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SOME THOUGHTS ON THE PROBLEM OF SCIENTIFIC
AND TECHNICAL INTELLIGENCE

1. In any country's security system there are elements upon which the country in question places great store. These are truly its secrets of security.
2. Generally speaking these secrets of security if they are not in themselves scientific and technical at least rest on scientific and technological developments. Ask yourself: Knowledge of what twenty US secrets of security would I be most concerned to keep from the USSR? How many of the twenty really lie outside the scientific/technical area?
3. The importance which a country attaches to any of these elements in its security system is an index of that country's desire to keep them secret from all outsiders. Thus the more important they are the more difficult they become as intelligence targets.
4. The security measures in operation in the USSR have been peculiarly successful in the scientific/technical area. It would be my guess that in no part of our knowledge of Soviet secrets of security is the ratio of fixed points to voids so large. In the matter of the gadgets around which Soviet air defense capabilities are built, the paucity of fixed points is dramatic in the extreme.
5. In the last analysis the mission of intelligence is to draw the meaningful and objective generalization from the data.
 - a. If the data, or fixed points, are numerous and the voids between them small, then meaningful, objective, and probably correct generalizations can be drawn.
 - b. If the data, or fixed points, are few and the voids between them large, meaningful generalizations can still be drawn. But who is to say that they are objective and/or probably correct? Who is to say they are anything but pure fiction?

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6. In case 5b above, the generalizer, minimally confined and directed by fixed points, may be engulfed by forces wholly extraneous to the problem at hand. It is here that he may be consciously or unconsciously taken over by his hopes, his wishes, and his fears, or by those of his friends or the institution he works for. (I refer you to the men who have designed maps of the heavens and who have generalized the muscular Orion and his club, belt, and lion skin from a dozen or so stars.) What he comes up with is something far different from and usually far more or less than the meager suggestions of the fixed points. The added something is not from the data; it is from him.

7. As long as the national intelligence community can fix only relatively few points in key scientific and technical developments of the USSR and as long as the voids between these points are very large, generalizations by any single individual or single intelligence institution may be dangerously skewed by individual wish or institution policy.

8. Ask yourself: "What would I wish if my future were interwoven with that of one of the armed services?" You would wish to be a part of the best damn outfit of its sort in existence — an outfit that could deliver enough lethal power to destroy my enemy in a single attack and do it without losing a man.

9. Ask yourself the next question: "What do I do to get my wish?" If you are in intelligence you may do two things.

- a. To assure yourself that your service will get the funds to make it the best damn outfit of its sort in existence you will not play down the enemy. You will build him up, especially in gross terms of his offensive capability.
- b. To assure yourself that once you've got the best damn outfit in the world, it will carry out its mission you begin to take away from the enemy. You will take away notably in the area of his defensive capabilities. You are not quite so certain to do this as to build up his offensive capabilities, because of the perils involved. You know that if you significantly undervalue his defensive capabilities and plans are drawn upon your

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evaluation your service may be cruelly hurt in the clash. You finally fix the point of his defensive capabilities at the place where the curve of your wish intersects the curve of your fear. The fixed points are so few that you can easily draw your curves to accommodate them.

10. When you have done these two things you have done little more than describe the ideal enemy: the enemy big enough to warrant the perfection of your outfit, but an enemy who is nevertheless a push-over in a showdown.

11. You can do this in the field of scientific and technical intelligence on the USSR, and no one can say you may so long as the ratio of fixed points to voids remains what it is.

12. The above is a long way of spelling out my doubts as to the virtues of assigning to given departmental intelligence organizations a "primary" responsibility in any of the specific areas of scientific and technical intelligence. All along I have feared the generalizations, say, that ONI may make of the fixed points and voids re Soviet underwater warfare techniques, that G-2 may make re Soviet tank design, that A-2 may make re Soviet GCI and A-2 radar and AAA. I have however been somewhat comforted by realizing that if any single service comes up with a wishful generalization, this generalization may be opposed to the wish of another service; that the other service will possess all the data of the first and that it will be capable of drawing its own variant or opposing generalization.

13. If a service is duly invested with "primary" responsibility and if at the same time it possesses sources of information which it may or may not share with other services and if it chooses not to share, the chances of another service developing a variant or opposing generalization have shrunk considerably and may have shrunk to approximate zero.

14. We are in a position today where we cannot anticipate either (a) a dramatic decrease in the ratio of voids to fixed points in the area of scientific and technical developments in the USSR or (b) a dramatic change in human nature. As long as

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we do not take out insurance against the acceptance of a generalization that most performers partake heavily of the wish, we are asking for trouble. If I were carrying the statutory responsibilities of the DCI the minimum insurance I would take out would be as follows:

- a. Keep O/SI in business pretty much as it is today -- even endeavor to strengthen some of its divisions. The ones I would strengthen would be those dealing with the most important subject matter irrespective of whether another agency had been awarded "primary" responsibility in this subject matter.
- b. Set up a machinery to insure that no one scientific/technical intelligence outfit withheld information which it may have developed and which it found useful in drawing its own generalizations.

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