

They were highly classified things, and many thousands and millions of troops were involved.

The only way I could do it—we had no machines—was to sit down with a pencil and paper, on a table about this big, and start working. It took me 3 months. And all during this time the Joint Chiefs of Staff and everybody else—the top people were yelling “when are you going to get the results up?”

I had to take the planning factors that came as a result of World War II experience, that I knew and that I could get from books, and tabulate these and then try to figure out how many pounds of POL, related to how many men we would ship there, and there, and under what conditions. And if we lost so many people in combat type of an exercise, what impact did that have on us.

I have since learned that the art of mathematics has expanded to the point where you can resolve some of these things down to formula and put them in machines.

Now, since that time, I am told—I have not been in this business since then—that mobilization plans are now on machines. Logistics plans are, under given conditions.

As the doctor pointed out, though, you must know what you are doing. The practical guy must take a look at this and somewhere along the line say “Well, this won’t work in combat.” “This will.”

But the result is: a collapse of time comes about.

It is like a calculator. A calculator helps you make decisions. It does not make decisions for you. But inside that calculator are all the wheels and all the accumulated knowledge of many people, who went together and put it into a package.

This is what I think these types of contracts are designed to do.

Now, I could not tell this committee that they do produce this.

I asked the very same question you asked: “What practical results, what kind of a study do you get, what do you do with it, who gets it, how does he do something with it?”

I haven’t found all these answers.

I do think it is fundamental to this country that we do a certain amount of basic research. We must explore avenues that look silly to us at times.

Now, if we did not, we would not now have the flying machine, and we would not have sputniks.

And had we done this earlier in the space age business, we would have been orbiting the world, rather than the Russian the other day.

Mr. KITCHIN. May I ask the good doctor: For the \$296,000, do you think that from the practical aspects of this study that you have received commensurable results?

Dr. RIGBY. Yes, sir.

Mr. KITCHIN. In what fields has this particular study been of assistance to you in the applied sciences that you didn’t know already?

Dr. RIGBY. Well, I am not sure that I can answer the question directly as you asked it.

The output of this is theory—it is generally mathematical theory, but with a great deal of economic tinge to it because of the professions of the people that do the work.

This theory from this contract, as well as other studies—some of them ours, some of them sponsored elsewhere, and some of them un-