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Talk by General Leslie Groves, head of the Manhattan Project

I. Introduction: There seems to be a growing reluctance of people
to accept the advice or suggestions of responsible executive heads,
but instead a desire to be impressed by specialists and experts.
This can be very poor, especially when these men are allowed to
extend their advice beyond their specific area of knowledge. Not
burdened with the responsibility involved, they tend to be quite
critical and suggestive verbally without being concerned with the
practical issues.

II. Selection: As an Army officer in 1942 General Groves requested
Foreign duty, but was instead put in charge of the Manhattan Project.
Reasons for his personal selection were:

A. Experience in the handling of large projects in terms of
men, money, and scope.
B. Previous engineering experience in the Army Corps of
Engineers.
C. A demonstrated ability to appear before Congressional
Committees. He had not dodged responsibility, but had
accepted blame where necessary. This is an approach
greatly admired by congressmen, and was the most important
single factor in his selection, General Groves feels.
D. The Army had received the project on the recommendation
of a scientist who felt his group could not do it, whereas
the Army could.

III. Initial Problems: Status of project was found to be considerably
behind what it had been presented as. Practical production problems
had not yet been considered.

A. Naming: the name "Manhattan" was chosen so as not to
arouse public interest or curiosity.
B. Critical Mass: "The amount and location of atomic material
which will sustain an atomic bomb". The problem encountered
was in converting basic scientific findings into useful
engineering data from which schedules, plans, and programs
could be developed. Chicago University was doing most of
the work in this field.

C. Screening Material: Columbia University was developing
the barriers used in gas diffusion separation of the two
types of Uranium. Unexpected delays in developing these
materials were encountered, with the entire production
facilities at Oak Ridge, Tennessee being built before this
could be made. Instead of expected time needed of two
weeks, approximately two years were needed. This also
presented a constant problem in maintaining the confidence
of the people working on the project.
D. Finances: The problem of assuming a job while uncertain of what is to be faced is not unique to wartime or the military, but is also true in business today. New Products, new jobs, economic trends, etc. are all examples of this. The original appropriation for the project was $6,000. In December of 1942 costs were "expected to be of the order of $400 million." Actual costs were approximately two billion dollars.

1. When making an estimate of the cost of something about which little is known, admit the uncertainty and try to convey the approximate range of costs. Accuracy beyond available facts is ridiculous and clouds the understanding of the basic information.

E. Priority: The problem here was not only to obtain the top priority but to keep it. General Groves' feeling was to discontinue the project if top priority was removed. It was often contested, but never challenged. Every effort was made to use this priority intelligently and not blindly, letting others obtain materials not needed absolutely immediately.

IV. Military Administration: The cooperation received from the other services was generally excellent. Admiral Nimitz and General Lemay were the main cooperating men for the Navy and Air Force. Friction between the high officials of the forces of the military establishment then and today is no worse than that found in an average industrial organization between sales, production, marketing, etc. at their top levels.

A. Chain of Command: The original orders to General Groves put the Manhattan Project under the Corps of Engineers, but in actual operations he reported directly to the Secretary of War on military matters and the Chief of Staff on more general problems. By keeping others informed this bypassing operation was successful. A willingness and desire to cooperate and get the job done were also critical factors. Reports were given only when necessary and when the facts would change the plan of operations of superiors.

B. Yalta Conference: President Roosevelt had been fully informed of the potential and chances of success of the Manhattan Project by Secretary Stimson and General Groves shortly before the Yalta Conference. General Groves does not understand why President Roosevelt made the agreements which have since been considered such a concession to Russia. Relations with President Truman were good, after initial concern over previous contact with the President when he had been a Senator.

V. Conclusion: The success of the Manhattan Project was the result of the American way of life, and our capacity in scientific skills, production, engineering, etc. "We have not taken advantage of what was learned in the administration of the Manhattan Project in current scientific developments, especially guided missiles. Firm objectives, schedules, centralized control and responsibility all proved their value in the Manhattan Project, but are not applied today.