

keenly interested that he would eventually know more about the solar atmosphere than about the air he breathes. But even when he is stimulated to know by the hope of some practical advantage to be gained, he is not content to proceed as the man endowed with the Scientific Spirit does, but takes short cuts to conclusions and he too often satisfies himself with snap judgments.

We see then that it is the attitude of mind that constitutes the Scientific Spirit, an attitude of mind that desires not only information, but definite and accurate information. The Scientific Spirit approaches every problem in the questioning mood and, unless where human happiness or suffering is involved, is not greatly concerned as to whether the solution is or is not of practical utility. When it has marshalled the facts of a question it may propose an explanation as a theory which will comprehend the why and how of them all, and which will serve until more facts are obtained, and then if the theory does not stand the test of a rigorous examination it will be discarded for another that will.

To that extent the Scientific Spirit is of the theorist order. To a certain type of mind, a type all too common, it is a stigma to be labelled theorist. Theory to such is something to be shunned and, being practical, is the summum of wisdom. There is no doubt that to indulge in speculations and accept explanations that have no regard for ascertained facts, or that are based on no facts at all, is an offence to reason and every effort should be directed to putting a curb on a loose imagination. The extravagant theorist, however, at once declares himself when he divulges his views and so he provides for his own effacement. The practical man, on the other hand, is quite as much an obstacle to real progress as is the extravagant theorist, for he accepts, consciously or unconsciously, the popular explanations or theories, and these are in the majority of cases either inadequate or absolutely wrong. I recall in this connexion several cases in which physicians and surgeons of the self-styled practical order were required to account to the relatives of patients for unfortunate results that occurred under their care, and the explanations given were astonishingly crude. What physician, "practical" or otherwise, can escape the necessity of giving day after day explanations, largely of the nature of theory, to his patients? If he were to refuse, or to say that he does not know, he would soon lose their confidence and, consequently, if he is not in the position to give a rational explanation he is forced to accept the popular one or to formulate one of his own *ad hoc*, and both may be equally superficial and crude. All this justifies the remark which the eminent chemist, Professor Ostwald, once made to me: "The practical man is the worst of all theorists, for he has a bad theory."