ADDRESS to the "Dorchester Agricultural Society," at their second Fair and Exhibition, November 9th, 1826, by Dr. JOSEPH E. MUSE, President of the Society.

When the mind of man becomes ardently attached to a particular object, from a deep conviction of its magnitude; from a thorough consciousness of its high intrinsic importance; his soul glows with exultation at every step which approximates to its attainment; when in connexion with his own, the comfort and happiness of his friends and neighbors are promised, as the fruits of its accomplishment, he is, by the laws of God, which have impressed upon him the necessity of social sentiments and social passions, more animated by the prospect of successful pursuit; he is transported with its demonstration.

Before us, is presented this gratifying spectacle: a second exhibition of agricultural merit and energy; the early fruits of our youthful institution; the evidences of its utility; before us, with allowance for the limited existence of our society, are realized our most sanguine anticipations.

The well selected animals of superior form and condition, mark a rapid progression in the care and improvement of our flocks, and offer the most flattering promise: the ingenuity and taste displayed chiefly by our ladies, in the domestic manufactures, confer honor upon their authors; and to every generous mind must impart a glow of conscious delight and gratification.

To dwell upon the attainments derived, and prospectively derivable from our institution; to dwell upon self evident and obvious truths; convictions that all must feel and acknowledge, whose minds and vision are not obscured by native defect, or factitious fault, would be superfluous; its manifest results; its respectable augmentation; the daily sanction of, and contributions from the wealth, intelligence and merit of the county, leave but little, for scepticism itself to play upon. Some good and worthy men as yet refuse their assent—from early habits and education, they fear to do good, lest they may do evil. Some reject it from native indolence and inactivity. Some from an unfortunate obtuseness of intellect, and a rivited addiction to old habits, believing this to be a novelty! and some from that baneful pest to society, denominated 'parsimony.' Some few there are, and highly respectable in the usual walks of life, who still do question the utility of our labors.—To such I appeal not, for assent or gratulation: but such I would address, emphatically, in the words of the great anatomist of the human mind;

"Presumptuous man! the reason wouldst thou find,
Why formed so weak, so little, and so blind?"

For some wise purposes, Providence has placed in all human societies, heterogeneous existences; and our limited minds are incapable to resolve the intellectual phenomenon; It is sufficient for the friends and patrons of this institution to know that the introduction of an agricultural exhibition and fair into Dorchester, will result in a general good to the community, to the friend and to the foe; that it will mark an era in the practical husbandry of the county; in its science, its wealth, and its happiness, which present and future generations will hail with joy and with gratitude—with jubilees and hosannas.

From these premises it may be fairly deduced, that, in a reasonable period, one sentiment alone will prevail in Dorchester, with the whole mass of the population, on this interesting subject; judgment will demand it of the sceptic himself—the clinched fist of parsimony will open its treasures to the proffers of interest—the uninformed, the timid, the indolent, the incredulous, will all yield to the influence of example, or obey the dictates of reason founded in experience—all will unite to lend to this infant institution the fostering hand, for the *interests* of the farmer.

Are these no interests to command the respect of the community? have the means no efficacy in their promotion, before eyes of the dullest vision? I presume no friend or adversary will answer in the negative. Is the reluctant farmer apprehensive of imputation on his character, for promptly and generously contributing the influence of his mind, body and purse to this great cause of humanity? to the science and practice of his profession? the profession of agriculture, gentlemen, associates *no imputation, no guilty blush*—its suffusions are those of health, contentment and gratitude to the divine author of all good—The profession of agriculture involves as much skill, as much interest, and as much honor, as any object within the range of the attention or the action of man.

Agriculture may claim without arrogance, a choice niche in the temple of science; her sphere of influence; the extent and variety of her research; her utility; her enchanting beauty will extort from her proudest rival, confessed equality.

As an art, agriculture will not suffer from a comparison with any of the employments of man—as a judicious writer has justly remarked, 'it is agriculture, not manufactures, that renders a country independent; *that*, produces the necessaries of life—*this*, its conveniences—the former imparts life and vigour to man; the latter feebleness and profligacy.'

If then, the objects are great and honorable, and the means to accomplish them, fair and efficacious, what motive can be offered by the being who weighs his actions in the scale of reason, for withholding his co-operation?

I am happy to bear witness that the county at large has done itself honor: our members have multiplied since our last exhibition; our means are enlarged; our premiums are encreased, in value and variety; demonstrations are numerous and obvious that Dorchester is destined to occupy a lofty stand, for agricultural character, in the highly respectable groupe of her sister counties.

In the performance of this, one of the duties of the office with which you have kindly continued to invest me, I shall occupy but a short space of your time, in presenting to your view, such prominent objects, as I conceive, may merit a portion of your attention—I shall avoid as far as possible, the trite and usual subject of manures; their combinations, and their respective adaptations to soils of different characters, as one, of which you are already, as fully informed, as the learning and experience of the day, afford the means; and I shall claim your indulgence on subjects, perhaps not so familiar, but of equal interest to the agriculturist.

I shall offer an apology for attempting to introduce into Maryland, the growth of cotton, as a *staple* crop; and shall endeavor to demonstrate the absolute necessity of the introduction of new and additional crops;—first, upon physiological principles; secondly, upon a view of our commercial relations, so far as they immediately affect our markets—and thirdly, I shall notice such relevant circumstances, as may bear upon the same point, or, generally tend to promote the agricultural interest of the county.

On a former occasion, I perhaps labored against the current of popular opinion to establish what might have been termed a favorite hypothesis; yet what I would dare to denominate well settled principles of physiology, that vegetables, like animals have their preferences of food and habitation; an instinctive faculty with which they are endowed by nature for their health and nutrition; and though this principle may be partially modified, yet it cannot be eradicated, or totally perverted by the art or power of man—The one will flourish on dry and sandy banks; another in the deep morass, and even in the beds of rivers will be found a luxuriant vegetation, while others perish by submersion; one will perforate the earth for many feet in depth, in quest of food; while another will rely, for its support, on the surface soil—one will gorge and thrive on coarse undecocted materials, while another will select such finer particles only, as have been eliminated from the refining laboratory of nature; some are carnivorous and require indispensably, a supply of animal food, without which they perish, or degenerate into worthless existence; and others, herbivorous, are content with a vegetable diet alone; and their products are as various as their food; exhibiting an infinite diversity of constitutions; of ultimate principles, infinitely permutable, variously arranged and proportioned, forming proximate components in endless varieties.

From these principles are derived the obvious advantages of diversifying our crops; of cultivating as many of our native plants as may be found valuable—and of introducing as many exotics as may admit of acclimation, and be adapted to our commercial or domestic purposes.

To illustrate more fully this interesting subject, I will assume, that wheat is a carnivorous vegetable, and subsists chiefly upon animal food; the element nitrogen is peculiarly characteristic of animal matter, constituting in regard to ultimate principles, the essential discrimination between animal and vegetable substances: does it require much discernment to perceive, that the continued growth of this plant alone, in the most fertile field, would by its extravagant consumption of this element, shortly class the soil, in common reputation, with the exhausted and impoverished lands.

It is literally true that this great staple of our country; once, its boast, for luxuriance and quality, contains this animal principle, which renders it more nutritive than any other vegetable—It forms in this respect, the connecting link between the two organic creations; yielding upon analysis from twenty to thirty per cent, of a substance called gluten, which exhibits ammonia, and other results, precisely the same as the animal albumen. One of the elementary principles of this ammonia, is nitrogen. Hence it follows, that the grain of wheat must require more than any other vegetable, this element for its full developement, maturity and perfection; and continued, almost solely, as it has been, for a century or more in our soil, and generally too, without artificial restoration of the soil by animal manures, which alone can furnish it in competent quantities; and without respite for the kindly operations of Providence to perform the task, by the gradual absorption from the atmosphere of this element, supplied by the various emanations of decomposing animal bodies; is it not obvious that the farmer, who offending against the laws of nature, and presumptuously spurning the precepts of reason and of science, may have adopted the heterodoxy, and made the experiment, shall truly acknowledge his merited disappointment and mortification? His plant may unfold a leaf of flattering promise, but his grain will be imperfect; it will be worthless; because, the soil had been exhausted of its essential component—his corn, his cotton, his various other crops may flourish in his impoverished soil, incapable of wheat, divested of its nitrogen, yet replete with the elements of other vegetables.

To these, then, devote your exhausted soil; diversify your crops in wide ranging circles of time and varieties, that art and nature may have time to operate a supply of the defective elements.

Thus direct your series, and not by the dogmas of ancestral habits, which at the time of their adoption, needed not so urgently, the discrimination. The lands were new and fertile, in all the principles of vegetable life; the population was more sparse and less luxurious; the demand was not so great and the supply was greater.

As the human family multiplied and its wants increased, so has a kind providence endowed man with a progressive talent for improvement in knowledge and means, pro rata, to acquire them. To neglect this talent, to resist this impulse, to continue in the limited sphere of primitive society, in voluntary darkness, when the great God of nature had ordained a diffusion of light and knowledge, for the comfort & elevation of man, is to reject the divine mandate, and to spurn those favours of moral and physical character, by which, intelligence had marked his superiority in the scale of creation.

My very intelligent audience need not the rebuke, but such are to be found, who adhere to old systems, because they are old; tho' reason, science, experience and interest imperiously demand the *ill famed innovation*.

To the rational and unprejudiced mind I submit the interesting question; does not physiology teach the absolute necessity of introducing, into a country, relying upon two staple crops only, for a century past, others which experience may prove, are adapted to our soil and climate? Both reason and experience have settled this question; its established principles leave no doubt: and *precarious markets* demand the experiment—In this sentiment, every class and profession of the community, are deeply interested; and heedless of it, the wealthy and indigent will be involved in promiscuous embarrassment.

It is notoriously true, that from change of soil and climate, destructive insects and depressed markets, the wheat crop, once the great staple of our country, is failing as a resource for the farmer; his corn serves him for little more than his domestic uses.

To remedy these defects, by new crops, to discover such as will flourish in our climate and soil, and command a better profit, or enlarge the chances of market, are unquestionably, objects of the first magnitude; the process may be difficult, but it is rendered more so, by the insuperable addiction of most men to inveterate habits of thought and action, right or wrong, than by any other circumstance.

To assist the judgment in the adoption of a new series of crops, a prospective view of their demand and probable prices would form an interesting topic: but here, unfortunately, we have but few data, upon which we can make an estimate.

Our commerce with Great Britain subsisting once upon the basis of mutual interests, afforded to each a liberal reward for industry; she received the fruits of our soil, and gave us in return, her manufactures—When her policy or her avarice had closed her ports against American productions, we retaliated the measure by excluding her goods, and manufacturing for ourselves; by this ill judged substitution of mutual annoyance for mutual kind offices, each have materially suffered, and would willingly perhaps, if practicable, resume their former position—Whether at all, or when this point may be regained, and the sound policy of a liberal commercial intercourse restored, is a political problem of difficult solution. The unprofitable effects are apparently becoming re-active causes, and promise a partial restoration to the ground from which they have so unwisely wandered: one, to which the American agriculturist must look with the deepest interest, as materially affecting the value of his productions.

England has been coerced by her internal distresses, to commence a retrogression, by an imperfect modification of her corn laws; and there is reason to hope that she may repeal them.

This system of covetous policy has brought Europe to the verge of ruin, and has recoiled upon its author, with a deleterious influence; it has destroyed the objects of its creation, by its grasping avarice; it has impoverished the continent and itself. By official reports, the whole stores of the Russian, Prussian, and Danish magazines, with those of Bremen and Hamburg would not furnish ten days consumption for the inhabitants of Great Britain; and could not under the most promising circumstances be much extended.

From these facts, from the necessities of Great Britain, the exhausted state of the continent, and its inability to supply her demands; the *superiority* of American wheat, over that of northern Europe, and the earlier maturity of our crops, a flattering prospect is presented, of better prices for our bread stuffs; an additional incitement to agricultural industry.

Of the cotton market, the prospect is not so discouraging as generally believed; tho' Great Britain is experiencing unparallelled distress; and monopolies and protection laws, sinister and conflicting interests, may long continue her misfortunes; yet her manufacturing system has proceeded too far to be retracted: the education, habits and interests of a powerful class will resist the efforts of her ministry to retrench a system, whose pernicious and inordinate extent is admitted by many of its former and most conspicuous advocates; and it is well authenticated, that the excess of domestic supply, or the increased exertions of the manufacturer, more than the decline of foreign demand, has produced the temporary distress of her cotton trade; which, instar omnium, will have its flux and reflux, its regorgement and its revulsion—the balance will be restored and the current run as usual. While the manufacturer can find a purchaser he will continue his labours. The export of this article, from England, the first six months of the present year, has exceeded that of the same period of the last year; and the present decline, it is said, does not exceed the ordinary fluctuations of commerce. In this great foreign market, the character of American cotton has sustained a successful competition, with the most favored regions of the globe, and its continuance may be safely presumed.

In our own country, the progress of manufactures will justify the planter in large calculations for the demand of this article. In 1805, about one thousand bales made the total demand of this branch of manufacture, in the United States—In 1816, an official report to Congress, states the domestic consumption of this material, at 90,000 bales, and it is now believed to be five times this amount.

What evil sequelæ may ultimately attend this morbid growth, this extravagant devotion to the manufacturing industry, it is not my duty, if it were in my power to predict; the thread is drawn, the wheel is flying: how many revolutions, before the officious Atropos shall tender her unwelcome services, eventful time will disclose. To make a present advantage, to derive a partial good, from an evil which we cannot avert, is the part of true philosophy: from this source a dawn of hope is presented to the agriculturist, and many years, possibly ages, of profitable labor may yet reward him.

From these considerations; from the physical advantages of a larger rotation; the extended prospects of a market, and the value of the article at home and abroad, I have adopted and recommend to your attention, experiments of the growth of cotton: if error be imputed to me, I stand counselled by the judicious and classic sentiment "nulla pallescere culpa."

The result of my experiment of thirty acres of cotton, (upland species) the present year, it is not yet in my power to state, as the gathering will not be completed before the last of December; an earlier period, than is usual in the south. A season so unpropitious, has not occurred, perhaps in the memory of man.—The unprecedented drought of the spring has retarded its growth and maturity many weeks—The planting was commenced on the 5th of May, and finished on the 15th, and though the growth ultimately became luxuriant, it was too late for a full return; five weeks elapsing before it was fully up, a circumstance unparallelled in the annals of agriculture; yet southern planters, who have viewed it, pronounce it a respectable crop in point of quality, and of beautiful staple. What may be the extent of injury from the continued, autumnal rains, I cannot yet know; to such calamities all crops are equally subject.

This experiment was made on the clayey soil of my Appleby farm. From other planting of the same day, on a small scale, on the Hickory and Black-walnut lands of Transquakin, of much lighter character, a heaay gathering was obtained, three weeks earlier, than from the former; notwithstanding an inferior and, most slovenly cultivation; and the former on the clay soil, under the finest possible culture, as many of you have witnessed.

The inference from these facts, contrary to the opinion of some modern writers of the south, is clearly in favour of light soils for cotton; perhaps, in our climate only, where a short summer comparatively, makes the accelerated growth of a warm soil, the most important point of security.

My crop of Palma Christi has been rendered considerably abortive by the same cause, the drought, and not more than three acres of ten vegetated at all. The domestic and foreign demand for this article are both extensive, and though the market has suffered a depression, it is quoted in the prices current of New York at $1 90 per bushel. The product of one bushel of seed is about three gallons of oil, which will usually command $1 50 per gallon, and 25 bushels per acre, will, from my experiment, form a reasonable predicate for calculation; affording in the result, to the planter and the manufacturer, a liberal compensation for his labor.

Be not startled, gentlemen, when I mention another crop which I think of introducing, the following season, into Dorchester, the Rubia Tinctorum, or Madder plant, which will infallibly succeed in our climate, and holds out a fair promise to the cultivator; it is largely grown in a parallell of latitude, more than thirteen degrees north of us, in the unkind, cold, and humid climate of Holland, and the market is co-extensive with civilization.

One other crop merits our most special attention; one, whose latitude, soil, climate, and market, are emphatically our own—one, which will give strength and activity to our teams; richness and profusion to our dairies, and will adorn the generous and hospitable board with the choicest viands; and yet one, I am compelled to say, whose introduction into the county, might fall under the denunciation of the *frugal* and *fastidious* farmer, a *martyr* to the odious epithet of *innovation*. The large and valuable family of the grasses, is that to which I would call your attention—The neglect of this branch of agriculture is one of our most palpable errors. To name to this intelligent audience the comforts and luxuries of life flowing directly from this source of industry would be presumptuous; to attach the delinquency, I am justified by the notoriety of the fact: the deepest interests of the farmer are intimately connected with this object of attention—and yet, it is almost wholly neglected, and the small quantity of grasses grown, are considerably diminished in value, by premature harvesting. Frequent and infallible analyses have established the fact, that the grasses contain the most nutriment, when their seed is matured; and if cut, when in flower, the weight of nutritive matter, lost, exceeds half its value.

Many roots of equal value with the grasses, are totally neglected, as food for cattle—The carrot, the beet, the parsnip, and potatoe are all worthy of attention for this purpose—the turnip, even the far famed species of ruta baga, is worth very little more than its weight of water and woody fibre; yielding in a hundred parts, not three of nutritive matter.

It may not be irrelevant, to remark, that the proximate principles, which contain chiefly, the nutritive powers of vegetables, are, saccharine matter, starch, mucilage, and gluten. To ascertain the quantities and compare the relative proportions of these principles, inesculent plants, before we adopt or select them, for cultivation, is unquestionably a point of primary importance; in this, or any other branch of our agricultural profession, where my feeble services may avail you, I freely tender them.

In regard to the carrot, I have obtained, a few days part, from a hundred parts, ten of saccharine matter and four of mucilage, making fourteen in a hundred of nutriment—the beet, from which I expected more, did not yield so much as the carrot, which may possibly be ascribed to its being a very imperfect and defective root—The potatoe, I have not examined, but it is said to yield one fourth of its weight of nutriment, chiefly *starch*.

To conclude, gentlemen, permit me to remark, that be your rotation large or small, your lands rich or poor, your crops indigenous or exotic, without thorough draining, your expectations will be disappointed; under the influence of stagnant waters, your best hopes will be frustrated—your soil will be vitiated—your crops drowned—the atmosphere of your dwellings will be contaminated by noxious exhalations—and bilious infection, with all its retinue of evils will harass you for life. Drain your lands, reclaim your marshes, rely not upon the proffered, but vain hope of state treasury, and state agency, in this important affair: they are illusive phantoms, which will operate only, to abstract you from realities—You will command the retribution of health, wealth and happiness.

The luxuriant issue of the experimental crop of wheat and corn, the present year, on the reclaimed marshes of our southern friend (Mr Slawson) to whose meritorious energies, I have justly born witness on a former occasion, opens to your view, a wide field of well founded anticipation. By a moderate portion of industry, economy and skill, you may develope and enjoy those hidden treasures, riches, comforts, and luxuries of life, which a kind providence has designed for those who ask & seek her bounties.

Finally, gentlemen, I have to tender my thanks for the polite attention with which you have honored me, and to the members of this institution I tender an acknowledgement of the high sense of obligation, which I entertain, for the distinguished instances of kind feelings, which they have exercised towards me; and I take this occasion to repeat, that though I decline the honor of a re-election for the ensuing year, as President of this society; yet, as far as [illegible] exertions may be service[illegible] will be ardently continued, for [illegible]otion of the science and practice [illegible]profession which I have adopted, [illegible]h I hold to be one of the most in[illegible]t, most honorable, most invitin[illegible]ost useful of the occupations of [illegible].

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*Analysis of Ameri[illegible]ood s[illegible]eat. From 100 parts of wh[illegible]t wheat grown in Dorchester, M[illegible]ture clayey soil, I obtained 30 pa[illegible]New[illegible]uten. Wheat grown in northe[illegible]ompte[illegible]s, is sta[illegible]ted to yield only about [illegible]s of glu[illegible]ten in 100.

†From a fine beet, sinc[illegible]SUGA[illegible]cured, I ob[illegible]tained 12 parts of saccha[illegible]matter in 10[illegible].

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A letter from Laguira[illegible], of the 3d o[illegible] has reached New York [illegible]by way of S[illegible] Thomas, from which the [illegible]following is [illegible] extract.

"An arrival from Car[illegible]acas this da[illegible] brings us the intelligence[illegible]scri[illegible] of the arri[illegible] of Gen. PAEZ in that city [illegible]—that he ha[illegible] called a meeting of the C[illegible]nec[illegible]abildo, and s[illegible]ted his desire to have es[illegible]s b[illegible]associated wi[illegible] him in the concerns of st[illegible]ribute, one hundr[illegible] of the most respectable con[illegible]citizens, for [illegible] purpose of devising imm[illegible]acc[illegible]ediate measu[illegible] for placing things on a pr[illegible]ITA[illegible]oper footing, [illegible] to improve the situation [illegible]Part of mercha[illegible] particularly."

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