followed by Lord Aston who defined isotopes and Chadwick, the neutron, Fermi, the reactor and so many other distinguished scientists. You notice these are practically all foreigners, ending strangely enough, with Enrico Fermi and his pile, and finally, Hideki Kazawa, the Japanese who first predicted the mason sub-atomic particles. You do not easily find an American among them.

Now, if you will dwell on that example for a moment, it might have been an example cited earlier this morning. Where do ideas come from? From what sort of framework? In the case sited it was the European, or Old World background. I think it is healthy for us to recognize the interaction and the interrelation between science all over the rest of the world and science here.

While later, my figures may impress you with the idea that we are doing more than other parts of the world, I am not sure. I am able to say whether the quality is correspondingly equal.

Historically, we have been a pioneer nation, emerging from where we prodigally used nature's resources, chopped down trees, developed mines and water power and converted them all into our outstanding industry. This portrays the area of development and applied science. As in the days of the sophisticated Michaelson and Morely experiments and many others of the last century, far more was being done abroad in basic scientific fields than we did here.

This I think was true right up until considerably after World War II. Vannevar Busch sounded the real battle cry when in his book--and he was in an unique position to know, because of his war service--he said, "We have exhausted 50 years of science in 5 years of war." Now, think of it. He meant, we have taken the new knowledge of 50 years of time and, under national survival pressures, and consequently the money that freely flows, we have applied it all to end-use products. What did this do to the well of new ideas?

Fortunately this was taken seriously in many quarters and, as you will see, our universities and the American structure of science reacted. Today the situation is quite measurably different. Instead of our preoccupation with how to make better and more products, such as how to make better cloth, how to make better castings and forgings and complex machines, we have gotten down to where we are competing with the rest of the world in this exciting field of the meaning of matter and energy, solid-state physics,