the laboratories; are they involved in urgent military problems, and if they are not, we try to either get them involved or if they are not willing to get involved, we do something about it.

Mr. DADDARIO. You talk about judgment by peers. Who are they and how do you get them together?

Dr. MACARTHUR. There are three—let me address each service. In the Air Force we have a board of advisers which is a panel of the scientific advisory board and they are from the outside. They involve individuals from the industrial world, individuals from the universities, and from nonprofit organizations.

In the Navy we have the technical evaluation board which is a part of the Naval Research Advisory Council.

Again, all members of this advisory board or technical evaluation group are from outside the Department of Defense.

The Army is different in that they have a group which is composed solely of all in-house individuals and they perform an appraisal every 3 years. We call it the triannual survey group.

These are the advisory boards I referred to.

Mr. DADDARIO. How are the laboratory directors involved in the evaluation, if at all?

Dr. MACARTHUR. Well, these advisory boards, they do more than read papers. They actually visit the labs. They talk to the laboratory directors and the key people at the laboratories to see what they are involved in, what they are doing, what their mission is, what they have contributed in the last year, and what they intend to work on in the following years, and why.

One of the biggest problems we have been having in the past years was that some of these laboratories weren't involved in important questions. That is one of the things we have been stressing, that they have to get more involved in important military problems.

I painted a rather black picture of the problems we found with the laboratories and one might say, well, gee whiz, if they are that bad, we should do away with them all. How have these problems come about? Well, over the last 10 years, the DOD budget has multiplied by a factor of two to three as we have gotten much more involved in complex military systems.

Now, it is very difficult for a laboratory to manage an Atlas or a Polaris missile system. It is just too big a job with the result that what has happened is we have set up special project offices and system program offices in the services that manage these big programs.

Now, what result has this had over a period of time? It resulted in the labs just getting out of the mainstream of important problems because the systems offices were going ahead and depending solely on the contractors and they came to the laboratories only when they had a quick-fix problem and they were in trouble or when they wanted them to do long-term research.

Now, we, over the last few years, have tried to reverse this trend by getting laboratories involved not only in the long-term problems and the quick-fix problems, but also in the short- to medium-term problems.

There is one other aspect that I would like to mention and that is we have, in 1966, created the position of Director of Laboratories. Each service now has a Director of Laboratories and the individual in this position is responsible for appraising labs on a continuing basis