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September 29, 1958

General Curtis E. LeMay
Vice Chief of Staff, U.S. Airforce
Pentagon Building
Washington, D.C.

My dear General:

The purposes of this letter are: 1) to express regret that questioning did not develop at the Saleam briefing on Friday afternoon to indicate possible uses for the results of the project; 2) to convey to you (as a case history) the story of the Saleam project in relation to the [redacted] Monticello methods; and 3) to suggest steps which might be taken to assure that the full benefits of these methods are applied operationally elsewhere in the Airforce where they may fit.

(Under 1) As stated in previous letters, these techniques result in records of sensor information which can be accurately and automatically put together to (a) furnish a continuous record of just how a sensor spot would look during a flight, thus allowing continuous visual comparison during flight; b) be sufficiently accurate for offset bombing at large distances (accuracy is independent of distance)and; c) serve as an automatic guidance and bomb release control for both manned and unmanned vehicles receiving sensor signals for active or passive sources.

(Under 2) Mapping by satellite has been discussed for a long period of time. Last November the Corps of Engineers issued a requirement letter to General Electric for a recoverable satellite mapping project based on simple photography. Requirements called for a highly stable platform and a highly stable orbit. GE was unable to meet these requirements and so reported to [redacted] this Spring. Later, in June, they learned of [redacted] suggestions of last Winter (see my letter par. 6, lines 13 14) of using concomitant star and ground photographs and reducing the relatively inaccurate data

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to accuracy by [redacted]-Monticello methods. Conferences rapidly showed that these ideas, previously tested under Air Force sponsorship, would so relax stability and orbit requirements as to make the proposed satellite mapping project an immediate and assured success even in the present stage of satellite control. Intense interest automatically followed as [redacted] mathematical and geodetic experts confirmed these conclusions.

(Under 3) It is my belief, in my limited knowledge, that the chief problems of automatic guidance and bombing at great distances from either manned or unmanned vehicles could be materially lessened by [redacted] methods. My mathematical instincts lead me to abhor a system where position is measured by integration of data which may contain a bias, such as gyroscopes and accelerometers. If your systems people know the possibilities of the [redacted] methods and our technicians know the problems of your systems people, a break-through as fundamental as that which happened in satellite mapping may be possible. Directives and appropriations looking to this end are suggested.

Sincerely yours,

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