

other areas. What I want to call your attention to is not the fact that he was right, but the method which he advocated for coming to grips with nature. The method is simply this; collect facts. Pile up the facts. Report the facts. The implicit assumption in all this is that when the facts reach a kind of critical mass they will blow up into a theory. It is automatic; enough facts and all of a sudden one day you wake up and the pile of manuscript reduces to a single equation, and you say, "Aha! There it all is."

And so, the principal point in the Baconian method, is fact-gathering. Now let me draw your attention to the consequences of this. In the first place is the primacy of fact; science deals with facts. Facts are objective. That is, they do not depend upon the observer; they are something external to him and are therefore independent of him. This is part of the charm of the Baconian method; it cuts the silver cord between observer and observed, and gives the illusion, at least, that you hold in your hand a nice solid piece of reality. That is point No. 1; the primacy of fact.

Secondly, the role of theory in this is to sum up facts. A theory is merely a concise statement of a large number of facts. Notice the role of mathematics, now, in this. Mathematics serves as shorthand. The most concise expression of facts will be a single equation. What you want the mathematics for here is merely to express the empirical evidence that has been piled up in the laboratory. Also notice that in this system science is democratic. Anybody can do science. That is, you have all the facts in the world around anybody, and all you have to do is train a man how to determine them. You do not have to be terribly smart; you merely have to master techniques. And when you master these techniques you too can collect facts and become a boy scientist.

Finally, and perhaps most importantly, it is a dogmatic science. I want to stress this very strongly. We are constantly bombarded today by statements that science is open-ended; science is not dogmatic; it is not authoritarian. But, in point of fact, Baconian science is. And it must be, because how can you argue with it? A fact is a fact. Now, if I say, "You are wrong," I am saying one of two things; either the fact that you have determined is wrong, or, that you are an incompetent. If I say the fact that you have determined, is wrong, then I must back this up by showing that you are incompetent because you did not get it right, and therefore the two merge together to give you no basis for rational argument. Right