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1 February 1955

MEMORANDUM

FROM: John W. Tukey

TO: William F. Friedman

SUBJ: Explication of recommendations of the Technological Capabilities Panel (70

1. This memorandum reports my personal understanding of specific interpretations of certain rather general recommendations in the TCP report. It should not be taken as necessarily representing the views of the whole Panel or of its intelligence subcommittee, although I feel personally that it represents some of the details on which the general recommendations were based.

2. There is a general recommendation (recommendation 7 of the intelligence section of Part II) concerning automatic downgrading of the security classification of certain intelligence as war starts. In the field of communications intelligence this seems to me to apply to much of the material covered by paragraph 2 of Annexure B1 to revised Appendix B of the basic agreement between LSIB and USCIB. This material is rated as "Suitable for Category I" in the 3rd enclosure to USCIB paper 13.7/35 and, with minor exceptions, is currently carried in Category II. The procedure specified in paragraph 35e of Revised Appendix B does not, in my opinion, meet the recommendation concerning automatic downgrading, since no procedure has been clearly established in advance making such downgrading an automatic consequence of specific operational preparations for war. The fact that a special codeword and subcategory might have to be introduced in order to make automatic downgrading feasible is recognized, and was recognized when the TCP recommendations were prepared.

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3. The general recommendation on wider and deeper use of the principles of information retrieval^a in the intelligence community has specific application to at least two areas in communications intelligence. I believe that considerable study of the two following possibilities would be very worthwhile:

(1) The use of automatic machines to scan plain-text messages for names, addresses, subjects, etc., thus permitting decentralization of this sorting operation, with a consequent reduction in the amount of such traffic which must be sent back to the United States by electrical means,

(2) An overall examination of the procedure for the surveillance of such USSR communications systems as the air warning net, looking toward a decrease in volume both of traffic requiring electrical communication and of traffic requiring scanning by an analyst. The reduction in volume of air warning traffic, for example, might involve the initial electrical transmission of only the 1st, 21st, 41st, ... line (message) concerning a given "raid" from a given source. In this case, reduction in the volume passing over the analysts' desks for surveillance should lead to the application of more analyst's time to analysis and summarization. In both cases, reduction in traffic volume requiring electrical communication would decrease the vulnerability of these important intelligence sources to enemy jamming.

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Memorandum to Friedman

28 Jan '55

The communications intelligence supplement to the TCP report has been seen in some draft, or discussed with, the following:

the 6 members of the Intelligence Panel*

James Killian	} of the steering committee of the TCP
James B Fisk	
Robert Sprague	
James Phinizy Baxley III	

No others have had access. All draft and scratch material is turned over to NSA for destruction hereafter.

John W. Tukey

* Edwin Land
James S. Baker
Joseph Kennedy
Allan Nathan, Jr.
Edwin Purcell
John S. Tukey