

Gumbel # 3

Call from Peter Gumbel in Moscow to me in Woods Hole, Saturday morning August 17 (?), from notes and memory at Woods Hole, August 29. He received my letter, memo and enclosures of 21 July. He plans to write his article soon, before the BWC review conference in September, of which he is aware.

Gumbel went to Sverdlovsk again. At the "east cemetery" he found more grave markers of presumed (why?) anthrax victims, a total of 43. All were in the same flat weedy open area he inspected on his earlier trip to Sverdlovsk. In addition, nearby he found (how many?) graves with no names, only red flags. He wonders if these could be military victims, possibly from Sverdlovsk military hospital, contrary to claim of Burgasov and others that there were no military victims. I told him that some of the victims were said to be from a group of local reservists who were taking some kind of course. This according to one of the published emigre accounts (check this). I also told him Burgasov had said in Cambridge that General Agafanov, epidemiologist of the Ministry of Defense (or Army?) had visited Sverdlovsk during the epidemic to make sure there were no cases in the military and that there were none.

Inquiring about Dr. Kortev, Gumbel confirms that he is seriously ill.

Gumbel spoke with two physicians in Sverdlovsk who claim to have unpublished pathology (?) data not in agreement with official accounts. They nevertheless expressed high regard for Nikiforov. They would not show the data to Gumbel. They may be the physicians who went to give a presentation in Moscow soon after epidemic (?) but were sent back without doing so. Olga may remember something about them.

A Sverdlovsk physician (one of the above?) suggested to Gumbel that the presence of only one child among the 96 cases could result from vaccination of children against other infections. I explained that, on the contrary, because immunization is highly specific no such cross-specific protection is to be expected. Subsequently I confirmed this with three senior specialists in immunology and infectious disease. The Soviet physician in question appears to be given to uninformed speculation.

In Moscow, Bezdenezhnykh presented the age distribution of 76 cases he analyzed, as follows:

under 20	1 (a 6 year-old girl, who survived)
20-29	11
30-39	10
40-49	32
50-59	10
over 60	12

Bezdenezhnykh believed the near-absence of young people resulted from their being much less likely than older people to eat uninspected meat, partly because meat in nursery, pre- and other schools is from inspected sources. See also my comments on age distribution in my 21 July memo.

It should be noted that the recent WHO report on anthrax says there

is no apparent difference in anthrax susceptibility between children and older persons. No data are cited.

Gumbel said that ceramic factory personnel told him that roof tops there were sprayed with disinfectant during the epidemic. (Check my copy of official Soviet regulations for anthrax outbreaks to see what disinfection measures are stipulated.) Burgasov said in Cambridge that there had been no aerial spraying. Soviets in Moscow in 1986 told me that liquid sterilization by washing and/or spraying with chloramine was done during the epidemic in refrigerators, apartments, and refuse heaps.

Gumbel said that his investigation had not produced a definitive answer as between inhalation and ingestion routes of infection but that he had found several discrepancies in the accounts of officials. He undoubtedly understands that innocent discrepancies resulting from misperception, misunderstanding, ignorance and speculation are expected to abound in such an emergency situation. Nevertheless, he singled out an apparent discrepancy that causes him particular concern. The question is whether the contaminated bone-flesh meal was actually produced at Aramil, as I had written in my Public Interest Report. Since my 21 July letter mentioning Aramil, Gumbel went there, but was told there was no factory for producing such meal there or within 14 (?) km. What was at Aramil, he was told, was only a facility where bone-flesh meal might be distributed and perhaps tested. I told Gumbel I would check my records on this point. I have gone through my 1986, 1988, and 1991 notes of conversations and presentations in Moscow and in the US and have viewed the videotape of the Soviet 1988 presentations in Cambridge. I have not yet reviewed the tapes from Washington or Baltimore. The only relevant reference I found is a page from my 1986 notes on discussions with BB and N at the Botkina hospital. I enclose photocopies of the relevant pages of my 1986 stenonotebook. I believe it was Bezdenezhnykh who was speaking in Russian, with interpretation into English by Voskresenskiy from the MoH protocol department. The essentials in my notes are:

Such meal is made at 11 slaughter houses in the oblast.

The technology was developed at one of these, Bogdanovichi, 100 km SE of Sverdlovsk.

There were errors, due to lack of analysis, apparently at Aramil, a pachog or workers village, 15 km SE of Sverdlovsk.

29 tonnes, probably made in March, were put on sale to private citizens from 25 to 28 March. All was sold.

B. anthracis was found in 6 samples.

The meal was not properly "dry heat autoclaved". Maybe it was sterilized primitively. There was no temperature control.

I also clearly recall being told that (somewhere) the manometers were too high to read and that the same wheelbarrow was used for sterilized and unsterilized meal. So far I haven't found written

or taped records for this. I have always assumed that the actual production of the meal, not just the distribution or testing, was done at Aramil, as I wrote in the Public Interest Report. But now that the question has been raised, I cannot confirm on the basis of any records I have reviewed that actual production as distinct, for example, from distribution did in fact occur at Aramil. Neither do I recall ever asking specifically where the meal was produced or just what activities took place at Aramil. It is clear from my notes and memory that Aramil was involved, but not that it was the site of production. Sergiev may be able to add more.

I told Gumbel that in Moscow this January I was told that the Army or MoD Procurator was conducting a criminal investigation of the epidemic. He had not known of it.

Gumbel wondered why the sentences for violation of veterinary regulations were so light. I asked what were the maximum sentences under these regulations. He did not know but thought other regulations with more severe sentences could have been found if the authorities wished to do so. Gumbel has spoken with a court official who was present during the trial(s).

Gumbel confirmed with veterinary personnel in the Sverdlovsk region that animal anthrax had occurred south of the city around the time of the epidemic, but said they couldn't recall whether it was before or after the epidemic began. Has Gumbel looked to see if court records include the dates of interest? He might be helped in this by the court official he met, who might also comment on the veracity of the recorded dates.

To summarize my overall view again, the two most evidentiary epidemiological facts regarding the route of infection on which various sources agree are:

- 1) Cases continued to present for more than 6 weeks.
- 2) Only one child was affected.

In addition, granting that Professor Nikiforov was truthful and highly knowledgeable, as I do believe from extensive discussions with him in Moscow and the US, his pathoanatomical series clearly showed severe intestinal and mesentery involvement. From the most rigorous point of view, more information about the mediastinal nodes would be desirable, but consistent severe mesentery damage is nevertheless very significant. There is also good precedent in the scientific literature for all the epizootical and epidemiological features described by the Soviet physicians.

The most reliable and evidentiary evidence, in my opinion, is therefore consistent with the intestinal, not the respiratory route of infection. Nothing I know, from Gumbel or elsewhere, weighs strongly against this conclusion.

This is not to say that there are no honest or dishonest discrepancies in the Soviet accounts. Neither does it reliably establish just how the original contamination came about. Of course, whatever happened some individuals and organizations are

seriously to blame and would undoubtedly try to cover up. Although the epidemic was almost certainly gastrointestinal and cutaneous, not inhalatory, it may be that the source of the contaminated food somehow traces back to the facility. But this is sheer speculation. In fact, I have no clear evidence against the explanation Bezdenezhnykh gave for the origin of the contaminated food, and there is much to support it. I told Gumbel that he might learn more from Shevardnadze, since I was told by a friend that copies of my fruitless repeated requests to the Ministry of Health for an invitation to Sverdlovsk had reached his desk.