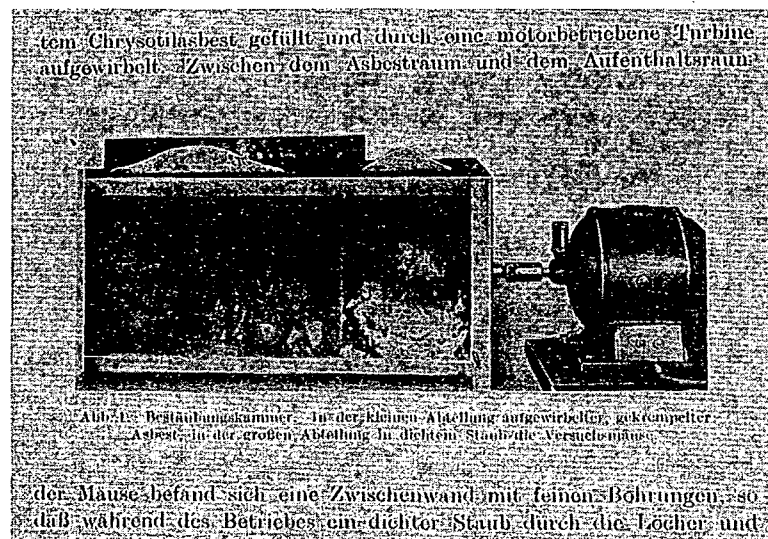


FIG. 4.3. Martin Nordmann and Adolf Sorge, pathologists at the University of Hanover, used this device to show that inhaled asbestos dust could cause lung tumors in mice. The team also chided their English and American colleagues for failing to recognize a human asbestos cancer hazard. Both men were in the Nazi party; Sorge was an officer in the SS. Source: Martin Nordmann and Adolf Sorge, "Lungenkrebs durch Asbeststaub im Tierversuch," *Zeitschrift für Krebsforschung* 51 (1941): 170.

like I. G. Farben—had recognized the cancer hazard by the early 1940s;¹⁵⁴ popular health manuals also advertised the link.¹⁵⁵

Why, then, did it take so long, outside Germany, for the lung cancer-asbestos link to be taken seriously?

What we have to reckon with is both the conservatism built into postwar epidemiology and the postwar political disregard for all things German, the *stigma* of Nazism. This latter point is fairly straightforward; as Philip Enterline suggests in his history of asbestos cancer: "German literature and German laws were not very popular in 1943,"¹⁵⁶ and for some time thereafter.

The epidemiologic point, however, is more subtle. To begin with, the science of epidemiology as developed in the 1950s re-

quired large numbers of "cases" (e.g., of lung cancers among people working with asbestos)—which were not always available to early asbestos researchers. Even after Nordmann's 1938 study, the sum total of *all* the world's known asbestos cancers was only six (Nordmann had added two new cases). Epidemiologists were not impressed. As late as 1956, American epidemiologists could claim there were "too few cases and too little epidemiologic data to establish a significant relationship" between lung cancer and asbestos; the prestigious *Journal of the American Medical Association* even in 1961 concluded there was still "no epidemiological evidence" of an association.¹⁵⁷ The difficulty was not just industrial obstinacy or epidemiologic myopia or distrust of German science (though all of these were involved); the difficulty was also in the new methods of obtaining scientific proof. The Nazi scholars who, two decades earlier, had claimed to have established the link relied not on epidemiology but on clinical and pathological insights. Clinicians examining patients and pathologists dissecting corpses had noticed asbestotics coming down with the disease, but also that lung cancers were most often found in those parts of the lungs where the inhaled fibers tended to concentrate (especially the lower lobes). Detailed study of individual cases was sufficient, for these early scholars, to generate reliable conclusions about causality.

Postwar epidemiologists and biostatisticians set little store by evidence of this sort. (Richard Doll even today ridicules Nordmann's claim to have "proven" the asbestos-cancer link by examining only two individual cases.)¹⁵⁸ The "higher" standard of proof required by the new field of epidemiology prejudiced scholars against the insights gained through clinical investigations, a loss Chris Sellers has characterized as "the vanishing clinician's eye."¹⁵⁹ The net effect in the field of cancer research was to slow recognition of the asbestos hazard: the consensus achieved in Germany in the early 1940s would not obtain in Britain or the United States until more than two decades later. Science and political stigma thus conspired—at least for a time—to confine the truth to shadows.