

from those in whom he most desires to inspire respect, by trying to put them off with an indefinite answer. It has been my experience that a modest and honest acknowledgment of ignorance is no disgrace and brings no degradation with it, whilst an assumption of knowledge which we do not possess is a constant menace, which if once detected is never forgotten. It is the old tale, "honesty is the best policy;" but this must not end the matter; we must be honest with ourselves, and having once detected our lack of knowledge upon any subject which comes under our notice, we must use every means in our power of supplying the deficiency, and if we make a systematic study of every investigation which we undertake, taking all the time careful records of what we see, even with regard to the commonest insects, we shall frequently have the satisfaction of finding out that not only have we observed all that others have, but many other things besides, which will raise our simple investigation from a mere study into a scientific record. No man can possibly know everything even about his favorite study, and the sooner he knows this the better for his work.

A subject frequently referred to, but which can not too often be repeated is the necessity, or even, if we put it in another way, policy, of making the fullest acknowledgment of all assistance received from others, whether it be from their writings or otherwise. I know of nothing which so belittles a man's work as to find that it is derived without acknowledgment from some one else. It is not at all infrequent, I am sorry to say, to find whole sentences and clauses inserted in published writings without even quotation marks. An evidence of this is found in the innumerable mistakes which are perpetuated and handed down from author to author before they are detected as errors. Again, too great stress can not, I think, be laid upon the propriety of invariably acknowledging the source of all illustrations used. These are of the greatest assistance, and yet they are frequently used without a word of acknowledgment.

Now, all of this is essentially unwise from the base standpoint of policy alone; for although nothing may be said about the matter, be sure that every instance is noticed and stands forth as a black blot on the face of good work.

A defect which is occasionally discernible in some writings upon economic entomology is the want of a thorough grounding in the first elements of the science. This is easily detected; there is an uncertainty and indefiniteness about the work. It is like that of an artist who begins to paint pictures before he has learned to draw well. A far greater blemish, however, which has, I think, seriously impeded progress and effective work, is the fact that entomologists as a rule do not know enough about the collateral subjects which affect their studies. Their efforts are for the most part directed towards the protection of farm crops, and yet how few make a study or have much knowledge even of the elements of farming and horticulture, the growth and management of the various kinds of crops, the effects of different fertilisers, early and late planting, and the rotation of crops, the pruning and cultivation of trees and shrubs.

All of these are of paramount importance. The knowledge is necessary, and therefore must be acquired. A certain knowledge of botany is most important and will be constantly giving advantages to the one who possesses it over those who do not.

With regard to the presentation of the results of our labors for the use of others, one thing which should be avoided as much as possible is the recommendation of remedies which we have not actually tested ourselves. There are so many useless and untrustworthy remedies now published, particularly through newspapers, that great caution is necessary. Different conditions sometimes require differing remedies, according to circumstances: but I think that the best and fewest possible remedies should be given for any insect treated of, so as to simplify the application as much as we can. There is no doubt that the most valuable remedies are those which are simplest. As the late Mr. Frazer Crawford, of South Australia, has well said, a remedy must be (1) *effective*, so as to attain the object aimed at; (2) *inexpensive*, so as to be practical—worth the trouble and expense of application; (3) *simple*, so as to avoid as far as possible all chance of mistakes in applying it.

At the last meeting of the Association, in Champaign, Ill., I had the honor of a conversation with Assistant Secretary, the Hon. Edwin Willits, and he mentioned that he

was frequently entomological losses from insects by which they could not know to be great injuries do which we had a investigation that to arrive at, and lest we should p of entomologists the necessity has direction of gathering be printed for and the part the loss, so that we have data with which obtain data I have be reliable. I have statistics, which of items which By way of examples which have probably quite re considerations, as and similar subjects

In 1864 Dr. the loss in the or Riley's Reports o estimate of the loss Osborn's estimate tural Society of I lastly, Mr. Howard States infested by

Now, gentlemen are probably as r may use as show vince people that to mitigate this is possible annual loss 000,000 through of the Union and been so enormous known by all to l

As an instance merely mention t States of North I saved on account some instances fr estimate of the ar has been saved by number of grassh to lay their eggs and the adjoining by the state entom North Dakota, al