First of all we have the air and the soil. A study of these gives us an introduction to chemistry, geology and meteorology.

The growth of plants brings in the study of botany, and closely follows an introduction to entomology.

The study of the animals at once calls for some of the simplest principles of zoology, anatomy and physiology.

Even bacteriology comes in when we study the diseases of the plants and animals and the making of cheese and butter.

And so we might sum up by saying that a study of the science of agriculture implies a beginning in the study of all the natural sciences that are afterwards found in our High Schools and colleges. The study of the science of agriculture is to a large extent a course in "nature study," and, since the illustrations are taken from plants, soils, insects and animals with which all boys and girls are more or less familiar, the subject may be made to appeal to the everyday observations of the pupils. What should be done, then, is to give the pupils an insight into the first principles of the various sciences, laying stress upon these laws and principles that have an application to the work of agriculture. Let me put it in the form of a few questions.

1. What is the atmosphere, and how does it affect the soil?
2. What are causes and effects of rain?
3. How is soil originated?
4. What are the principles underlying tillage and drainage?
5. What changes take place in the sprouting of seed?
6. How do plants feed and grow and mature seed?
7. How are new varieties of plants produced?
8. How do animals digest food?
9. What is the life history of a butterfly, a beetle, an aphis or a honey bee?
10. What are the causes of fermentations in the soil, in the silo, and in milk and cream?

A thousand and one other questions might be put, the answers to which would be given by a knowledge of the first principles of the sciences of chemistry, botany, entomology, geology, physics, physiology or bacteriology. An acquaintance with such would be useful and interesting to all classes of students, whether coming from the farm or not, and to all classes, whether going to the farm or not.

What I am trying to lay before you as my idea of how agriculture might and should be taught in our schools has been more clearly and forcibly put by that master teacher, Huxley, who, in addressing a farmer's club in England on this subject, spoke as follows:

"There are some general principles which apply to all technical training. The first of these, I think, is that practice is to be learned only by practice. The farmer must be made by thorough farm work I think I might be able to give you a fair account of a bean plant, and of the manner and condition of its growth, but if I were to try to raise a crop of beans your club would laugh consumedly at the result. Nevertheless, I believe that practical people would be all the better for the scientific knowledge which does not enable me to grow beans. It would keep you from attempting hopeless experiments, and would enable you to take advantage of the innumerable hints which Dame Nature gives to people who live in direct contact with things.

"And this leads me to the general principle which I think applies to all technical training of all schoolboys and schoolgirls, and that is that they should be led from the observation of the commonest facts to general scientific truths. If I were called upon to frame a course of elementary instruction preparatory to agriculture, I am not sure that I would attempt chemistry, or botany, or physiology, or geology as such. It is a method fraught with the danger of spending too much time and attention on abstraction and theories, on words and notions instead of things. The history of a bean, of a grain of wheat, of a turnip, of a