

machines that can do that pretty soon--the innate ideas, after all, you owe to God; they are not your business, and you have the same ones I have; it does not make any difference whether it is Joe Schmaltz or L. P. Williams has the same idea; we are just sort of tapping the same checking account. And certainly, in Heisenberg's scheme the facts are almost explicitly mechanical.

But here you see, a man may have an idea. Why? He had an argument with his wife and it touched off certain homicidal reactions which led him to an idea which he never thought of before. And it is personal; it comes out of his experience. It must be tested in the laboratory but its origin is in an individual human being's mind. Scientists are, in fact, human beings and science is a human endeavor.

Thank you.

QUESTION: Dr. Williams, could you compare for us, both qualitatively and quantitatively, the education of scientific personnel in our country and the Soviet Union?

DR. WILLIAMS: Let me start with--I will do qualitatively, America, and then we will see how far I get. This is one of my pet hobbies and peeves. Qualitatively, with exceptions, I think in the main, science education in America stinks. And I say this strongly and vulgarly because I feel very strongly about this. It is all built around the Baconian picture of what science is.

I say there are exceptions. There are exceptions, I am sure, in Washington and the big cities, but by and large in your small high school, your small college, and even your small university, what do you learn in science? You are damned intellectual amoebae. You pour into the classroom in the 10th grade and then you are supposed to wrap yourself around increasingly large amounts of facts. This is changing. There is a new physics curriculum and a new biological curriculum in the high schools, and I think probably the high schools are going to be teaching better science than most colleges because it is difficult to teach science, particularly as it should be taught, namely as ideas, as discourse, as argument, where the facts are the ammunition and not the be-all and the end-all.