

What Bacon revolted against was the scholasticism of the late medieval period, the idea that you can arrive at truth by debate; that two men could get together in an arena and quibble about words. And by quibbling about words somehow arrive at the essence of physical reality. Bacon said, "This is a lot of nonsense. If you want to learn about nature stay out of auditoria; do not go to debates, go to nature itself." This seems healthy, but Bacon had a peculiar way of approaching nature. Bacon was not merely, as he is often pictured, a taxonomist. This is, after all, one way to approach nature.

Gall wasps, as Kinsey pointed out, can be classified--this is the presex Kinsey--into various groups, and one, then, has been able to find a shortcut to some kind of knowledge. But, this is not what Bacon wanted to do. Bacon wanted to arrive at the essences, the fundamental truths--laws, if you will--of physical and natural phenomena. How do you do this? In his great work, the "Novum Organum," the new instrument for research, Bacon laid out his method and illustrated it. The illustration was a happy one because Bacon happened to be right. It was the only thing he was ever right on, but it was a good example.

He said, "Let us find out what the essence of heat is. What is heat? How do you find out what heat is? Well, let us collect every instance of heat that we can find. You can get heat from burning things. You can get heat from rubbing sticks together. There is heat if you pound iron with a hammer. There is heat in putrid material as it ferments and as it works. Let us get all these instances of heat together." There is not, after all, on the surface, much similarity between a pile of dung, and, let us say, a match. But Bacon insisted that the one thing that ties them together is that the pile of manure is, in fact, generating heat and so is the match.

Getting all these facts, these instances, together, Bacon argued that we should abstract to find out what it is that is common in these instances. To him, the one thing that was common was that heat was a form of motion. Here is a kind of primitive kinetic theory, if you will, which is always trotted out when people talk about Bacon and say, "See what a smart man he was; he had the kinetic theory before Maxwell, et cetera, in the 19th century.

As I say, it was the only thing he was right on. His methods may have worked here, but they were singularly unsuccessful in