cases, though life might be maintained, neither the animal nor the plant could fulfil their destined uses. Besides the materials necessary to support life, as oxygen, water, carbon, &c., there are, therefore, others, which though of less importance, are necessary to enable plants, as well as animals, to arrive at full perfection. It is, therefore, of importance to ascertain how these are introduced into vegetation.

The plant lives and grows by absorbing into its substance the various gaseous elements that exist in the atmosphere and the soil. The water absorbed by the roots contains, in solution, a considerable quantity of the alkalies and earth: drawn upwards towards the extremities of the plant, this solution is evaporated by the leaves. The various solid matters which are thus introduced, after passing through a great number of chemical changes, are are then by the flow of the sap dispersed over the plant. Are we, then, to consider these substances as excretions which the vitality of the plant is able to carry no further, or are they essential to the organization of ths plant?

ON THE FECUNDITY OF ANIMALS.

"I see a mighty arm, by man unseen,
Resistless, not to be control'd, that guides,
In solitude of unshar'd energies,
All these thy ceasely miracles, O world!"

C. LAMBE.

——ubi temperiem sumsere humorque calorque
Concipiunt: et ab his oriuntur cuncta duobus.

OVID MET., lib. 1., fab. xi., 15.

SIR.—It must give us a very exalted idea of the wisdom and goodness of Divine Providence, if we contemplate how regularly all animals come into existence at the time when the food most requisite for their nourishment is in perfection, or that which supplies their parents with food for them till they are able to provide for themselves. Though the periods of gestation and seasons of love differ considerably among the quadrupeds that feed upon grass, however, the females uniformly bring forth in the latter end of Spring, or in the beginning of Summer when the herbage is tender and luxuriant. The mare brings forth her young in May, after eleven months' gestation. Sheep and goats come in season in the end of October, or the first days of November, and five months after produce, when the grass begins to spring—though the times of gestation are the same in all latitudes, the seasons of love and time of delivery vary with the climate; for instance, in Italy, sheep conceive in June or July, and bring forth in November or December, when the grass in that country is in its greatest perfection, it being burnt up in April, and sheep having nothing to browze on then but shrubs. Beavers copulate about the end of Autumn, and bring forth in January when their storehouses are full of provisions. Birds come forth when the food they delight in is most abundant. Caterpillars of every kind are never hatched till the leaves they feed upon have grown. The very number of the teats in most of the *mammalia* are the same species, and if they be more or less, it is for some wise purpose: thus, the cow has four milk-paps, and, generally only one calf, but Providence designed the superfluous supply for the good of the human family. The sow has 12 teats, though she often brings forth more than twelve young, but the surplus is also destined for the good of man; and I may observe, with Pliny, that of all meat pork is the most savoury; "there may be distinguished in it," says he, "up to fifty relishes." It is also very abundant; for in every country, as Bermardin remarks, "that which is best is always most common." I often wonder that when there are so many plants and animals exhibiting harmonies and proportions so beautiful, and proofs so evident of a Divine benevolence, that people should collect or preserve shapeless abortions, or monsters; such sights are sufficient to awaken in young minds doubts respecting the intelligence of their Author: "and show as much want of taste and unfairness in their collectors, as in one who should go into the workshop of a founder, and pick up the figures which had been accidentally mutilated—the bubblings over the melting pot, and the mere metallic moulds, which might lie scattered about, and triumphantly display them, as a proof of the artist's blundering ignorance. The ancients burnt their monsters, but we preserve them in spirits of wine. We resemble ungracious children, who watch their mother in the hope of surprising her in a fault, that they may arrogate to themselves a right to do what they please."—*See Dr. Hunter's Translation of St. Pierre's Studies of Nature.* vol. i. p. 217.

But I will not dwell on this subject; my design at present is, to lay before your readers a table of the ages at which the males of domestic animals are fittest to engender, and the females to produce their young; the number of years they continue fruitful; their periods of gestation, &c.; according to the results of observations made by the best ancient and modern naturalists.

Some of the above results, according to many writers do not answer this country. For example. they say that July is too late for the copulation of the cow, and that June would answer better, in order to have calves and milk earlier in the year. However, this depends greatly on the season, the growth of grass, or the purpose for which cows are kept, whether for dairy or domestic uses. In the latter respect, it is justly said, that "Milk never comes out of season."

For Leicester and Cheviot ewes, October is a good month to admit the tup. The number of years that cows and bulls continue fruitful might be extended two or three years beyond that given in the table, especially in the valuable breeds.

From observations, made by Lord Spencer, on