

Kaplan

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By telefax to Switzerland 7337313

Dear Martin,

This is in response to your fax of 3rd October in which you sent for comment the draft WHO briefing dated 29 September, 'Biological Warfare Threat in Middle East'. My comments are as follows:

Page 1, para 1. What Les Aspin actually said, according to the Washington Post for 29 September (which was presumably what Radio France was quoting), was: "Saddam Hussein...is expected to have a militarily significant biological [weapons] program by the end of this year or early next year. This will be a new dimension to the problem. It is a more important and more serious element than the chemical threat. It is a harder thing to deal with."

Page 1, para 3. The suggestion here is that the WHO has sufficient information about Iraqi activities to permit this strikingly clear ranking of the possible BW threats, a ranking which leaves out many other possibilities.

Page 2, 1979. The US Sverdlovsk allegation was first voiced publicly, not in the UN Disarmament Commission, but during the first review conference (Geneva, 1980) of the 1972 Biological Weapons Convention.

Page 2, 1979. The word 'admitted' implies guilt, but there was nothing necessarily illegal in there being a military research facility, even one working with anthrax, at Sverdlovsk.

Page 2, 1981. In comparison with the various other items of anthrax-weapon history that might have been mentioned, this one scarcely merits inclusion, surely?

Page 4, bottom. 'They deliver more destruction per kg than any other biological or toxin weapon' is a most questionable statement. One reason

why anthrax spores never became an authorized fill for USAF BW weapons was that the human inhalatory ID50 was reckoned to be at least 8000 spores and very possibly an order of magnitude more. In contrast, the bacterial agents which were authorized had estimated ID50s a thousand times smaller and with narrower margins of uncertainty.

Page 4, later. '50 kg' of what? In terms of the particular slurry with which the anthrax bombs would have been filled (an aqueous slurry comprising about 4 percent by weight of actual spores), the munitions expenditure envisaged for the raids on Aachen etc noted on page 2 corresponded to about 1050 kg of slurry per square kilometre of target area. The expenditure was calculated for a 50 percent casualty rate.

Page 8, top Maybe the figures given for the relative toxicity of botulin should be checked? The implication that the LD50 in man of ricin is 30,000 times smaller than that of tabun looks odd to me.

Page 8, top It was for aerosol weapons, at least as much as a water contaminant, that botulin was studied in past BW programmes.

Page 8, bottom The manuscript emendations here convert the 1969/70 WHO estimates of the typescript into something altogether more fanciful. Has this been done advisedly? Recall that the munitions expenditures prescribed for the original botulin aerosol weapons in WW2 corresponded to an application density of about 3500 kg of botulin preparation per square kilometre; and recall too that, in the late 1960s, a fill of sarin nerve gas for the warhead of the Lance ballistic missile was estimated to be more lethal than a fill of the then-current botulin formulation.

With best wishes,

Yours sincerely,



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cc Dr M S Meselson, Harvard University