

a subjective reaction. I know it is true. You have an innate idea; you know it is true. But I am chairman of the department and you are not; therefore my idea is more innate than yours--or else.

In this sense, you see, there is no referee possible; there is no way in which you can quantify innateness or clarity. So that you have here the ability to create a dogmatic science. And again notice, that this science is really not open to argument on its very basic level. You cannot tell me I am wrong. Or, you can tell me I am wrong but you cannot convince me that I am wrong. I know that I am right. And therefore, why argue? I may argue because it is socially acceptable, but you are never going to show me that, in fact, I have made a mistake.

These are two of the systems. They fought through the 17th century. They each had their proponents through the 18th and the 19th, and, as I have hinted, it seems to me they are present today in modern science: Baconianism in physics only to a certain extent. Physicists have a tendency to be quite sophisticated nowadays, but if you want to see Baconianism in splendid purity, turn to the behavioral sciences. There are the fact collectors par excellence.

The Cartesian method exists, as I suggested, in psychoanalysis and in those areas where it is difficult to isolate what seem to be the fundamental aspects of the science and one must build on a rational argument rather than on any experimental or inductive base.

There is a third and extremely important view of science which emerged from the revolution in physics at the end of the 19th century. This is the view which I would suspect today that 90 percent, if not more, of the theoretical physicists hold when pinned down; they do not like to be pinned down, they like to be in the laboratory and not bothered. But if you meet one at a cocktail party and get him into a corner I think that most of them would accept this view of what science is about.

Its genesis is interesting. It came about as an attempt to deal with the phenomena of atomic physics. The first blow to classical physics, of course, was Planck's discovery of the quantum of energy in "Black-body Radiation" in 1900 and Einstein's great paper in 1905 on the "Photo-Electric Effect," which seemed to imply that energy