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Notes on Draft Memorandum, "MOL Experiments"

The draft memorandum for the Secretary of Defense, subject "MOL Experiments," dated 3 February 1964 provides the Department of Defense's first firm plan for a Military Orbiting Laboratory. Like all plans, it also provides insights into the current level of development (maturity) of the MOL concept. These insights are not reassuring; indeed, they supply convincing evidence that the MOL, as presently conceived will never get off the ground. The comments which follow outline the reasons for this conclusion.

1. The Plan is Mission-Ridden. "Operational mission" and "military laboratory" are incompatible terms: the operational always drives out the research and development. Is the MOL a laboratory? Or is it an operational reconnaissance spacecraft? (Or a bomber?) If it is a laboratory, it must be planned as a laboratory and act as one. It cannot have operational assignments in "primary mission areas of ...reconnaissance and surveillance." (See page 1) It cannot be categorized as capable of "many experiments which are not described yet which could ...be accomplished when it is feasible to do so without degrading prime experiments" (see page 2). A laboratory cannot be founded on a document which devotes 17 pages to the design of an operational reconnaissance system and 4 pages to "General Experiments." A laboratory is concerned with the acquisition of technical data; its experiments do not require operational "scenarios."

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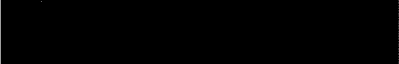
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2. The Plan Degrades the Role of the Astronaut/Scientist. Gross emphasis is placed on man's manipulative skill. Man becomes a pointer, not a thinker. He aligns and focuses; he handles yaw problems; he aims; he adjusts for image motion; he processes film. All of these tasks can be done better by machines and most of them can be automated. I see nothing about man as a judge, an integrator, a selector, or a scientist/engineer.

3. The Plan Proposes a Competition Which MOL Cannot Win. It is clear that machines will do everything that this plan proposes for MOL long before - and better than - MOL can do it. Is the competition resolution? MOL will lose. Is it selectivity? Again, MOL loses. Is it cost? Is it coverage? Response time? Repetition rate? No contest. MOL, as a Manned Reconnaissance Satellite, will be cancelled - either now, or as soon as any "outside" group reviews it.

4. The Plan Asperses the Very Experiments Which Could Sustain It. Why does the plan say "the MOL should not be justified on the basis of bioastronautic experiments?" (see page 19). Why the negative approach to a most promising military - technical field, <sup>an</sup> one that becomes particularly attractive when the possibility of a polar-orbiting MOL is considered. Why say  is a plausible application?" All of the basic technology of rendezvous, docking, and sensor testing can be built into a sound laboratory program. Why nine lines devoted to "Engineering Technology and Subsystem Experiments?" This part of the study should have had the bulk of available attention and page space.

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5. The Plan Invites and Assures the Hostility of the USIB, the FIAB, and the Special Group. No scenario is required to illustrate this point. The reaction will be swift and incisive.

6. The Plan Violates DOD Organizational and Security Directives. DOD Directive TS 5105.23, subject "~~(S)~~ National Reconnaissance Office", dated 14 June 1962, makes the ~~(S)~~ DNRO responsible for the ~~(TS)~~ National Reconnaissance Program. "The ~~(S)~~ DNRO will be given support as required from normal staff elements of the military departments and agencies concerned, although these staff elements will not participate in these project matters except as he specifically requests." In addition, he will "review all DOD budget requests and expenditures for any items falling within the definition of the ~~(TS)~~ NRP, including studies and preliminary research and development of components and techniques to support such existing or future projects." Finally, he will "establish the security procedures to be followed for all matters of the ~~(TS)~~ National Reconnaissance Program." Clearly, the ~~(S)~~ NRO and the ~~(S)~~ DNRO have been placed in an impossible position by a garden-variety SECRET plan, which is already appearing in part in the national press and will assuredly appear in detail within the very near future.

These points summarize my reaction to the plan. I am well aware of the apprehension that the DOD cannot "sell" a bona fide laboratory. I believe a bona fide military laboratory can be "sold!" A wide variety of sensors and experiments belong in such

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a laboratory, along with a wide range of other things. No one is working on those "other things."

We'd better start soon. The MOL can be salvaged, but it will take hard work. The hard work must start now, based on a totally new concept. Otherwise, we just finished planning DYNASOAR II.

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