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Memorandum L-180

CLASSIFICATION CHANGED TO:
Auth: DD 254
By: R. K. EXETER
Date: 3-15-60

Division 6 - Lincoln Laboratory
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

SUBJECT: REPORT OF DISCUSSION WITH MESSRS. FOGG AND EVANS
FROM BRITAIN'S RADAR RESEARCH ESTABLISHMENT

To: Jay W. Forrester

From: F. C. Ryder

Date: 19 September 1953

On September 15, 1953, Messrs. Fogg and Evans, engineers attached to RRE (formerly TRE) at Malvern, England, discussed radar defense problems with Messrs. Forrester, Nelson, and Ryder. This discussion culminated a two-day visit to the Digital Computer Laboratory by Fogg and Evans during which time they saw the Cape Cod System in operation and had opportunity to discuss its equipment and operation with various staff members of Division 6.

The purpose of the discussion was to give the visitors an unrestricted opportunity to criticize and evaluate what they had seen here, in order that we might benefit from their comments.


Their first criticism concerned our system of radar inputs to the computer. They were doubtful about automatic inputs from present types of radars considering the problems of clutter and jamming. Fogg and Evans opined that the use of a radar mapper to block out areas of clutter and jamming (thereby preventing all radar returns from such areas to enter the computer) was an "ostrich technique." They further thought that a difficult job was presented to the Radar Data Monitors.

Fogg and Evans recommended that we put as much emphasis as possible toward major first-order improvements in radar; i.e., one completely free from interference. This recommendation ties in with their first criticism. They had with them radar pictures showing chaff jamming within which it would have been impossible to do any automatic tracking although some information might have been extracted by a human operator.

There was some discussion of slower rotation rates on the large radar sets as a back-up mode of operation, if this would give substantial MI improvement at long ranges.

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Mr. Evans thought an Analysis Radar would provide the real answer to the problem of seeing through the "window," raid size determination, and to many other problems, but that such radar duplication might be economically unfeasible.

The visitors recommended a greater use of height finders for priority jobs such as (1) the last few minutes before an intercept when a hostile might change altitude or (2) when chaff (or window) is employed by the raider. They felt that continuous height surveillance is necessary to help an interceptor lock on his AI radar if the bomber uses a turning and diving evasion.

They felt that the threat of a mass enemy raid upon U.S. soil may be reasonably small compared to a similar raid upon the U.K. Perhaps we can expect fewer planes than they in a raid.

On the control side, the Britishers felt that we should display more emphatically than we do at present the things most important to the Sector Commander. For example, they suggested the use of better symbols in order to depict hostiles and unknowns more prominently.

F. C. Ryder

FCR:gn

cc: R.R. Everett
C.R. Wieser
C.E. Valley
J. Van Voorhis

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