

Lederberg

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MEMORANDUM

DATE: 24 MARCH 1994

TO: JOSHUA LEDERBERG

FROM: ALEXIS SHELOKOV

SUBJECT: ANTHRAX OUTBREAK IN SVERDLOVSK

A Russian virologist, now residing in the U.S., aware of the Meselson team visit to Sverdlovsk, asked me about our findings. He also related the following.

His mother, an epidemiologist and infectious disease specialist in Moscow (particularly interested in airborne transmission) told her son sometime in the early '80s (she died in 1984), that the Sverdlovsk outbreak was not due to ingestion of meat or bone meal contamination, as announced by the Deputy Minister of Health, Academician Burgasov. Rather it was an accidental release from a military laboratory during lyophilization of a large quantity of anthrax bacilli. Somehow, the lyophilizer came apart (blew up?); the spores were only partially dried, which, according to the informant's mother, was unfortunate (could it be that the fully dried lyophilized "plug" would have been more difficult to disperse?). Owing to poor laboratory practices, the filter in the exhaust mechanism was not in place, and the rest is history.

For those of you with more aerobiologic background than mine -- what atmospheric conditions would have favored the spread of partially dried spores that winter April morning? Below-freezing temperatures? With low humidity? A cloudless sky? Would a snowfall have hindered the spread??

Alexis

cc: Robert Chanock
 Jo Husbands
 Matthew Meselson
 Thomas Monath
 John Steinbruner