

ure to say that a more fatal error cannot be committed. (Hear.) It is the strongest illustration that I know of the "penny wise and pound foolish." (Hear, hear.) It is the saving, in the first instance, of a few paltry shillings which makes the difference, and it is the incurring of the whole after expense of breeding, in reference to which those few shillings are as nothing, the result of one, being, that after all your expense, you obtain a worthless, and in the other a valuable produce. (Hear, hear.) But, gentlemen, I have said that I considered the exhibition of stock to be a very second-rate consideration in the objects contemplated by the Royal Society of Agriculture. I have said that I believe it, in reference to its possible capabilities, to be yet in its infancy; and I am firmly persuaded, that the man who should at this time form a correct estimate of those improvements in the capabilities of our productions, which I believe will be seen within a century hence, would be deemed not a rational calculator, but a visionary enthusiast, and a man who speculated upon impossibilities. (Hear, hear.) Why, gentlemen, the practice of agriculture, not many years ago, would hardly have been dignified with the name of a Science. It would have been considered as such an easy sort of manner to obtain a provision, that it might be taken up and carried on by any upon the good old humdrum principles which they had seen adopted by their fathers and grandfathers, carried on with the rudest machinery, with the least possible economy of labor and expense, but producing possibly what it had produced for years and centuries before, and that what was good enough for their fathers and grandfathers was good enough for them. (Hear, and laughter.) Gentlemen, I hope a better time has come, that in the capabilities of the soil, and in the means of agriculture, what did satisfy our fathers and our grandfathers, will not satisfy us, (hear, hear.) and if that satisfies us, it will not satisfy our children and our grand children. (Applause.) I hold it to be one of the most important points connected with this great assembly, that it was just at the period at which the spirit of enquiry and improvement commenced to take deep roots in the minds of the agricultural population—that at that precise and most favourable moment, my noble friend Earl Spencer (loud cheers) whom I now see near me—a name which I perceive you agree with me in thinking never could be mentioned without respect and cordial approbation (cheering) in an assembly of Englishmen who knew how to value sound practical sense, the most intense and universal benevolence, and the soundest and strictest integrity. (Cheers.) It was at that fortunate moment that my noble friend conceived the project of instituting the English Agricultural Society, and of extending thereby the benefits of useful information and of mutual competition throughout a larger sphere than had ever formerly been attempted in this country. (Cheers.) Gentlemen, even in our most ordinary farming operations, is it not a subject for regret upon one hand, but is it not also a subject upon which we may derive hope for the future upon the other, that though much has been done—and I do not deny that very much has been done within the last twenty years—yet much remains undone, and yet to be accomplished—that in the departments of science as connected with agriculture much remains yet not only to be made known, but even to be explored and investigated? (Cheers.) Take the very simplest operation—take that which is the foundation of all agricultural improvement—take that without which outlay is thrown away, and is better not laid out at all—examine generally the state of England, and of these parts, I believe I may say of England generally, I know I may speak it with regret and shame of my own and some of the neighboring counties—I venture to say that water-courses choked up—drains imperfectly constructed, if constructed at all—combined with a soil of natural tenacity and extreme retentiveness, overflowing the whole with a superabundance of moisture, diminish to an extent, that would hardly be credible, the productiveness of the soil. They extend over a large surface of ground, and contribute, in my conscientious belief, to alter the very character of the climate, if not of the atmosphere itself; and while they diminish the productiveness of the soil, retard also the maturing and injure the quality of the crops. The man would be thought to have conferred no trifling benefit on this country, who should add one bushel to the quantity of wheat produced by each acre of the wheat lands of England; yet I am confident I speak within compass when I say there are hundreds of thousand of acres which are capable, by improved cultivation and attention to drainage, of producing five, ten, or fifteen bushels per acre more than they do. And is it not of importance that we should see what may be achieved without any extraordinary means, but by the ordinary

exercise of that knowledge, which if we do not all possess, is within the power of all to acquire? I am aware that the process of draining is an expensive process, requiring an outlay of capital, which, if we were to take the total of even a single County in England, would strike every man as something marvellous, and almost appalling; and yet I am satisfied of this, that while no landlord could expect a tenant to engage in operations so expensive without his concurrence, and without his bearing, let me add, even the principal portion of the original outlay; yet that there is no hawk in the whole country, no commercial speculation, no investment, so safe, so sure, so profitable, as that in which even borrowed capital may be engaged by investing it under the ground of your own soil. Now, gentlemen, next to drainage, in point of importance, probably, would follow the subject of manures. Upon this, then, much is there for all to learn. How much is science gradually adding to our stock of information; how much may practice add to the means of composing, and the advantageous employment of all those substances which tend to fertilize the earth. Yet gentlemen, ordinary as this may perhaps seem, how very great are the doubts, how very many are the problems, which yet remain to be solved, and which require the investigations of the highest branches of science, which call in to the aid of practical agriculture the most refined philosophical speculation, in order to ascertain in what manner, and in what proportions (having regard to the chemical affinities of the soil, and the particular time, as connected with these proportions) they should be applied, the manner in which they must be economised, and the mode in which their fertilising powers may be increased.

Let men, then, learn the apparently humble, but really vital subject of the application of manures to the lands of this country. And, gentlemen, if upon the surface we are yet in some doubt, if every day by day science is discovering fresh manures applicable to different soils, and rules for applying them in different cases, if within the last two months a manure wholly new, and hitherto unheard of, has been imported into this very part for the advantage of English Agriculturists—if a manure which is the deposit of sea-fowls in the Islands of the Pacific Ocean, has been with advantage, and with probable profit imported to fertilize the fields of England, what a field does this open for future speculation and further inquiry;—if even upon the surface we have this much to learn, who shall say what fresh investigations may discover in the hitherto untrodden relations between the various subsoils in this country, and in their action upon the superincumbent soil above them. Here is a field wholly new, almost untrodden, almost uninvestigated and yet it is a field which promises largely in its practical results, the practice being attended by the theoretic investigations of men of the most learning and science in the country. I pass by many other topics—ordinary topics—upon which much has been done no doubt, but upon which how much remains to be done? The due selection of seeds, the investigation of those mysterious laws of nature by which not only a due rotation of crops appears to be carried on, but by which, after a certain cycle of years it appears evident that an alteration in the accustomed rotation becomes necessary. I pass by these topics; I pass by the selection of the best seeds; I pass by the application of the best manures to the most fitting soil; but I ask you again to turn your attention to the immense advances that have been made, and to the immense advances which yet remain to be made in the application of mechanical power to diminish labour, reduce expense, and facilitate the cultivation of the soil. I hold it to be one of the most encouraging symptoms of the present day that men of the highest eminence for mechanical genius, and for mechanical talent, have applied themselves with great and deserved success, to the improvement of those implements of husbandry, which in former times were considered capable of little or no improvement, but which by these improvements, by the saving of labour and expense I am confident are capable of adding enormously to the productive powers of this great country. Gentlemen, I do not speak of those diseases which are incidental to cattle, to Stock of every description, and to the vegetable productions of the soil; but is there not much to learn in the history of these? I can hardly call them less than plagues—by which the farmers hopes are liable to be blighted year after year—the wire-worm, the fly, and all the various plagues, which after the best application of industry, may blast and defeat his expectations. I have thus passed summarily over some principal topics, yet see what a field is opened! Agriculture not a trifle! Why there is hardly a science that is not handmaid and subservient to the promotion of Agriculture! Zoology, Botany, Geology, Chemistry in a most essential and competent degree, in-