

result by a much shorter and more satisfactory process. He must not fear that he is giving his mind to a subject too trivial. No matter how slight the addition which he makes to the sum of knowledge, it is yet an addition; and unless it is superseded by the doing of the same thing by some one else in a better manner, it is a permanent contribution to science. Some are helped greatly, at times, by working first on some numerical illustration of the problem in hand; others, again, by a preliminary geometrical representation; and the first path to any discovery is not usually the best. It is sometimes supposed that the mass of original work done in so many countries and published in so many languages makes it likely that any ordinary piece of work will be overlooked in the great mass. Nevertheless, *littera scripta manet*; and what may now seem an unimportant addition to an unimportant branch may probably one day, when that branch is no longer unimportant, and when its special history comes to be itself a topic of discussion, receive its due recognition. Meantime, every little helps. The most trifling addition to the actual sum of knowledge will be at least useful as a step to aid the next investigator; but whether important or unimportant, whether appreciative recognition comes or not, whether others are helped or no one takes notice, there is a degree of personal pleasure in the mere fact of origination which is the just and certain reward of every piece of successful investigation.

NOTE ON A MEMOIR IN SMITH'S COLLECTED PAPERS.

BY PROFESSOR CAYLEY.

AMONG the most noticeable papers in the Collected Mathematical Papers of H. J. S. Smith we have the hitherto unpublished "Memoir on the Theta and Omega Functions," XLIII (vol. 2, pp. 415-623), written in connection with Dr. Glaisher's Tables of the Theta Functions and originally intended as an Introduction thereto. It appears that in 1873 or 1874 Dr. Glaisher asked him, as a member of the British Association committee for the calculation of the Tables, whether he would contribute an Introduction. His reply was that he did not see his way to writing anything appropriate to the tables themselves, but that he "could say something with respect to the constants at the head of the pages." These constants were K, K', E, J, J' , etc., the numerical values whereof were given for every minute of the modular angle. The memoir grew in extent, and it was finally decided that it should follow these yet unpublished tables with the before-mentioned title,