

scientific man, either to believe them or to disbelieve them. The greater part of metaphysics, nine-tenths of that which goes by the name of politics, hopes, fears, prejudices, ambitions, nearly everything that may be set down as the aspirations of mankind, lie within this non-scientific region. So far as they are not amenable to proof or disproof, on a basis of fact, the scientific man has nothing to do with them.

Of course there are other methods of investigating facts and hypotheses besides those which are strictly denominated scientific tests. The historic method has a right to be considered as a method of discovering truth; but it is not the same as the scientific method, and though modern thought as often operates by the one as by the other method, it is beyond the narrow limits of the present paper. The fact that a thing has been believed to be true since the fourth century, A.D., or since the twentieth century, B.C., does not prove it to be true. For while there are truths as old as the hills, there are also errors older than the pyramids of Egypt.

Yet outside the ambit of things shown to be either probably true or certainly false by either the scientific or the historic method of discovery, lie many of those views, statements, doctrines to which allusion has been made. And toward these the only right and proper attitude of mind for the scientific man or for the trained critic, as such, is an attitude of honest, fearless, sacred doubt. If by neither process of investigation a thing can be proved to be true, and if at the same time it cannot be proved to be untrue, then it is wrong to believe it as if it were true; it is equally wrong to disbelieve it as if it were false. The only honest course left is to hold it in doubt. Suspense of judgment is not only wise, but essential. Alas, how few have the capacity to understand this simple point, or, understanding it, are candid enough to act upon it.

In time past, when at an earlier stage of human development it was customary to appeal to authority to establish the truth or falsity of any statement or view, instead of putting it to the touchstone of investigation to see whether it really was true, many things were believed and accepted as facts that were none, simply because of the goodness or the influence of the person who stated them. In the middle ages the authority of the Church ruled not only all questions of faith and practice, but presumed to dictate what should be received as to astronomy and geology. Outside the Church the appeal was to Aristotle and the Schoolmen. In medicine it was almost a crime to deny a single statement of Avicenna. The wildest notions were received as true if only supported by the authority of a revered name.

We find in the writings of Plutarch that if a magnet be rubbed with garlic or touched with a diamond, it loses its power of attracting iron until such time as it is restored by being dipped in the blood of a he-goat. We all know now that the statement, though repeated again and again in mediæval books on physics, is utterly false: the simple touchstone of experiment to see whether the facts are so, has dissipated the myth. But formerly the authority of Plutarch or of St. Thomas Aquinas was held quite sufficient to prove such stuff to be a fact. To dispute any statement of so holy a man was almost blasphemy. Yet nobody now would receive such a statement on the authority of Plutarch, nor yet on that of Philip Melancthon, in whose work on Physics it is to be found. The statement that a wise man's heart is at his right hand while a fool's heart is at his left, will not now obtain credence from a single rational being—yet it stands on the authority of Solomon. The statement is not open to doubt of the smallest kind; as a statement of fact it is demonstrably false.

In this middle ground between that