

eliminate, by numerous repetitions and many co-operators, the subjective errors, the "personal equation" which attaches to every single observation and record.

Now it will be seen at once that, as all the incidents of mental life are accessible only to one observer, and never repeat themselves even to him, this method of repetition and co-operation, so essential and indispensable in all scientific work, is inapplicable where we have to do with purely introspective or mental phenomena. In fact, the material cannot be prepared and got ready to be handled with the instruments of science in the same way as the material of the scientific worker. In a great many cases also it is only by the fugitive and changing meaning of words that we can transiently fix, to a small extent, the object with which we are dealing. If we try to rid it, as the scientific worker does, of its subjective colouring or its personal equation, nothing remains; whilst attempting to remove the shell we find that we have lost the kernel.

There is a further point which is almost equally important in dealing with philosophical subjects, and this is that we involuntarily refer every mental, psychical, or introspective phenomenon to a personal unity or whole which we denote by the word mind, soul, consciousness, spirit, or some other similar term, and that we can only

are recognised to be not infrequently fallacious. Nowhere is this more the case than in the calculus of probabilities and its applications, as, for instance, in the kinetic theory of gases (see, *c.g.*, O. E. Meyer, 'Die Kinetische Theorie der Gase,' *passim*). At one time it was thought that there existed only one type of a fluid ellipsoid in motion,

till Jacobi discovered another. Also the motion of bodies under the Newtonian law of attraction seemed for a long time confined to conic sections, till G. W. Hill showed the usefulness of dealing with other forms of periodic orbits in the planetary and lunar theories (see H. H. Turner, 'Modern Astronomy,' 1901, p. 257 *sqq.*)