and one foot in chemistry. It took some time before physics grew up into biophysics, with one foot in the life sciences and one in the natural sciences. So, of course, biochemistry grew up likewise.

Similarly even geology comes into the act, and you now have a science dealing with the biology of geology. It has an important significance to the oil industry--biogeology in the prospecting for new oil resources. But one also has a combination of physical geology, called geophysics, and this is used in the new method of exploring for minerals, by for example precision magnetometers. These are flown overhead in aircraft. Then too we use explosions to make seismic repercussions to be recorded, measured, and analysed. The boundaries that separated the so-called disciplines have merged, from where a professor of physics might hardly know his colleagues over in the chemistry department, or who seldom shook hands or even knew who were on the same campus as professors of biology. Perhaps they greeted each other at a faculty coffee hour, after which they rapidly moved away and went to their own colleagues and chattered.

As we view science today in the American scene, we can observe that science has lost its old traditional boundaries. It has lost its separatism, and there is now an all-pervasive growth of fundamental knowledge, and this is leading to some of the greatest challenges before mankind. This will revolutionize human life as well as national power.

Perhaps another thing we can say about the science of today is the fact that you cannot rent a small office, buy a shelf full of test tubes and a Bunsen burner and maybe a little retort and a few beakers and be in business. We have to have sophistication in our equipment. The scientific instruments of today are simply fantastic and in many cases extremely expensive. The new techniques that are required in dealing with present-day science are such that, instead of a little microscope here, which might cost about $100, one must have an electron microscope, and with it one has not alone the cost of this instrument, which is in itself quite formidable, but one has to be well trained in the art of what it means and how to use it.

This is only an example. When one considers the field of high-energy physics and with it the fundamental explanation for the behavior of matter, one is into something that I find pretty staggering--the so-called atom smashers, --which we can consider briefly