

things with. Unless there is a mechanism to keep up to date on these, the scientist's effectiveness is lowered.

I remember a number of years ago a meeting involving the late Lloyd Berkner. He made the assertion that Ph. D.'s ought to be outlawed when they are 7 years old because they are no longer effective, and if a man is to keep his Ph. D. effective he should reearn it every 7 years.

Mr. DADDARIO. Then you would say that the quality of our national laboratories, as good as some of them are and as poor as others might be, that all would improve in quality if we did, in fact, have a policy for such education?

Dr. ASTIN. I have no doubt about it, sir. It is most desirable.

Mr. DADDARIO. This would be something that you would advise us to set our goals to?

Dr. ASTIN. Yes, sir.

Mr. LUKENS. May I ask a question?

Mr. DADDARIO. Yes.

Mr. LUKENS. I am interested in this program. I certainly endorse it fully, and I agree with your assessment that continuous training is vital.

I would like to ask this. In the military a person is retrained for specific assignment and reassigned every 3 years. Do you think that the personnel assignment concept within the scientific discipline is a major advantage or would there be any advantage to changing the physical surroundings, or is there a basic advantage to have a man serve for 20 years in one position?

Dr. ASTIN. It varies. There are many cases, and we have a number of them at the National Bureau of Standards, where very intensive and long specializations are essential.

However, I am of the opinion that any individual, any senior individual in one of the Federal laboratories, would be a better man if his outlook were broadened; that is, if he had a better appreciation of where his work fits in, not only to his own agency's mission, but where his agency's mission fits into national goals. For this reason I have been a strong proponent of training fellowships which tend to broaden an individual's outlook.

Now, we have in the Department of Commerce a science technical fellowship program. It was established while Dr. Hollomon was Assistant Secretary for Science and Technology. Its primary purpose is to give promising individuals within the four technical agencies of the Department a broadened outlook on the Government's involvement in science. They are selected on a merit basis, and spend an academic year in such training. It generally consists of a series of courses consuming perhaps 2 months and then actual work assignment in another agency. All of these individuals return to either their prior job or a better job at the end of the training assignment. This training is now in its fourth or fifth year in the Commerce Department.

I would think that a program of this sort governmentwide would help very much to improve the overall quality and certainly the perspective and breadth of view of the scientific and professional people.

Mr. LUKENS. This is assumed with a minimum jeopardy?

Dr. ASTIN. Yes. The man is assured of either his present job at the end of the training assignment, or a different, and usually better, job.