15. Laplace.

So far as the formal part of the subject was concerned, it was left to Laplace to place it on the foundation upon which it has ever since rested. He brought together the ideas of his predecessors, notably of De Moivre, the two Bernoullis, Stirling, Bayes, and Lagrange, as well as his own extensive researches, in his great analytical theory of Probability, which appeared in 1812, and, with several editions and an elaborate introduction, in two subsequent editions during his lifetime. This work has been justly considered a monument of human genius, and stands worthily beside the great 'Mécanique Céleste' of its author. The

ities founded on the data in their previous state of inferiority. The neglect of this obvious reflection has given rise to misapplications of the calculus of probabilities which have made it the real opprobrium of mathematics. It is sufficient to refer to the applications made of it to the credibility of witnesses, and to the correctness of the verdicts of juries." I have already referred to the position which Comte took up. De Morgan, with his usual clearness and wisdom, at the end of his "Theory of Probabilities" ('Ency. Metrop.,' vol. ii. p. 470), whilst reducing to a very narrow province these applications of the calculus of probabilities, says: "There are circumstances connected with the mathematical theory of independent evidence which it may be useful to examine. In this, as in several other preceding investigations, it is not so much our wish to deduce and impose results, as to inquire whether these results really coincide with the methods of judging which our reason, unassisted by exact comparison, has already made us adopt. The use of the process is, that both our theory and our preconceptions thus either assist or destroy each other: in the former case we feel able to trust this science for *further directions;* in the latter, a useful new inquiry is opened. For when we consider the very imposing character of the first principles of the science of probabilities, and the mathematical necessity which connects those simple first principles with their results, we feel convinced that, even on the supposition that the main conclusions of the present treatise are altogether fallacious, there must arise a necessity for investigating the reason why a *methodical* treatment of certain notions should lead to results inconsistent with the *vague* application of them on which we are accustomed to rely. For it must not be imagined that opposition to the principles laid down in this treatise is always conducted on other principles: on the contrary, it frequently happens that it is only a result of themselves obtained without calculation, which is arrayed against arithemetical deduction."