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DEPARTMENT OF THE NAVY

Memorandum

Bunn
DATE 5-17-84

FROM: Professor Geroge Bunn
Naval War College
Newport, RI 02841
TO: Dr. Matthew Meselson

SUBJ: Copy of letter - sent to Bob Baraz

1. Enclosed letter is for your information.

Sincerely,

GB
George Bunn

REPRODUCED AT GOVERNMENT EXPENSE

May 17, 1984

Robert H. Baraz
INR/SEE, Room 4758
Department of State
Washington, D.C. 20520

Dear Bob,

It was good to talk to you again after all these years; I particularly appreciate the time you gave me to answer my many questions about Soviet attitudes and activities.

I'm writing to you sooner than I thought I would. The day after we had lunch and a long talk about, among other things, yellow rain, I went to a reception at the Kennedy School in Cambridge and ran into Matt Meselson whom I also hadn't seen for a long time. Naturally, I began cross-examining him about yellow rain and bee feces. As you may remember, when I talked to you I had great difficulty giving any credence to Matt's thesis that yellow rain is probably bee feces. After a discussion of several hours with him and after reading the enclosed scientific reports, I have changed my view.

I have a great personal interest in this because I worked hard both inside (1967-69) and outside (thereafter) the government to persuade the U.S. to ratify the Geneva Protocol of 1925 (See, e.g., Bunn, Banning Poison Gas and Germ Warfare: Should the United States Agree?, 1969 WIS L. REV. 375.) Moreover, as you know, the yellow rain evidence is central to the Government's case that the Soviet Union has repeatedly violated arms control treaties. (See, e.g., President's Report to Congress on Soviet Noncompliance with Arms Control Agreements, Jan. 23, 1984). As you said, yellow rain is probably the most important argument in the Government's case.

The Government's public case is based on testimony of refugees; medical examinations and tests of blood, urine and tissue samples from victims; and analyses of yellow rain samples found in the environment near the alleged attack areas. The refugees said their illnesses came from yellow rain "chemie" attacks; the medical

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minations showed biotoxins in the blood of some of the victims; and the analyses showed these same biotoxins in some of the yellow rain samples. Central to the Government's case has been the following:

1. The toxins were artificially made, almost certainly by the Soviets; they are not natural to Southeast Asia.

2. The toxins and yellow rain occurred only in areas where refugee accounts located "chemie" attacks; the testimony from refugees identified various forms of delivery by man (aircraft etc. but not bees).

1. As I understand it from reading the enclosures, these toxins have been found in moldy wheat in India. Moreover, bee feces samples have been collected in Thailand which look and test the same as the yellow rain samples on which the Government's case is based except that no toxins have yet been identified in them. These known bee feces samples were called "chemie" by some of the refugees. (See Meselson and Seeley, trip report of March 28, 1984) The Government's yellow rain samples contain many plant pollens carried by bees in Southeast Asia and even some bee hairs of a kind which are found in bee feces. Could the Russians really have gone to all the trouble of collecting bee feces from the area, making up a great many batches of toxin and adding different kinds of pollen to the different batches of toxin to disguise the toxin in bee feces? (See particularly Nowicke and Meselson to appear in April, 1984, NATURE)

In one sample of yellow rain, a man-made chemical has been found. But that could have entered the sample as a contaminant. (See Ashton, Meselson, Robinson and Seeley, 222 SCIENCE, October 28, 1983, pp. 366-368).

It seems hard not to conclude that the "yellow rain" spots are bee feces and that even the toxins found in some of them could be of natural origin. Moreover, if the toxins are found in moldy food (as in India), the illnesses of the refugees could be from that source. The symptoms of their illnesses "can also be caused by one or more diseases endemic to Southeast Asia". (See Conferer Summary, "Yellow Rain": Findings and Assessments, April 15 and 16, 1983).

2. As indicated under 1, the bee feces spots look and test like yellow rain (except for the toxins found in some Government yellow rain samples). These spots have been found in Southeast Asia outside the areas of alleged "chemie" attacks.

The refugee accounts of the mode of delivery include a great variety of low-and-high-flying aircraft, artillery shells, mines etc. Some do not specify method of delivery. If in fact, the

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"yellow rain" spots can be deposited in great numbers in a few minutes by an unseen swarm of bees, is it not plausible that the refugees are mistaken? (See Meselson and Seeley trip account of March 28, 1984) The incentives to identify their illnesses with "chemie" attacks seem very great. (See Ember, Yellow Rain, 62 CHEMICAL AND ENGINEERING NEWS, January 9, 1984, pp. 8-34.) Clearly their illnesses could have come from food. (See 1 above).

Bob, I am concerned or I wouldn't have gone to the trouble of writing you this long letter. If there is argument or information I have overlooked, please let me know. I have read all the regular State Department Releases, I think. I enclose copies of all the materials Meselson gave me.

This issue is just too central to U.S.-Soviet relations and arms control to make such a serious mistake about it.

Best regards,

Sincerely,

George Bunn
Charles H. Stockton
Professor of International Law

Copy to:
Dr. Matthew Meselson w/o enclosures

Enclosures (chronologically).

1. Conference Summary, Yellow Rain: Findings and Assessments, Cambridge, April 15 and 16, 1983.
2. Ashton, Meselson, Robinson, and Seeley, 222 SCIENCE October 28, 1983, p. 366.
3. Ember, Yellow Rain, 62 CHEMICAL AND ENGINEERING NEWS, January 9, 1984, pp. 8-34.
4. Meselson and Seeley, trip report, "Discovery of Massive Defecation Flights by Wild Honey Bees in Southeast Asia Supports View that Yellow Rain is a Natural Phenomenon," March 28, 1984.
5. Nowicke and Meselson, Yellow Rain: A Palynological Analysis, to appear in NATURE, April 1984.