

ANNUAL ADDRESS.  
Delivered before the N. Carolina State Agricultural Society, at the Fair Grounds near Raleigh, on Friday, the 17th October, 1856, by P. H. MITCHELL, of the University.

Three weeks ago last Tuesday, I was honored with a communication from the Committee of the Agricultural Society of North Carolina, in relation to the duty I now discharge. A gentleman had been selected for the performance of it, in all respects qualified. One who would have offered for your acceptance the elements of a wisdom, in which the operations of a mind richly endowed by nature, would appear combined with the fruits and results of earnest study, mature reflection, and a very sufficient experience. But, it having been ascertained that this excellent gentleman would be called away and detained elsewhere by circumstances, at the time beyond his control, it became necessary to find a person who, at the spur of the moment, would provide something that would pass muster at this assembly. The Committee did me the honor of taking me for granted, that if I did not, on so short a notice, prepare an address suited to the importance of the subject and the dignity of the occasion, I might, at any rate, make believe to do so, as well as some other people. Three weeks and two days were, I acknowledge, ample time for the task assigned, if I had nothing else to do. But we are over-ooming with students at the University, and have abundant occupation in the discharge of our duties there, not only every day but all day, which, of course, alters materially the condition of things. So much of apology seems to me appropriate in the way of deprecating too severe and searching a criticism, in case that in regard to the matter or the execution of what I have now to offer, I shall be judged to have made some approach only to a decent respectability.

But a more weighty objection to the speaker, in the capacity in which he now appears, may be found in his manner of life, and what constitutes his employment for one year's end to another. He is not a monk, or a nun, as you may be said, in a married one, by the way, who is kept perfectly chaste in the way of his duty at the University, engaged in communicating to the young men the rudiments of science. What can be known about the operations of farming, the cultivation of the ground, or the raising of cattle?  
What is here, as we may suppose, offered as an objection to me, constitutes, in my judgment, my very highest recommendation. It was a good thing for persons of all occupations, professions and conditions in society, of each sex and every age, to have now and then from some authentic source, a statement of the operations and their modes of proceeding, by such as are the farthest possible removed from them in their social position and pursuits. It would be very amusing at least, and might be useful sometimes, for lawyers, preachers, shopkeepers, farmers, doctors, merchants, and others, to listen to the words their neighbors have about them.  
If somebody would only come over to the side of the house, and disclose the communications the sex have with each other about the men, when their heads are brought into closest proximity, and the sweet, low tones of their voices only are heard, but the words they utter are undistinguishable; or if the women could hear the frank and undisguised opinions of the men about themselves, when these same men speak out fearlessly to one another, instead of humbly talking barney at the feet of a wife or a lady, how might result in a mutual benefit.  
One of the happiest in conception, as well as successful in execution, of the productions of the poet Burns, is the Two Dicks, where he introduces two individuals of the canine race, both apparently of far character in their respective spheres; but occupying very different positions in society,—one a polished gentleman, and the other a plain, unpretending peasant; as interchanging opinions about the characters and conduct of mankind, when

"Upon a knower they sat them down,  
And there began a long digression  
About the herd's the great ain."

I never see two waggon horses of a Sunday or other day, when they may happen to be at leisure, standing together and talking to each other for hours, without being desirous to know what news may be passing through the mind of each. I could get hold of a hogswallower, in which there was a communication from one who had lately been put up to fatten, expressing his opinions on matters and things in general, I should persevere his advice with extreme interest. He would probably state that the character of the human race seemed to have changed greatly of late, and for the better. For that, whereas a few weeks ago his venerable and venerated mother, a sow some what aged, with a large family about her, could never crawl, when half famished, through an opening in the fence around a cornfield and help herself to a breakfast, without being cursed, driven rudely out, pelted with stones, beaten with a club, and her ears cruelly mangled and torn by ferocious dogs; here, the writer was, in a comfortable yard or pen, well-corned or other savory food always lying by him, a plenty of water supplied, a pleasant sleeping place at night, so that it was not his practice now to root any more except for exercise and his own amusement. He had doubts, indeed, about where all this consideration kindness would end; but for the present he was comfortable, and very happy.

Now, upon the principles here laid down, I can very well conceive that the farmers of North Carolina may be willing to know what a body of men so extensively learned as are the Faculty of the University, think about their operations and upon farming in general. I assure you they entertain opinions upon those subjects (some of them) which are quite peculiar. Some of these I have taken the trouble to set down; "which," however, as Marc Antony says in the play, "which pardon me, I do not mean to read." I stand here, then, as the unworthy representative of the University, in the presence of the farmers and planters of the State, to discourse to them about their own peculiar business, and to offer them counsel in relation to matters which they

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understand so much better than I can pretend to do.  
In navigating a vessel across the ocean, there are several particulars to be attended to. Not only are the sails to be trimmed and set in such a manner as to catch the breeze, the helm to be managed with skill, the course by the compass to be noted and the log to be thrown at intervals, so as to ascertain the progress the good ship is making, but from the record of observations so obtained, the position of the mariner on any particular day and at any hour is to be calculated, so that it may be known whether he is drawing near to the desired haven or approaching a dangerous coast. I propose to examine and ascertain, as accurately as I can, whereabouts we are in the great ocean of agricultural improvement and knowledge; especially that part of our knowledge which is most intimately connected with the science of chemistry. To do this it will be necessary to look pretty far back, as well as immediately about us. If any art or science is warranted in tracing its history to the very cradle of the human race, I suppose this to be eminently true of farming, inasmuch as we have it from the very best of all authorities, that the first father of the human race was put into the garden of Eden, to dress it and to keep it. Of the agriculture of this garden I do not propose to treat at present, though I may find occasion to speak of it hereafter. I come down, then, at a single stride from that remote era and unknown locality on the earth's surface to the most ancient seat of civilization and the arts; to Egypt, and what is most worthy of attention in the condition and modes of culture in that country.

At moderate intervals, throughout the year. The modes of culture, therefore, that are appropriate to these famous countries, may be expected to approach more nearly to what obtains amongst ourselves. It is possible, therefore, that by the study of the ancient classics, some of which touch incidentally upon the topic of agriculture, and a few, as Virgil, Cato, Varro, and Columella, treat professedly of it, we may be able to learn something in regard to the best methods of managing our farms here in North Carolina. In point of fact we can find in them very little that is beyond the science and skill of an intelligent negro on any common plantation.

The notices which the Greeks have left us of their modes of culture are few and meagre. They are certain facts connected with growth of vegetables, which are likely to force themselves upon the attention of the most casual observer, and which were not neglected in the agricultural history of this or any other ancient people.  
1. The rankness of the grass and weeds just about the spot where some manure has fallen, may be expected to suggest to the most slovenly and careless farmer the application of the same substance to the roots of wheat or any other vegetable he may have under cultivation, as a pretty certain means of rendering the returns larger, of a better quality, and on both accounts more valuable. Hebrews, Greeks and Romans, seem therefore alike to have understood the effect of manures, though Hesiod, one of the most ancient of the Greek poets, whose works have come down to us, and who wrote expressly of agriculture, does not mention them at all.

2. When a pile of logs or a brush-heap is burnt in a field, the growth upon that spot will show that some influence has been exerted, or something has been liberated from the wood and deposited there, which is favorable to the increase of vegetables of every kind, whether wild or cultivated. This will naturally lead to the application of ashes as a manure, and of course with good results.  
3. From the visible effects of the summer shower, we are naturally led by conjecture that by supplying water in any other way, we may accomplish the same ends. This will be true, especially if we can direct a running stream from its course, and lead it along our cultivated fields. The great principles of agriculture, therefore, that were received, and the processes that were adopted and carried into practice by the ancients, were few in number.

4. The soil has to be loosened and mellowed by means of the plough or some other mechanical agency, before the seed is sown to it; and it is desirable that this stirring of the ground be renewed subsequently, whilst the crop is growing.

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2. Other vegetables besides the one we are cultivating are to be rooted out, and the crop itself is to be kept clean. Solomon represents himself as having "passed by the field of the slothful, and by the vineyard of the man void of understanding; and lo, it was all grown over with thorns, and nettles had covered the face thereof."  
3. They understood the use of stable or farmyard manure, though they do not appear to have valued it as highly as do the moderns.  
4. They esteemed ashes as a manure.  
5. They were aware of the beneficial effects of irrigation.

6. Finally, they were not wholly ignorant of what is accomplished by a judicious rotation of crops. Their method of following differed from ours in one particular: it was extended through a longer period. The field that was to be sown in wheat in the year 57, was ploughed for the first time in the way of preparation in the fall of 56.  
7. We learn from Pliny that the use of manure was understood, and its application practiced in France and Britain; whilst, if not unknown, it was at least neglected in Italy.

From agriculture proper, one of the authors before me, Varro proceeds to the subject of stockbreeding, to which he devotes eleven chapters.  
1. On the origin and dignity of such a breeding.  
2. Of horses and asses.  
3. Of mules, both kinds.  
4. On the goats of both sexes and 30. About dogs.  
5. About the hog.  
6. Of milk cheese, &c.  
7. Concerning hails & cows.

All this is, of course, very learned, and if any one of the company now here shall be pleased to enter upon the study of the Latin and read Varro, that he may learn over again what he knows already. I have only to say that this is a free country. We will leave the ancients then, pass by the dark ages, and come down at once to comparatively modern times. Britain, the country of the ancestors of most us, was long, like the rest of Europe, thinly and badly cultivated. Even after the revival of learning, the business of farming was not at a higher level in regard to either theory or practice than amongst the ancient Greeks and Romans. The first considerable improvements were suggested by a man in whose views and plans for a better method of culture, truth and error were strangely mingled. Down to his time nearly all crops had been sown broadcast, as the small grains are generally with us.

When we pass from Palestine to the shores of Greece and Italy, we come to regions whose characteristics in their relations to agriculture bear a nearer resemblance to those of our own land. They are not without forests; their climates are somewhat warmer than ours; the deposition of moisture, under the forms of rain, hail or snow, instead of being confined to particular seasons, occur, as with us, in succession—one or the other of them,

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the slow decay of animal and vegetable matter, and other agencies. It is absorbent by the leaves of the plants, decomposed under the influence of the light of the sun, the carbon retained for the use of the vegetable, and the pure vital air, which is one of its constituents, given out. The leaves with which the forests are clothed in summer have no other use or purpose so far as has been hitherto ascertained, than the accomplishment of these changes. The grove around the University furnishes an experiment on a large scale, illustrative and confirmatory of the truths that have just been stated. The soil contains almost no carbon under any form. The leaves, when they fall, at this season of the year, are mostly swept off by the wind during the winter, and what few remain are burnt at the opening of the spring. Yet the quantity of carbon in the trunks and limbs of the trees is evidently increased from year to year. An additional, and it is by no means an inconsiderable quantity of carbon is accumulated in the leaves themselves, which as has just been stated, are either swept off by the wind or burnt. There is no other source from which all this carbon can by any possibility have been derived but the atmosphere.  
The effect of animal life, therefore, is to contaminate the air we breathe so far as its relations to their own healthful existence is concerned, and at the same time to charge it with nourishing food for vegetables; whilst on the other hand, vegetables rob the air of what is most grateful and congenial to their own appetites, and restore it purified and cleansed to meet the wants of the animal.