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MEMORANDUM

Date: 30 August 1950
WM-1288

TO: THE RAND STAFF

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Chief, Records & Declass Div, WHS
Date: OCT 28 2014

FROM: C. J. Hitch

COPIES: J. A. Kershaw, R. T. Nichols, and D. Novick

There is one aspect of The RAND problem which has been bothering my subconscious for some time. I have been aware of a general feeling in RAND, finding utterance chiefly through Frank and John, that defense against air attack is at best a poor and undeserving cousin of the air offensive. Emotionally I find myself in sympathy with this view. I know by heart from early childhood all the military cliches about attack being the best defense. I am aware that most advocates of diverting resources to defense against air attack in the last war not only gave bad advice but acted from contemptible motives.

Nevertheless, RAND of all places should try to free itself of emotional bias and find better justification for recommending action than traditional "principles" of military strategy. I am pretty much convinced that our R & D program should give highest priority to defense against air attack, and will divert myself for the balance of this memo by swimming against the tide of prejudice.

Let me develop my thesis in a series of propositions:

1. The Russians have not been willing to risk a major war with the West up to the present because of our greatly superior atomic capabilities. (This is not original with me. Churchill, who gave it a good deal of publicity, has a record of being right in judgments of this kind.)

2. Within an uncertain (but definitely finite) time the Russians will have atomic capabilities comparable to those which we have now. Of course, at this uncertain time we will have even greater capabilities in numbers (or power) of bombs. These greater capabilities, however, will no longer have the deterrent effect of our present stock pile, for the following cogent reasons:

a. The military worth of additional A-Bombs, after the first few hundred, probably falls off fairly rapidly. At least, this is the general opinion. Additional bombs must be dropped on much less rewarding industrial or population targets, or used tactically, where their worth is unexplored and uncertain.

b. If the Russians had bombs enough to prevent the U.S. from mobilising anything like our full industrial potential, they could occupy Europe and the Middle East with their forces in being and make themselves impregnable on the Eurasian continent - no matter how much damage SAC caused within Russia. Because Russia has superior ground forces in being, a Russian A-Bomb stock pile can be decisive in a sense which the American A-Bomb stock pile cannot.

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3. In order to prevent the catastrophe of par. 2 b there seems to me to be only two courses open to us:

a. We could try to maintain forces in being in the West which could defeat the Russian forces in being — after the industrial base of both countries had been destroyed. If anyone is attracted by this alternative, have Kershaw and Novick prepare some estimates of the U.S. and Allied Military budgets which would be required. They would differ from current rearmament plans by an order of magnitude. The difference between our munitions production potential and our peacetime production of munitions is almost too great to be believed.

b. The second alternative would require by our uncertain time:

(1) As desirable, but possibly not essential, a strong ground (and tactical air) force in being in Europe to hold a Soviet attack until reinforcements could be supplied from a rapid U.S. mobilization.

(2) As essential, some means of protecting our greatest asset, and the only one which can ultimately win a war against the S.U. — our industrial mobilization potential. Whether even this could win without a securely held base on the European continent is an open question in my mind — one which RAND might well explore. (I note that the LOGS Base Group has made a beginning.)

4. The chief moral of the Barlow Defense Systems Analysis, in my opinion, is that we will probably not be able to protect our industrial potential during the next five years by conventional methods of active defense — even if we spend billions per year on the defensive weapons which, in the normal course of R & D events, will be available. Very large scale procurement of these weapons is certainly not the answer.

5. While I have seen no thorough analysis of the possibilities of dispersal and passive defense, I am sure that really effective measures during a 5-10 year period would be even more costly. We can disperse a few highly critical and concentrated industries, but we can't transform the industrial face of America.

6. Similarly, I have little confidence in the ability of SAC to destroy SUSAC. It appears so easy to protect SAC from air attack by dispersing, getting planes into the air, etc., that I feel sure SUSAC will be similarly protected. Moreover, to expect Intelligence to tell us on which fields SUSAC is deployed on a given day is probably quite unreasonable. Finally, there is a high probability that SUSAC will attack first.

7. It seems to me to follow that, if we are to restore the deterrent effect of our A-Bomb stock pile, we must develop a much more effective active defense against Russian A-Bombs. Speaking now in almost complete ignorance, it further seems to me that this can only mean some kind of surface-to-air or air-to-air guided missile — but developed and perfected far in advance of Barlow's missiles, and not subject to his tremendous degradation factors. They would also have to be sufficiently automatic in operation not to be subject to significant initial degradation.

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8. RAND could perform a tremendous service by analyzing the possibilities of buying an effective defense against air attack by greatly accelerated expenditure on Research and Development. I don't know whether Manhattan District is an appropriate analogy or not. I suspect that some sort of concerted or pooled program for all services would be desirable. We could not assume in advance that the optimum range for a surface-to-air missile made it a substitute for anti-aircraft or interceptors.

9. I don't know whether the terms of reference of this project should be narrow -- the development of surface-to-air and/or air-to-air guided missiles for defense -- or broad -- the development of weapons for defense. I should think we could recommend the narrow terms on the strength of Barlow's preliminary analysis provided that very low level attack need not be taken seriously. If very low level attacks are feasible, and if there is no reasonable hope that missiles can be designed to counter them, some doubt attaches to my conclusions.

10. The development of some effective means of protecting our mobilization base seems to me to be much more important than:

a. Marginal improvements in the characteristics of B-36's or B-47's. We know that we can get a large proportion of our bombs through to targets until the Russians develop what I am urging in this memo -- an order of magnitude more effective defense. When they do, marginal improvements will be irrelevant.

b. The development of air-to-surface or subsonic surface-to-surface missiles, for the same reason.

c. The development of the A-Bomb in World War II.

11. A successful project to develop defensive missiles would have valuable by-product value:

a. It would, of course, provide protection to the urban centers of Western Europe, and thereby prevent effective Russian blackmail tactics.

b. It could facilitate the defense of Western Europe by providing effective defense against Russia's massive tactical air force.

c. It should advance U.S. missile technology generally.

12. If we can devise an effective defense against subsonic aircraft, we will have restored the deterrent effect of our bomb stock pile for a few more years, which will give us another opportunity to build effective ground defenses in Europe and to win the Cold War. Doubtless in time the Russians will have accurate, reliable supersonic long range missiles against which our Mark I defensive missile will be ineffective. We cannot plan R & D in detail too far ahead. But if we can shift the armaments race to the field of missiles technology the U.S. ought to be on its strongest ground vis-a-vis the S.U.

13. There are at least three respectable arguments which might be made against the course I am recommending:

a. Defense is impossible in any event. (The low level attack possibility mentioned in par 9 is one version of this.)

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b. The Russians will not go in for strategic bombing. (I would not like to have the security of the U.S. depend on this assumption.)

c. The amount of damage which a "moderate" number of A-Bombs can do to mobilization potential is being exaggerated. There are sharp differences of opinion here within the Economics Division, which I hope our research will narrow during the next two or three years. Here I will merely note that, whatever current capabilities may be, fission-fusion bomb technology is not likely to remain static either here or in the S.U.

14. I want to emphasize that my main purpose is not to recommend any particular project, but to stress the very great importance of defense against air attack, even within a strictly military context. There is prejudice enough against defense already in the minds of our collective customers. The pay-off here may be greater than anywhere else.

15. Nothing above is to be construed as a vote against Jim Lipp's Satellite, or any other worthwhile intelligence or psychological warfare research and development project we can devise. I hope that these would be, in the main, non-competitive.

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