The Project Gutenberg eBook of The Rural Magazine, and Literary Evening Fire-Side, Vol. 1 No. 06 (1820), by Various

This ebook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this ebook or online at www.gutenberg.org. If you are not located in the United States, you'll have to check the laws of the country where you are located before using this eBook.

Title: The Rural Magazine, and Literary Evening Fire-Side, Vol. 1 No. 06 (1820)

Author: Various

Release date: April 22, 2015 [EBook #48760]

Language: English

Credits: Produced by Barbara Tozier, Bill Tozier and the Online Distributed Proofreading Team at http://www.pgdp.net

*** START OF THE PROJECT GUTENBERG EBOOK THE RURAL MAGAZINE, AND LITERARY EVENING FIRE-SIDE, VOL. 1 NO. 06 (1820) ***

THE

RURAL MAGAZINE,

AND

LITERARY EVENING FIRE-SIDE.

VOL. I. PHILADELPHIA, *Sixth Month*, 1820. *No. 6.*

FOR THE RURAL MAGAZINE.

THE DESULTORY REMARKER.

No. V.

This mournful truth is every where confess'd,
Slow rises worth, by poverty depress'd.

Dr. Johnson.

Numerous and important are the boasted advantages of our free government. Men and things are professedly estimated, in this region of sturdy republicanism, in exact accordance with their true character. Our just and beautiful theories inculcate the doctrine, that VIRTUE and TALENT are the only proper grounds of distinction in society; and if this were faithfully illustrated in practice, merit would not be opposed by serious obstacles, in emerging from obscurity. If such a desirable state of things were realized, how rapidly would our country advance in prosperity! Monarchical institutions, which sanction the hereditary descent of RANK and DISTINCTION, would contrast very unpleasantly with those which are bottomed on the cardinal principle, that all men are by NATURE CREATED EQUAL. It becomes us therefore to inquire, whether the fancied superiority, which in relation to this subject, we arrogate to ourselves, be in reality any thing but in name.

In prosecuting this inquiry, let personal observation, and personal experience, be candidly consulted. If we have voluntarily substituted, for what in other countries results from the exercise of despotic power, an idol of our own creation, and bow to it with the same deference and fealty, what becomes of our claim to the title of independence? The effect of such a deception will be no less productive of mental and moral degradation, than if the laws of the land had authorized the establishment of PRIVILEGED ORDERS. The real republican character is particularly distinguished by its simplicity. The inroads of luxury, and the inordinate influence of wealth, are anxiously to be deprecated, as destructive to rational liberty. Titles of nobility are not within our reach; but the glitter of wealth may equally awaken our ambition, and monopolize our attention. Here there is danger, against the approach of which it is the part of prudence and of wisdom to

be vigilant.

When an individual is supposed to be affluent, have we ever known his merit to be unjustly overlooked or disregarded? Are not riches uniformly invested with the magic power of extenuating the faults, and magnifying the good qualities of their possessor? The answers to these questions will at once be given without hesitation, [202]

> For virtue, glory, beauty, all divine
> And human powers, immortal Gold! are thine.

The complexion of society in Philadelphia, is considered, in many respects, of that chastened and respectable character, which is well becoming the nature of our institutions. Our metropolis has always been distinguished for *Benevolence*, of which, as well as of other good qualities, honourable mention might be made. But indiscriminate approbation must be withheld, if we maintain our allegiance to truth. There is in this city an aristocracy of wealth, which has a withering and destructive effect on the best interests of social life.—Wealth, in certain circles, is considered an indispensable recommendation; and perhaps in some instances, the only one its possessor is required to prefer! It is not pretended, that this golden qualification should be contemned in the abstract; for, when not abused, it furnishes the means not only of procuring many valuable and rational gratifications, but of extensive utility to others. But we err egregiously, in permitting it to supplant, in our estimation, the only distinctions of real value;—those which have been indicated above. Such a blind devotion to its charms, casts a reflection upon our character for good sense, equally just and severe with that which properly belongs to a retailer of the stale and pointless bon-mots of monarchs, for wit, merely because they issue from the fountain of royalty. This slavish subserviency, is altogether unworthy of freemen; they must, if true to themselves, discard the influence of PRIVILEGED ORDERS, and view things as they really are.—Many an individual, who now fills a large space in the public eye, would, if overtaken by adversity, scarcely be discerned at all without the aid of a microscope. He would, when deserted by prosperity, return to his native insignificance, and assume his proper station in life.

Our conduct to all men should be friendly and decorous, but to those who are struggling with adverse circumstances, and who possess sterling recommendations to our notice, it should be zealously and liberally extended. The great man, to whom we are indebted for our motto, knew what it was to be beset by those potent adversaries,—griping poverty, and chilling neglect. He concluded one of his letters to Cave, the editor of the Gentleman's Magazine, in these remarkable words, "I am yours IMPRANSUS." If by this he intended to convey the idea, that he was fasting because he had not the means of procuring a dinner, what a melancholy reflection does it suggest to the mind. Even Lord Chesterfield himself, whose delicate nerves were so dreadfully shocked by the "*savageness*" of Johnson, had he been acquainted with the circumstance, and foreseen his future celebrity, would have hastened to his relief. Who that beheld Dr. Franklin, in the garb of a printer's boy, walking up Market Street, eating one of his rolls of bread, and carrying the other under his arm, could have believed, that at a future period he would become one of the most celebrated men of the age. So deceptive are external appearances, and so [203] irresistible must be the conclusion, that VIRTUE and TALENT are not excluded from the humblest walks of life.—Hence the folly and injustice of establishing PRIVILEGED ORDERS.

So long ago as the days of Horace, the seductive power of gold was considered as directly hostile to the cause of virtue. The following lines are extracted from his ode to his friend Sallust, as translated by Dr. Francis.

> Virtue, to crowds a foe profest,
> Disdains to number with the blest,
> Phraates, by his slaves ador'd,
> And to the Parthian crown restor'd,
> And gives the diadem, the throne,
> And laurel wreath, to him alone,
> *Who can a treasur'd mass of gold*
> *With firm, undazzled eye behold!*

☞

THE VILLAGE TEACHER.

It was finely remarked by an Indian, that the white man has not so deep and intimate a sense of his dependence upon God as the Indian. He owes more, apparently, to himself and his fellows. Entrenched in his palaces of stone, he can smile at the pitiless storm, and defy the blasts of winter. The great business of his early life, is to provide against its decline. He has artisans to administer to every want, and to alleviate every pain. Hence his own importance is magnified in his view; and he thinks less frequently of the great Being, from whom all his comforts spring. The Indian, on the other hand, leads a life of privation and adventure. He wanders alone through the forest; and seeks companionship and communion with nature. He looks abroad on the majesty of creation, and feels that there must be a Deity. In the uncertainty of his supplies of food, he knows that he is at the mercy of an invisible Protector; and the feeling of gratitude for unexpected relief,

is more vivid than can enter into the heart of the civilized man.

Without stopping to inquire into the justice of the Indian's remark, I shall go on to observe, that there is a like difference between the occupations of the city and country. Every thing in a great metropolis is artificial. As the division of labour is the great secret of national wealth, so it is carried to its greatest extent in the capital. The members of the community are there more interlocked with each other, more helpless by themselves, than is the case with us. Accordingly they look to each other for the principal part of their enjoyments. To begin with the most necessary things of life, a citizen is dependant upon a dozen tradesmen, perhaps, for those articles of food and clothing, which a farmer works up at home. He accomplishes himself for one object of pursuit; and although profoundly ignorant of all others, is enabled thereby to fill his station, to keep his place as a key-stone in the arch of society. It never occurs to him how helpless and impotent he would be by himself. He is accommodated to things around—the artificial creature of an artificial system. Nor is it only in this dependence upon his fellows, that, the citizen differs from the countryman. His contrivances against the unavoidable evils and calamities of life, are more numerous, and cast a veil, in some degree, between him and his Creator. The overruling of that hand, which dispenses and withholds the rain and the harvest, [204] affect him, as it were, but at a distance.—His merchandise is the product of art. His system of credit equalizes, if I may use the expression, the dispensations of Providence. The tempest may bury his wealth in the bosom of the deep; but an insurance office repairs the ravage of the elements. Every means in his power is used to thwart the original decree, "By the sweat of thy brow," &c.—He looks into futurity, and calculates the unfruitfulness of the seasons—not as a motive to humble dependence—not as an incentive to prayer and repentance—but that he may build his fortune upon the wants and the casualties of his fellow creatures. He even grapples with death itself—calculates with unfeeling selfishness the days and the infirmities of his neighbours, and wagers upon the length of his life. All his arrangements are predicated upon this artificial system. The thought, if it ever occur to him, of the great God of nature, is as much shut out by it, as the fair face of creation from the alleys and courts of the city. And in proportion as he becomes impressed with a deep sense of that overruling Providence, will these things become hateful in his eyes. No doubt the mind is, as Milton has it, "its own place," and can transform the natural aliment of vice into a medicament of virtue. The noblest examples of active goodness are generally to be found in a large metropolis; for it must be virtue of a superior cast that can resist the temptations which are there presented.—But minds of a contemplative turn may be allowed to shun the combat which they find it so hard to sustain, and to seek for aids to their good resolutions in external circumstances.

To all such I may venture to recommend the pursuits of a country life as eminently salutary. Every month and week has there its appropriate labours, which cannot be neglected; and it is from this cause a life of activity and variety. The events of the season are full of interest, and it is peculiarly delightful to observe how Providence still delights to bless. Shortsighted and presumptuous that we are, we are constantly auguring this or that misfortune—lamenting the unpropitiousness in some respect or another of the year; and yet from harvest to harvest are our barns filled, and our granaries laden. The labours of the country do not, like those of the city, deform the body, and undermine the constitution; and there is in its clear atmosphere, and silent serenity, an influence as invigorating to the soul as the touch of earth to Antæus. In the country, the silent and manifest workings of the Deity are constantly before us, and meet our eyes in every phase of organized life: The mind must be worse than insensible that does not feel and respond to the voice of praise, which seems to be constantly ascending, as from one great altar.

Some philosophers have placed virtue in a state of lofty contemplation; and others, of continued activity. The truth seems to be, that they are both essential to the perfect character.—He who gives himself up to indolent meditation, will become a prey to the enemies of his own household, and will fall by a servile foe. He who never retires to "plume his feathers, and let grow his wings," [205] will find himself less and less able to sustain his flight; and discover, perhaps, when it is too late, that he has lost the energy of virtue, and the love of moral beauty.

But as the temptations of the more selfish passions are the strongest, that state of society in which we are the most exposed to them, is the most dangerous; and we have more need of having our eyes and our hearts fixed upon pure and lofty objects, than of having excessive stimulants applied to that activity, of which every condition in life requires a steady and vigorous application. To reflecting minds, therefore, the labour and the relaxation which the country holds out, are both more salutary and invigorating, than that which is required amid the smoke, and bustle, and jarring interests of a great metropolis.

AN ACCOUNT

Of the Agricultural School at Hofwyl, in Switzerland.

(From the Edinburgh Review.)

Mr. de Fellenberg was first known merely as an agriculturist, and still keeps up his original establishment of husbandry at Buchsie, an old chateau near Hofwyl; but agriculture was always with him a secondary object, and subservient to that system of education to which his thoughts

were very early directed. He is a man of an unusually ardent as well as persevering turn of mind, and conceals a character of deep and steady enthusiasm, under a very calm exterior and manners. Although born to patrician rank in his own country, he early imbibed those political doctrines of which such tremendous misapplication was so soon to be made in his neighbourhood: and the disappointment filled his mind with melancholy views of the moral state and future prospects of mankind. It appeared to him, that the world was blindly hurrying on to irretrievable ruin; and that a sounder system of education for the great body of the people, could alone stop the progress of error and corruption. He has sometimes mentioned in conversation the particular circumstances, which finally determined him to the course he has since pursued. In the year 1798 or 1799, he happened to be at Paris as one of the commission sent by the provisional government established in Switzerland after the French invasion; and in that capacity he had an official conversation with the Director Reubel, at his country-house near Paris,—in the course of which he laid before him, in glowing colours, a picture of the miserable state to which his country was reduced, and which might soon lead to a *Vendean* war, destructive to both parties. The Director appeared for some time to listen with profound attention, and Mr. de Fellenberg ascribed his silence to conviction of the truths he urged, and something like a feeling of compunction,—when, all at once, the worthy republican throwing open a window, called aloud to one of his servants—'*Jacques! apportez moi Finette!*' A little spaniel was brought accordingly with its litter of young ones in a basket—and there was no chance of his hearing another word about Switzerland or liberty! After this rebuff, he gave up the idea of serving his country as a politician; and, asking for his passport the next day, made the best of his way home, determined to set about the slow work of elementary reformation, by a better mode of education, and to persevere in it for the rest of his life!

It is now upwards of twelve years since Mr. de Fellenberg undertook to systematize domestic education, and to show on a large scale how the children of the poor might be best taught, and [206] their labour at the same time most profitably applied: in short, how the first twenty years of a poor man's life might be so employed as to provide for his support and his education. The peasants in his neighbourhood were at first rather shy of trusting their children for a new experiment; and being thus obliged to take his pupils where he could find them, many of the earliest were the sons of vagrants, and literally picked up on the highways; and this is the case with one or two of the most distinguished. He had very soon, however, the good fortune of finding an excellent co-operator in the person of a young man of the name of Vehrli, the son of a schoolmaster of Thurgovia, who, coming to Hofwyl in 1809, to see the establishment and inform himself of the mode of teaching, was so struck with the plan of the *school of industry*, that he offered his son, then about 18, as an assistant. This young man devoted himself from that moment to the undertaking.——Although admitted at first to Mr. de Fellenberg's table, he soon left it for that of his pupils, with whom he has ever since lived night and day. Working with them in the fields, their playfellow in their hours of relaxation,—and, learning himself what he is to teach as a master, his zeal has not cooled a moment during a trial of more than ten years' unremitting exertions, under the guidance of his patron, and assisted now by four other masters. The number of his pupils has increased successively to 43: They obey him as well as Mr. de Fellenberg, entirely from love and a sense of duty:—punishment has been inflicted only twice since the beginning; and their treatment is nearly that of children under the paternal roof. They go out every morning to their work soon after sunrise—having first breakfasted and received a lesson of about half an hour. They return at noon. Dinner takes them half an hour,—a lesson of one hour follows; then to work again till six in the evening. On Sunday, the different lessons take six hours instead of two; and they have butcher's meat on that day only. They are divided into three classes, according to age and strength; an entry is made in a book, every night, of the number of hours each class has worked, specifying the sort of labour done, in order that it may be charged to the proper account, each particular crop having an account opened for it, as well as every new building, the live stock, the machines, the schools themselves, &c. &c. In winter, and whenever there is no out-of-doors' work, the boys plait straw for chairs; make baskets; saw logs with the cross saw, and split them; thrash and winnow corn, grind colours, knit stockings, or assist the wheel-wright and other artificers, of whom there are many employed on the establishment. For all which different sorts of labour an adequate salary is credited each boy's class.

Mr. de Fellenberg indeed observes, that the boys being most of them only just come to the age of productive labour, it is presumed the Establishment will not only support itself in future, but repay past expenses; particularly as certain outfits charged to the first years will not recur again. —He observes also, that several grown boys have been suffered to go away, and have been replaced by young children, to the great injury of the Establishment. It may be added, that the pupils have been indulged of late with better clothes than formerly, or than is strictly necessary, as well as a better table; and that, from attention to their feelings, the cast-off clothes of the *school of the rich* are not turned to their use, but given away to the poor of the neighbourhood, that they may not appear in the light of dependants on any but their adoptive father and their own labour. It is undoubtedly a very striking circumstance, that only one, out of the whole [207] number of boys admitted into this school since the beginning, has been dismissed as irrecoverably vicious; all the others have got rid of their former habits;—and, when final sentence was passed upon the unfortunate boy, the others begged leave to contribute each one *batz* towards a present to him, that he might remember them with kindness.

The labours of the field, their various sports, their lessons, their choral songs, the necessary rest, fill the whole circle of the twenty-four hours; and judging from their open, cheerful, contented countenances, nothing seems wanting to their happiness.—But it is a great point

gained, to have brought young men to the age of 18 or 20, uncontaminated by the general licentiousness which prevails in the country. When their time is out, and they mix with other people, they will no doubt marry; but the probability is, they will be more difficult in their choice than other men of the same rank, and will shrink from vulgarity and abject poverty. Long habits of self-restraint, too, will enable them to look out with comparative patience for a suitable establishment, before they burden themselves with a family. In short, if the only check of the mild kind to an excessive increase of population is self-restraint, from motives of prudence and morality, where may we look for it with better hopes than among the pupils of Mr. de Fellenberg?

We shall now proceed, however, to lay before our readers a more detailed account of the internal management of the school of industry. The lessons are given mostly *viva voce*, and various questions continually interposed, respecting measures of capacity, length and weight, and their fractional parts; the cubic contents of a piece of timber, or a stack of hay; the time necessary to perform any particular task, under such or such circumstances; the effects of gravitation; the laws of mechanics; rules of grammar and different parts of speech, &c. &c. The boys endeavour to find the solution of arithmetical and mathematical problems without writing, and at the same time to proceed with the mechanical processes in which they may happen to be engaged. Aware of the difficulties with which they are thus made to grapple, as it were, without assistance, they are the more sensible of the value of those scientific short cuts, which carry you in the dark indeed, but safely and speedily, to your journey's end, and the more delighted with their beauty as well as their use. They acquire the *rationale* of the thing, together with the practice; their understandings are exercised, and their attention kept awake. None of them are ever seen to look inattentive or tired, although just returned from their day's labour in the fields. Contrivance, and some degree of difficulty to overcome, is a necessary condition, it would seem, of our enjoyments.

The pupils are not always questioned, but, in their turn, propose questions to the masters, and difficulties to be solved, which they do sometimes with considerable ingenuity.—They draw outlines of maps, from memory, exhibiting the principal towns, rivers, and chains of mountains; they draw correctly from nature, and in perspective, all sorts of machines for agriculture; and are very fond of trying chymically the different sorts of soil, and have tables of them very well arranged.

Various gymnastic games are also practised occasionally; but mental exercises find their place better after hard labour: They do indeed in the fields full as well as on the benches of the school. For instance, when the boys are employed in digging trenches to irrigate a meadow, and while directing the water along artificial ridges, and round hills, so as to regulate the fall and distribute the moisture equally, they put each other in mind of what they have heard about the laws of [208] hydraulics. When they clear a field of the stones turned up by the plough, and are directed to separate those which are calcareous, in order to be burned into lime, they know and practise the different tests by which their nature is ascertained, and can point out in the horizon, the particular mountains which have furnished these various fragments.

In order to encourage the attachment to property acquired by our own industry, the pupils are allowed certain emoluments, such as the proceeds of the seeds they collect, some part of their gleanings, and what they raise in a small garden of their own; all which accumulates, and forms a fund for the time of their going away. No ambitious views are fostered by this mode of training the poorest class, beyond that of being good husbandmen. The pupils of the *school of industry* are not raised above their station; but their station, dignified and improved, is raised to them. It has been remarked before, that men born in the poorest class of society, constituted as it is at present, especially those who subsist in part on public charity, find it almost as difficult to get out of their dependant situation as a Hindoo to leave his cast,—kept down as they are by a sort of inbred ignorance and improvidence, and, above all, by their multitude; which is one of the worst consequences of that improvidence. The higher and middling ranks scarcely keep up their numbers any where; while multiplication goes on, unrestrained by any consideration of prudence, precisely among those who are least able to support a family. The poor may, in the bitterness of want, exclaim against taxes and ill government, and certainly not always without reason;—but the worst government is their own of themselves.

Agricultural labour is not the only occupation which can be made the base of such an education. *Manufactures*, with all their disadvantages, might answer the purpose, provided the children were not collected together in vast numbers in the same rooms—provided they were under the care of intelligent and kind masters and overseers, and were allowed gardens of their own, and a certain number of hours each day to work in them, or take exercise in the open air—all which must abridge necessarily the time allotted to productive labour, or to learning. One of the great advantages of husbandry is, that it affords sufficient exercise, and leaves more time for mental improvement. Such of Vehrli's pupils as have a turn for any of the trades in demand at Hofwyl—wheelwright, carpenter, smith, &c. tailor or shoemaker—are allowed to apply to them. These boys will leave the Institution at the age of one-and-twenty, understanding agriculture better than any peasants ever did before, besides being practically acquainted with a trade, and with a share of learning quite unprecedented among the same class of people; and yet as hard-working and abstemious as any of them, and with the best moral habits and principles. It seems impossible to desire or imagine a better condition of the peasantry.

Public education, Mr. de Fellenberg observes, is too generally a uniform process, imposed indiscriminately, and by force, upon every variety of disposition, talents, and character. His object, on the other hand, is to suit the education to the pupil, and not the pupil to the education. —A good preceptor should be an experienced friend, who guides,—not a master who commands,

and, above all, not an irascible master. Punishments and rewards he considers as equally objectionable: for fear makes slaves, and the love of distinction unfolds, in the end, most of the bad passions. *Do as you would be done by* is, he maintains, the only safe rule of conduct to [209] inculcate; a lively feeling of right and wrong, goodwill and kindness to all men, the only sentiments fit to be encouraged. Emulation, perhaps, is too powerful and universal a stimulant to be altogether excluded; but it needs more frequently to be repressed than excited. Such a vigilant and cautious system of training would be best carried on certainly under the parental roof, in a well regulated and united family; and therefore he wishes a school to resemble as nearly as possible such a family, and to be as unlike as possible to a mere manufactory of learning.

The whole course of studies may be considered as divided into three periods, of three years each. In the first, they study Greek and the Grecian History, the knowledge of animals, plants, and minerals. In the second, Latin, Roman History, and the Geography of the Roman world. And in the third, Modern Languages and Literature, Modern History to the last century, and Geography—the Physical Sciences, and Chymistry. During the whole nine years, they apply to Mathematics, Drawing, Music, and Gymnastic Exercises.

The geometrical representation of near objects—the house, the garden, the course of the river, the surrounding country, the mountains beyond it, taken by approximation in the shape of a map —is the natural introduction to Geography. When the pupils feel a curiosity to know more of the world than they can see, maps are then laid before them, and the globe and its uses are explained. They are made to delineate correctly, from memory, the shape of continents and seas; and to place and name the principal chains of mountains, the course of rivers, the boundaries of states, their provinces and capitals;—and this leads to an inquiry into the particular history of each, and their natural productions.

Drawing is early cultivated, from natural objects first, then by copying, and finally by composing characteristic heads, or rather endeavouring to imitate the effect of passions on the human countenance. The execution is generally correct, but hard and dry—in the style of Perugino certainly, rather than of Rembrandt. Music likewise is much practised; not however with a view to execution, but for the sake of the Poetry of music, and its Piety—as an elevated language, in which certain ideas and feelings are expressed, which no other human means can reach or convey. The gymnastic exercises have for their object, health, and the dexterous use of the bodily faculties; but they never are exhibited in public, and made an occasion of show and display.

It is the endeavour of the master to encourage his pupils to express freely, both in writing and conversation, the opinions and feelings which have been suggested by their reading; and thus to enable them to rectify their mistakes, either as to facts or inferences; never dictating to them what they should think, and yet restraining and directing the flights of a young imagination. The pupils do not read the history of the last century before their twentieth year, when judgment is sufficiently matured; and even then, all reference to the politics of the day is avoided, that they may enter the world with minds wholly free from party spirit, and able to form unprejudiced opinions. Common newspapers and political pamphlets are never seen at Hofwyl.

The study of Mathematics continues during the whole period of education, to an extent determined entirely by the individual capacity and disposition of each pupil, who is not hurried on or retarded for the sake of keeping pace with others. Every problem is analyzed and explained thoroughly before passing to another. The interest and attention of those of ordinary abilities, is kept up by practical applications of the science; and none but those properly qualified apply to the pure mathematics: In doing so, they are carefully guarded against the pride of successful [210] calculation, which is apt to overlook Divine power in the consideration of its own.

At the same time that Mr. de Fellenberg dwells with delight and confidence on the natural proofs of the existence of the Supreme Being, he admits fully, and establishes the necessity of a Revelation to supply the insufficiency of human reason. Socrates himself, he observes, did not know how to establish the dogma of the unity of God. His pupils, brought up in purity and simplicity of heart, under the influence of reason and kindness, are in a great degree Christians before they are taught Christianity,—and best prepared, therefore, to understand and receive the Divine doctrine; but all dogmatic points are reserved for the ministers of their respective communions, who are to instruct them; and controversial disputes are unknown and interdicted.

It has been said also that Mr. de Fellenberg's husbandry is ruinous. This would only add to the wonder of his being able to do what he does by his own slender means; but, in point of fact, his farm affords a very considerable profit. We have, upon this point, the evidence of a gentleman well versed in those matters, Mr. Crud of Genthod, one of the commissioners appointed by the Swiss Diet to inquire into the agricultural establishment at Hofwyl, the result of whose statements is, that the farm (214½ poses, equal to about 172 English acres) has produced *net* in 4 years from 1810 to 1814, 56,705*l.* Swiss money, and for one year 14,176*l.* which, deducting interest at 6 per cent. on 14,382*l.* the average value of stock on the farm, or 843*l.*, leaves a clear profit of 13,313*l.*, equal to 3*l.* 17s. 6d. Sterling a pose (nearly equal to ⅘ths of an English acre;)[1] and, valuing the farm at the high price of 750*l.* a pose, (47*l.* Sterling,) gives something more than 8¼ per cent. interest, net of all charges. The farm is undoubtedly benefited by the Institution, which affords a ready market for its produce, and perhaps by the low price at which the labour of Vehrli's boys is charged: But the farm, on the other hand, affords regular employment to the boys; and also enables Mr. de Fellenberg to receive his richer pupils at a lower price than he

could otherwise do. Hofwyl, in short, is a great whole; where 120 or 130 pupils, more than 50 masters and professors, as many servants, and a number of day-labourers, six or eight families of artificers and tradesmen, altogether about 300 persons, find a plentiful, and in many respects a luxurious subsistence, exclusive of education, out of the produce of 170 acres, and a money income of six or seven thousand pounds, reduced more than half by salaries, affords a very considerable surplus to lay out in additional buildings.

Not satisfied with what we had ourselves learned and thought on this subject, we have been anxious to learn what was thought of it in the neighbourhood, and by persons not particularly friendly to the Institution. We have scarcely heard an objection against the *School of Industry*. The opinion is *universally* favourable to it; and though there is more difference of sentiment as to the *higher school*, the worst we have heard is, that the pupils are not so advanced in any one science as some young men brought up in other schools are. It is admitted that they are eminently moral and amiable in their deportment; that they are very intelligent; and that their ideas have a wide range. In short, the objection, as it appears to us, is, that they are likely to become liberal-minded gentlemen, but not professors. Hofwyl is not a college where the only object is learning;—still less a monastery, where an austere and uniform rule prevails;—it is a [211] little world, composed of different ranks and professions, and where individuality of character is preserved, and a variety of talents unfolded.

The patricians of Berne have been generally, from the beginning, unfavourable to the Institution; yet several of them have their sons in it, and many more are now endeavouring to procure admittance. We have learned very lately, that a decided and active enemy, many years first magistrate of the district where Hofwyl is situated, and lately dead, enjoined expressly in his last-will, that his sons should, if possible, be educated exclusively at Hofwyl!

Treatise on Agriculture.

SECT. IV.

Of the Analysis of Soils, and of the agricultural relations between soils and plants.

We have seen that the earths have a threefold capacity; that they receive and lodge the roots of plants and support their stems; that they absorb and hold air, water and mucilage—aliments necessary to vegetable life; and that they even yield a portion of themselves to these aliments. But we have also seen, that they are not equally adapted to these offices; that their parts, texture and qualities are different; that they are cold or warm, wet or dry, porous or compact, barren or productive, in proportion as one or other may predominate in the soil; and that to fit them for discharging the various functions to which they are destined, each must contribute its share, and all be minutely divided and intimately mixed. In this great work nature has performed her part, but as is usual with her, she has wisely and benevolently left something for man to do.

This necessary march of human industry, obviously begins by ascertaining the *nature of the soil*. But neither the touch, nor the eye, however practised or acute, can in all cases determine this. *Clay*, when wet, is cold and tenacious—a description that belongs also to magnesian earths: *sand* and *gravel* are hard and granular; but so also are some of the modifications of lime: *vegetable mould* is black and friable, but not exclusively so; for schistous and carbonaceous earths have the same properties.

It is here, then, that chemistry offers herself to obviate difficulties, and remove doubts; but neither the apparatus nor process of this science, are within the reach of all who are interested in the inquiry, and we accordingly subjoin a method, less comprehensive, but more simple and sufficiently exact, for agricultural purposes, and which calls only for two vases, a pair of scales, clean water and a little sulphuric acid.

"1st. Take a small quantity of earth from different parts of the field, the soil of which you wish to ascertain, mix them well together and weigh them; put them in an oven, heated for baking bread, and after they are dried, weigh them again; the difference will show the *absorbent power of the earth*. When the loss of weight in 400 grains, amounts to 50, this power is great, and indicates the presence of much animal or vegetable matter; but when it does not exceed twenty, the absorbent power is small, and the vegetable matter deficient.[2]

"2d. Put the dried mass into a vase with one fourth of its own weight of clear water; mix them well together: pour off the dirty water into a second vase, and pour on as much clean water as before; stir the contents, and continue this process until the water poured off, is as clear as that poured on the earth. What remains in the first employed vase is *sand*, *silicious* or *calcareous*.

"3d. The dirty water, collected in the second vase, will form a deposit, which (after pouring off the wa-ter) must be dried, weighed and *calcined*. On weighing it *after* this process, the quantity [212] lost will show the portion of *animal* and *vegetable mould contained in the soil*; and,

"4th. This calcined matter must then be carefully pulverised and weighed, as also the first deposit of sand, but without mixing them. To these, apply (separately) sulphuric acid, and what they respectively lose in weight, is the portion of *calcareous* or *aluminous earths* contained in them. These last may be separated from the mass by soap lie, which dissolves them."[3]

Here is the light we wanted. In knowing the disease, we find the cure. Clay and sand qualify

each other; either of these will correct an excess of lime; and magnesian earth, when saturated with *carbonic acid*, becomes fertile.

But entirely to alter the constitution of a soil, whether by mechanical or other means, is a work of time, labour and expense, and little adapted to the pecuniary circumstances of farmers in general. Fortunately, a remedy, cheaper, more accessible and less difficult, is found in that *great diversity* of habits and character, which mark the vegetable races. We shall, therefore, in what remains of this section, indicate the principal of these, as furnishing the basis of all rational agriculture.

1st. *Plants have different systems of roots, stems and leaves, and adapt themselves accordingly to different kinds of soils:* the Tussilago prefers clay, the Spergula sand; Asparagus will not flourish on a bed of granite nor Musus Islandicus on one of alluvion. It is obvious, that *fibrous rooted* plants, which occupy only the surface of the earth, can subsist on comparatively stiff and compact soils in which those of the leguminous and cruciform families would perish, from inability to penetrate and divide.

2d. *Plans of the same, or of a similar kind, do not follow each other advantageously in the same soil.* Every careful observer must have seen how grasses alternate in meadows or pastures, where nature is left to herself. At one time, timothy, at another clover, at a third red-top, and at a fourth blue grass prevails. The same remark applies to forest trees; the original growth of wood, is rarely succeeded by a second of the same kind; pine is followed by oak, oak by chesnut, chesnut by hickory. A young apple tree will not live in a place where an old one has died; even the pear tree does not thrive in succession to an apple tree, but stone fruit will follow either with advantage. "In the Gautinois (says Bosc,) saffron is not resumed but after a lapse of twenty years; and in the Netherlands, flax and colzat require an interval of six years. Peas, when they follow beans, give a lighter crop than when they succeed plants of another family."[4]

3d. *Vegetables, whether of the name family or not, having a similar structure of roots, should not succeed each other.* It has been observed, that trees suffer considerably by the neighbourhood of sainfoin and lucern, on account of the great depth to which the roots of these plants penetrate—whereas culmiferous grasses do them no harm.

4th. *Annual or biennial trefoils, prevent the escape of moisture by evaporation, or filtration, from sandy and arid soils*, and should constantly cover them in the absence of other plants;[5] [213]
while *drying and dividing crops*, as beans, cabbages, chickory, &c. &c. *are best fitted to correct the faults of stiff and wet clays*.

5th. *When plants, are cultivated in rows or hills, and the ground between them is thoroughly worked, the earth is kept open, divided and permeable to air, heat and water, and accordingly receives from the atmosphere nearly as much alimentary provision as it gives to the plant.* This principle is the basis of the drill husbandry.

6th. *All plants permitted to go through the phases of vegetation (and of course to give their seeds) exhaust the ground in a greater or less degree; but if cut green, and before seeding, they take little from the principle of fertility.*

7th. *Plants are exhausters in proportion to the length of time they occupy the soil.* Those of the culmiferous kinds (wheat, rye, &c.) do not ripen under ten months, and during this period, forbid the earth from being stirred: while, on the other hand, leguminous plants occupy it but six months, and permit frequent ploughings. This is one reason why culmiferous crops are greater exhausters than leguminous; another is, that the stems of culmiferous plants become hard and flinty, and their leaves dry and yellow, from the time of flowering till the ripening of the seed—losing their inhaling or absorbing faculties—circulating no juices, and living altogether in their roots, and on aliments exclusively derived from the earth, whereas leguminous or cruciferous plants, as cabbages, turnips, &c. &c. have succulent stems, and broad and porous leaves, and draw their principal nourishment from the atmosphere. The remains of culmiferous crops, also are fewer, and less easily decomposed, than those of the leguminous family.

8th. *Meadows, natural and artificial, yield the food necessary to cattle, and, in proportion as these are multiplied, manures are increased and the soil made better*. Another circumstance that recommends them is, that so long as they last, they exact but little labour, and leave the whole force of the farmer to be directed to his arable grounds.[6]

9th. *Grasses are either fibrous or tap-rooted, or both. The remarks already made in articles 1, 2 and 3, apply also to them.* Timothy, red-top, oat-grass and rye-grass, succeed best in stiff, wet soils. Sainfoin does well on soils the most bare, mountainous and arid; lucern and the trefoils, (or clovers,) only attain the perfection of which they are susceptible, in warm, dry, calcareous earth.

10th. *The ameliorating quality of tap-rooted plants is supposed to be in proportion to their natural duration*; annual clover, (lupinella) has less of this property than biennial, (Dutch clover,) biennial less than sainfoin, and sainfoin less than lucern.

11th. *Any green crop, ploughed into the soil, has an effect highly improving*; but for this purpose, lupins and buckwheat (cut when in flower) are most proper.

12. *Mixed crops* (as Indian corn, pumpkins, and peas and oats,) *are much and profitably employed*, and *with less injury to the soil than either corn or oats alone*.

SECTION V.

Of Practical Agriculture, and its necessary Instruments.

We begin this part of our subject with a few remarks on the instruments necessary to agriculture, which may be comprised under the well known names of the plough, the harrow, the roller, the threshing-machine, and the fanning mill.

I. Of the plough:

[214] It is among the inscrutable dispensations of Providence, that the arts most useful to man, have been of later discovery—of slower growth, and of less marked improvement, than those that aimed only at his destruction.—At a time, when the phalanx and the legions were invented and perfected, and when the instruments they employed were various and powerful, those of agriculture continued to be few, and simple, and inefficient.

Of the Greek plough, we know nothing; and the general disuse of that described by Virgil and Pliny, furnishes a degree of evidence, that experience has found it incompetent to its objects.—With even the boasted lights of modern knowledge, scientific men are not agreed upon the form and proportion, most proper for this instrument. As in other cases, so in this, there may be no *abstract perfection*; what is best in one description of soil, may not be so in another; yet, as in all soils, the office of the plough is the same, viz. to *cleave* and *turn over the earth*, there cannot but be some definite shape and proportions, better fitted for these purposes, and at the same time less susceptible of resistance, than any other.

This beau ideal, this suppositious excellence, in the mechanism of a plough, has been the object of great national, as well as individual research. In Great Britain, high prizes have been established for its attainment; and in France, under the ministry of Chaptal, 10,000 francs, or $2000, were offered for this object, by the agricultural society of the Seine. In both countries, the subject has employed many able pens; those of Lord Kaimes, of Mr. Young, of Mr. Arbuthnot, of Lord Somerville, and of Messieurs Duhamel, Chateauvieux, Bosc, Guillaume, &c. It is not for us, therefore, to do more than assemble and present such rules for the construction of this instrument, as have most attained the authority of maxims.

1st. The beam, or that part of the plough which carries the coulter, and furnishes the point of draft, should be as near that of resistance as possible; because the more these are approached, the less is the moving power required. Even the shape of the beam is not a matter of indifference. In the old ploughs, it was generally straight, but a small curve is now preferred; because it has the effect of strengthening the coulter, by shortening it.

2d. The *head* of the plough, is the plain on which it moves. This should be concave, because that form offers fewer points of friction, and, of course, less resistance. Between the beam and the head, is an angle, on which depends the principal office of the plough; the making, at will, a deep or a shallow furrow. If you wish a deep furrow, diminish the angle, and vice versa: but this angle should, in no case, exceed from 18 to 24 degrees.

The resistance made to the plough being produced less by the weight of the earth, than by the cohesion of its parts, it is evident, that the head should be shod with iron, and rendered as smooth as possible. This remark applies equally to the soc and to the mould board.

3d. The soc, in its widest part, should be larger than the head. It has different shapes in different countries. In some is given to it that of an isosceles triangle; in others, that of the head of a lance; in Biscay, that of a crescent; and in Poland, of a two pronged fork. But, whatever be its shape, it should be well pointed and polished—enter the earth with facility, and cut it easily.

4th. To the *mould board*, some workmen give the shape of a prismatic wedge; others make the upper part convex, and the lower concave; while many make it entirely flat. In stiff soils, the *semi cycloid* is the form to be preferred, and in loose friable soils the *semi-ellipsis*.[7] [215] The iron mould boards have great advantages over the wooden, particularly when they, the shear and the soc, form one piece, as in the plough of Mr. Cook.

It is a general opinion, that a heavy plough is more disadvantageous than a light one; because the draft of the former, being greater, will be more fatiguing to the cattle: but the experiments of the agricultural society in London, establish a contrary doctrine, and show, that in light grounds, the labour is more easily and better performed, with a heavy, than with a light plough.

5th. The *coulter* is a species of knife inserted in the beam, and so placed before the soc, as to cut the sod. It is susceptible of being raised or depressed at will.

6th. The handles of the plough ought to be made of some kind of heavy wood, that they may operate as a counter-weight to the head, the soc and the mould-board.

To these remarks we subjoin two sets of experiments made with the most approved French and English ploughs; that of Guillaume, and Small's *Rotheram plough improved*, which furnish a means of comparison between the best ploughs of Europe and those of this country.

The resistance (stated in these tables) was measured and ascertained by a *dynonometer*, a machine, indispensable to those who would make correct observations on the relative advantages of different ploughs.

The French Plough.		*The English Plough.*	
Resistance in pounds.		Resistance in pounds.	
1st experiment	200	1st experiment	360

2d	do.	240	2d	do.	380
3d	do.	200	3d	do.	480
4th	do.	220	4th	do.	460
5th	do.	220	5th	do.	400
			6th	do.	400
	Divided by	5)1080	7th	do.	420
			8th	do.	386
	Average,	216	9th	do.	440
				Divided by	9)3720
				Average,	413

II. *The Harrow.* This is of different kinds—the triangular and the square, the single and the double. But of whatever form, its uses are the same; to smooth the field after ploughing, to break and pulverize the clods, and to cover the seed.—These uses sufficiently indicate the propriety of employing two in succession; one of heavy frame, with few and long teeth, like the Scotch brake; the other, of lighter constitution, with more and shorter teeth. Our own experience leads us to believe, that the common harrow covers the seed too much, because small seeds will not vegetate at a depth greater than three inches.

III. *The Roller* is a cylinder of heavy wood, turning on gudgeons, or on an axle, and placed in a frame, to which is attached a shaft; it is of different dimensions, but need not exceed that which may be drawn by one, or at most by two horses or oxen. This instrument is indispensable in good husbandry, yet is rarely used in ours. Its offices are three-fold—to render loose soils more compact; to break the clod on stiff ones, and on both, to compress the earth, (after seeding) so that it be every where brought in contact with the grain. It is also usefully employed in reinstating the roots of meadow grasses, loosened and raised by the alternate freezing and thawing of the ground, and, with similar view, may be passed over winter crops early in the spring.

Its clod-breaking and pulverizing property is much increased, by surrounding the roller with narrow bands of iron, two inches broad, three inches thick, and six inches asunder; or by studding it with iron points, resembling harrow teeth, and projecting three or four inches.

IV. *The Threshing Machine* is of English invention, and may be well enough adapted to the taste and circumstances of rich amateurs, but not at all to those of farmers in general. Our objections to it are three—the first cost, which is great; the quantum of moving power employed, [216]
which is equal to that of six horses, and the number of hands required to attend it, which is not less than four. We have seen, in France, a machine for the same purpose, but of much simpler structure—called the "*Rouleau de depiquer*" which is only a *fluted cylinder*; yet simple and cheap as this was, it could not maintain itself against the more ancient instruments—the flail and the horse. Still it is to be hoped, that new experiments may succeed better and abridge the manual labour usually given to this branch of husbandry, and, that the mechanical genius of our own country (which is not inferior to that of any other) may be the first to combine *power* and *cheapness* in this machine.

This hope is probably suggested, by the description of a new invented threshing machine, now before me, and which I may be permitted to transcribe from the letter of the inventor. "The machine I have built, is three feet wide. One horse will thresh with much ease, as much wheat as can be laid on it, by one man, (the straw to be taken away by another,) say, from *fifty* to *one hundred bushels in a day*, and the saving of grain will pay for the labour; for, I think, that with good attendance, not a particle of grain can escape with the straw.—The expense of the machine will be from *fifty* to *seventy dollars*, exclusive of the moving power, which is a wheel, about ten feet diameter, on an upright shaft, to which a lever is fixed to hitch the horse. Into this main wheel, a small one should be made to work, about two feet diameter, on a shaft carrying a drum, four feet wide. With this simple gearing, and drawn by a horse that walks well, the machine will give about eighteen hundred strokes in a minute, and if fully attended, will, without hard labour for the horse, thresh a *bushel every three* or *four minutes*. It stands in my barn, and may be seen and examined by any one."[8]

V. *The Fanning Mill*. Other things being equal, the cleanest wheat is most easily preserved, and, on manufacture, gives the best flour, and in the largest quantity. These considerations offer inducement enough for the employment of this machine, which, however, besides doing its business well, saves a great deal of time. It is too well known to require description.

ON BONES, &c. AS MANURE.

The carbon and hydrogen abounding in oily substances fully account for their effects; and their durability is explained from the gradual manner in which they change by the action of air and water.

Bones are much used as a manure in the neighbourhood of London.—After being broken and boiled for grease, they are sold to the farmer. The more divided they are, the more powerful are their effects. The expense of grinding them in a mill would probably be repaid by the increase of their fertilizing powers; and in the state of powder they might be used in the drill husbandry, and

delivered with the seed in the same manner as rape cake.

Bone dust, and bone shavings, the refuse of the turning manufacture, may be advantageously employed in the same way.

The basis of bone is constituted by earthy salts, principally phosphate of lime, with some carbonate of lime and phosphate of magnesia; the easily decomposed substances in bone are fat, gelatine and cartilage, which seems of the same nature as coagulated albumen.

According to the analysis of Fourcroy and Vauquelin ox bones are composed

[217]

Of decomposable animal matter,	51
phosphate of lime,	37.7
carbonate of lime,	10
phosphate of magnesia,	1.3
	100.

M. Merat Guillot has given the following estimate of the composition of the bones of different animals.

		Phosphate of lime.	Carbonate of lime.
Bone of	Calf,	54	
	Horse,	67.5	1.25
	Sheep,	70	5
	Elk,	90	1
	Hog,	52	1
	Hare,	85	1
	Pullet,	72	1.5
	Pike,	64	1
	Carp,	45	5
Horses'	Teeth,	85.5	25
Ivory,	"	64	1
Hartshorn,		27	1

The remaining parts of the 100 must be considered as decomposable animal matter.

Horn is a still more powerful manure than bone, as it contains a larger quantity of decomposable animal matter. From 500 grains of ox-horn, Mr. Hatchett obtained only 1-5 grains of earthy residuum, and not quite half of this was phosphate of lime. The shaving or turnings of horn form an excellent manure, though they are not sufficiently abundant to be in common use. The animal matter in them seems to be of the nature of coagulated albumen, and it is slowly rendered soluble by the action of water. The earthy matter in horn and still more that in bones, prevents the too rapid decomposition of the animal matter, and renders it very durable in its effects.

—[*Davy's Ag. Chem.*

FRENCH AGRICULTURE.

The Moniteur contains a very long report by Decaze, which is published, as having been approved of by the king on the state of agriculture in France. It appears from this document that the fostering care of the government is steadily, and in most instances, successfully, exercised in promoting every branch of cultivation adapted to the French soil and climate. One branch, that of the culture of the beet root, which it was supposed would have languished on the restoration of the sugar colonies, is stated to be gradually but firmly extending itself, and its encouragement is recommended to the government, among other considerations, on the special ground on which it was originally introduced, that of rendering France independent of foreign supplies of sugar in a period of war. It has been affirmed, that those who manufacture into sugar beet root, raised on their own farms, realized a profit of 25 per cent.; and on the supposition that a quantity were raised adequate to supply the total consumption of sugar in France, it is said that the refuse of the beet root would of itself suffice to fatten for the market annually 120,000 head of cattle.—There are now about twenty beet root sugar refineries in full activity.

GEORGETOWN, (S.C.) April 20.

An Agricultural Prize worth winning.—We are informed by a gentleman from Stateburg, that fourteen or more members of the Claremont Agricultural Society, of that neighbourhood, have agreed to plant, each an acre of ground in corn, to be manured and cultivated at pleasure.—The planter producing the most neat corn to the acre, (as a reward for his superiour farming) is to receive the produce of every other acre. The land to be planted must be high land, and have been cleared at least five years. A committee of five members were appointed to approve of the land,

to superintend the gathering and measuring the corn, and to report to the Society at its meeting in the fall, when we will be able to inform our readers of the successful planter, and the neat product of each acre. [218]

ON THE CULTURE OF THE SUGAR MAPLE.

This valuable tree seems to be equally well adapted for ornament and for profit. No tree, of the deciduous class, is more elegant in appearance, and but few grow more rapidly, or live to a greater length of years. Its shade is but little injurious to the growths of grain, and still less to those of grass. For fuel it is inferiour to no wood whatever. It may be cultivated in mowing and pasture lands, probably as closely as at the rate of 20 trees on an acre, without any essential injury to the pasture, or growth of the meadow. The quantity of sugar to be made yearly from the sap of the tree must, however, depend on its size, and on the rapidity of its growth. The quicker its growth, the more sap may be extracted from it, because the alburnum (sap wood) is always in the greatest proportion where the tree is most flourishing.

The rapidity of the growth of young trees, when transplanted, depends very essentially on the manner of performing that operation. The greater the depth and superficial extent, to which the ground is loosened, round where a young tree is to be set, the more rapid will be its growth when placed in this bed of loosened earth. Let one young tree, for instance, be set in a hole dug only 18 inches in diameter, and a foot in depth, and let another be set in a hole dug 6 feet wide, and 2 feet deep, and the latter will, for a number of succeeding years, grow with more than double the rapidity of the former. In order, then, to give the young maples a rapid start, so as to have them soon fitted for affording considerable supplies of sap, let due attention be paid to this particular. Let the holes for the trees be dug, say, a foot in depth, and five in diameter, and then spade or loosen the ground at the bottoms to the depth of 8 or 10 inches more before the young trees are to be set in.

In addition to planting maples in grounds intended as permanent pastures, and mowing grounds, each side of the highway, leading through any farm, might be profitably occupied and adorned with these trees, set at the distance of about every two rods. Suppose also that the farm house were placed in a spacious court yard, say of an acre in extent, and this planted with a suitable number of maples, could any thing confer more of an air of pleasantness and elegance to the mansion?

I shall not attempt any computation of the probable profits to be derived from this proposed improvement in rural affairs, but doubtless the gain would be very considerable. Every farmer might, in this way, stock his lands with a permanent growth that would afford him a plentiful supply of sugar, that would at times afford him additions of fuel, and that would eminently serve as an embellishment of his domain, and all these essential advantages would be derived without any essential diminution of the usual products of his lands.

It is probable that if the young trees be planted in the manner just mentioned, they would attain a size fit for tapping in about 15 years, after which they would probably afford yearly supplies of sap for more than a century, if tapped in the manner least calculated to injure them. This is to be performed, not by cutting large gashes in them with an axe, but by boring one or more holes in them, with a small auger, to the depth of about 3 inches, or at all events not beyond the extent of the sap wood. The holes should be made every year in different parts of the trees, sometimes higher and sometimes lower, and after the sap has ceased running for the season, they should be filled with pieces of durable wood, drove in, in order that the wounds may be soon healed over by the subsequent growth of the trees. [219]

J. N.
[*Plough Boy*.

FLEMISH HUSBANDRY.

From the Plough Boy.

Sir—Much has been said in praise of English husbandry, though it is a well known fact, that this vaunted system is surpassed in many countries which do not possess equal natural advantages. In Scotland, agriculture has progressed at least half a century beyond that of England, where the soil and climate is far more congenial to the productions of the earth than the "bleak mountains of Caledonia." But no where in the world is the contrast so marked as that between the Flemish and English mode of cultivation.

The average produce of a crop of wheat, in England, is 24 bushels per acre. In Flanders, it is 32 bushels. In England, the system of *fallows* almost universally prevails. In Flanders, it has been unknown from time immemorial; two crops, in many cases three, being uniformly raised annually upon the same field. The following comparative tables, as exhibited in "Vanderstracten's sketch of the Flemish system," shew clearly and correctly its superior advantages over that of England.

Produce of the Flemish farmer from one acre, for 12 years.		*Produce of the English farmer, according to the Norfolk course, for the same period.*	
Wheat, 32 bush. per acre	4 crops	Wheat, 24 bush. per acre,	3 crops
Barley, do. do.	4 do.	Barley, 32 do. do.	3 do.
Flax, hemp, coleseed & potatoes,	4 do.	Turnips,	3 do.
Roots and vegetables for the food of cattle,	10 do.	Clover,	3 do.
In 12 years,	24 crops	In 12 years,	12 crops

This immense difference in favour of the produce of Flanders, does not arise, as might be supposed, from its possessing a better natural soil, or a milder climate, than England; but entirely from the different mode of cultivation pursued in these two countries. At no very distant period, the fields of Flanders, now so productive, were little else but loose sand and gravel, whereas the soil of England, was always naturally fertile, and in part, lies under a more southerly parallel than Flanders.

The rich, abundant, and healthy crops obtained by the Flemish farmers, may be traced to the following causes:

I. The abundance and judicious application of manure. II. Digging all the lands on their farms with the spade, every six or every three years. III. The complete extirpation of weeds and noxious roots. IV. Regular and repeated hoeing. V. A careful choice, and alternation, of grain and seeds for sowing. VI. An improved rotation of crops.

"The whole secret (observes Vanderstracten) respecting the superiority of Flemish agriculture, consists in this; the farmers procure plenty of food for their cattle—food which, excepting clover, is raised from the same lands which have already yielded their crops of grain, &c. They keep the greatest possible number of cattle, feed them in the stables plentifully, and render their food palatable. They collect the greatest possible quantity of manure, of which they preserve the fertilizing salts by a suitable process of fermentation.—They weed their grounds thoroughly and repeatedly. They totally extirpate noxious plants and roots, every six or every three years, by digging all the lands on their respective farms—an operation by which they revert to the surface a stratum of fresh soil, that for three or for six years has been absorbing the salts of manure as they filtrated to the bottom of the roots: a stratum of soil which has produced no crop during the same period. They, moreover, dress their grounds to the precise point of perfect pulverization. [220] These are inestimable advantages, which cannot be obtained by any plough whatever; hence the drift of the Flemish adage—"Never to let the naked ground lie open to the sun in summer for more than three days."

"In truth, to say that there exists a vast province, in which the price of lands has been quadrupled within fifty years, and which is neither placed under a more favourable climate, nor enjoys a greater fertility of soil, than England; from which fallows in general have been banished from time immemorial; in which the greater part of the lands produce in 9 years at least 15 harvests, of which those of grain yield, one year with another, as high as 32 bushels of wheat per acre; those of barley, 60 bushels; and those of oats, 90 bushels; and where the borders of the fields are planted with trees, in such numbers, that by their sale the proprietors acquire, every 40 years, a sum of money equal to the soil; to say this, appears, to other than English readers, to repeat a tissue of fables.[9] The less informed attribute this uninterrupted succession of harvests to the inexhaustible fertility of the soil; but intelligent and well-informed travellers attribute it, on the contrary, and with the best reason, to the indefatigable industry of the inhabitants, and to a highly improved mode of culture, of the details of which they themselves are ignorant, and which beside, from their complication, and the great variety of the productions of the soil, require a profound study, of many years duration, to which few of them have either the inclination or the leisure to apply."

This correct, though "bird's eye" view, of Flemish husbandry, merits farther amplification, in order to furnish distinct data to the intelligent and enterprising agriculturist. My subsequent communications will be directed to that subject.

Respectfully, yours,

GEO. HOUSTON.

New York, April 18, 1820.

From the Raleigh Star.

LINCOLN CORN POUNDER.

The usual mode of feeding Indian corn to cattle and hogs, is wasteful in the extreme. The cob is not eaten, and the corn is neither ground nor boiled. It is a well established physiological fact, that the good health of animals requires, that the aliments for the stomach should afford both nutriment and mechanical distention in due proportions. In the usual method of feeding, these proportions do not exist, and besides the nutritious quality is only partially extracted. The

grinding of corn is sometimes practised by those who have mills, and boiling by those who have not. Meal is sometimes mixed with hot water and fermented. All these are improvements in feeding, but these are not sufficient. Lately, a mill of cast iron has been invented, which converts both corn and cob into meal, and is used also by tanners in grinding their bark. This improvement is valuable. The cob, while it affords in itself much nutriment, furnishes a degree of distension to [221] the stomach, which is necessary to its proper action. If to this grinding of the cob and grain is superadded fermentation, or boiling, the economical process is nearly complete. I have not time to say what the subject requires in regard to fermentation. Boiling not only renders the articles acted on soluble in the stomach, but it does more—it adds nutriment furnished by the water itself. The experiments of Count Rumford are full and satisfactory on this head. Let those who doubt the nutritive qualities of water be reminded that many kinds of fish live, grow and fatten in pure water, without any other food whatever.—-Every one has seen the gold fish, which have lived for years in globes of pure water, that are sometimes put by the curious into cages of canary birds. Water and air constitute the entire aliment of vegetables, and give them bulk without diminishing at all the quantity of soil in which they grow. The perfection of feeding corn consists in preserving the cob, grinding the whole into meal, and in the cookery. The iron mill is excellent, but too expensive for most farmers. What is wanting, then, is to have the corn, with its cob, powdered by some cheap and simple method, that every one may avail themselves of. Such a one, accident lately made me acquainted with; and I think it is so valuable that I am desirous of seeing it introduced into general use, and shall attempt a description of the machine by which the process was effected.

This machine I saw last summer in operation, on the road between Lincolnton and Morgantown. It was a horizontal shaft with a beater at one end, poised by the weight of water falling into an excavation at the other. The shaft or helve was about fourteen, possibly sixteen feet long. At two thirds of its length from the beater, it rested by a notch across the sharpened edge of a piece of timber lying in a transverse direction, serving as a pivot or fulcrum for the shaft to move on. The beater was a piece of wood two feet, or rather more, in length, fixed by a mortice and tennon to the end of the shaft; its face was about two inches and a half in diameter, and plated with iron. The mortar which received this pestal, or beater, was the hollowed end of a log, wide at top, narrower at bottom, and would contain nearly a bushel. The other, or shorter end of the shaft, was excavated into a trough about three feet long, eight inches wide, and the same in depth. The extreme inner end of the trough formed an angle of ascent from the line of the bottom of about 35 degrees, affording thereby an easy exit to the water when depressed by its weight. This very simple machine, for I have described the whole of it, was placed upon the small run of a spring branch, where there was a descent of about two feet. The water was conveyed into the trough by a spout which approached it at right angles, and the trough was filled and discharged about twice in a minute. Every morning, and again at evening, this mortar was filled with ears of corn, which in twelve hours were found reduced to a very fine meal. It was capable of converting to meal three or four mortars full in a day, but two were sufficient for the use of the plantation, and the mortar was attended to only when it could be done with convenience. In a wet season, when the spring run afforded more water, it moved with increased celerity, and was capable of increased work. The machine was without cover, and I observed barn-door fowls around it, but afraid of the motion of the shaft, they never ventured to purloin from the mortar. The whole expense of this, I think, could not have exceeded four or five dollars.

I know not the inventor of this machine. There were a few others, I was told, in Lincoln and Burke. Its extreme simplicity, cheapness and utility, and the means afforded to almost every one [222] of putting it in motion, ought to recommend it to general use. I am persuaded this method of pounding corn, united to boiling or fermentation, would double the value of crops for feeding. No rule is necessary to be observed with regard to the dimensions, or proportions of the machine. It must duly be noticed that the trough filled with water is heavy enough to raise the bearer; and this can be ascertained, and the proportions duly adjusted by experiment.——If Mr. Henderson think but half as favourably of this machine as I do, he will give the foregoing a place in his useful paper.

CALVIN JONES.

Raleigh, Dec. 20, 1820.

TRANSACTIONS OF THE HORTICULTURAL SOCIETY OF LONDON.

An improved method of cultivating the Alpine Strawberry.——The strawberry is a fruit which is agreeable to the palate of so many persons, and which disagrees with the constitution of so few, that any means of improving the culture of it, and of prolonging the season of its maturity and perfection, will be acceptable to the Horticultural Society: I am therefore induced to send an account of an improved method of cultivating the *Alpine Strawberry*, that is, I believe, little if at all known, and that I have practised with the best possible success.

Though the flavour of the Alpine varieties is generally approved, they are not much thought of while the larger varieties continue in perfection, and are valued only as an autumnal crop. I was therefore led to try several different methods of culture, with a view to obtain plants that would just begin to blossom when the other varieties cease; conceiving that such plants, not having

expended either themselves, or the virtue of the soil, in a previous crop of fruit, would afford the best and most abundant autumnal produce. Under this impression, I sowed the seeds of the best Alpine variety that I had ever been able to obtain, in pots of mould, in the beginning of August, the seeds of the preceding year having been preserved to that period; and the plants these afforded were placed, in the end of March, in beds to produce fruit. This experiment succeeded tolerably well; but I was not quite satisfied with it; for though my plants produced an abundant autumnal crop of fruit, they began to blossom somewhat earlier than I wished, and before they were perfectly well rooted in the soil. I therefore tried the experiment of sowing some seeds of the same variety early in the spring, in pots which I placed in a hotbed of moderate strength in the beginning of April, and the plants thus raised were removed to the beds in which they were to remain in the open ground as soon as they had acquired a sufficient size. They began to blossom soon after midsummer, and to ripen their fruit towards the end of July, affording a most abundant crop of very fine fruit. The powers of life in plants thus raised, being young and energetic, operate much more powerfully than in the runners of older plants, or even in plants raised from seeds in the preceding year; and therefore I think the Alpine strawberry ought always to be treated as an annual plant.

OILING FRUIT TREES.

Sir George M'Kenzie has discovered that oil rubbed upon the stems and branches of fruit trees destroys insects, and increases the fruit buds. Mr. John Linning has added to the discovery, by using it successfully upon the stems of carnations, to guard them against the depredations of the ear-wig. The coarsest oil will suit, and only a small quantity is required.

CULTURE OF FOREST TREES.

[223]

Sir Watkin Williams Wynn has planted within the last 5 years, in the mountainous lands in the vicinity of Langollen, situated from 12,000 to 14,000 feet above the level of the sea, 39,000 oaks, 63,000 Spanish chesnuts, 102,000 spruce firs, 110,000 Scotch firs, 90,000 larches, 30,000 wych elms, 35,000 mountain elms, 80,000 ash, and 40,000 sycamores, all of which are at this time, in a healthy and thriving condition.

TO PREVENT DECAY IN TREES.

When old chesnut or other trees are rotted within the trunk, and threaten with speedy destruction by the progress of the carious taint, it may be stopped by applying fire to the decayed part, so as to *char* the whole of the neighbouring surfaces. By this management the life of a favourite tree may often be preserved.

[*Chaptal's Chemistry*.

ON PLASTER.

I have just received my *plaster* from the mill. I remarked to the man who brought it, that it was too coarse. He replied that all our farmers preferred it coarse, and assigned this reason—that in grinding it fine, *it becomes so heated as to injure it*. I delay not a moment in expostulating against a doctrine so unphilosophical, and so injurious to the interests of agriculture. Every farmer knows that *grain*, as *food* for *animals* cannot be made too fine. Upon the same principle, *plaster*, which is *food* for *vegetables*, affords the most nutriment when reduced to the finest powder. *Heat* so far from injuring the properties of plaster, is the best agent for bringing them into action. This theory is the result of repeated experiment. Calcined plaster, which is produced by a process of *intense heat*, is found much more invigorating, and more permanently beneficial, than plaster in its simple state.

While on this subject, I will suggest for consideration, whether our farmers, generally spread a sufficient quantity of plaster particularly on their grass land. Mr. Silas Gates, a well known farmer in Marlborough, informed me, that he directed one of his men to spread on a certain piece of mowing land, the usual quantity, (if I mistake not, at the rate of one bushel to the acre.) He had gone over about half the ground, at this rate, when other calls prevented his finishing it. Soon after the business of plastering was consigned to another, who, not knowing that any had been spread, went over the ground, giving one half a double portion.—The result was nearly a double portion of hay, which continued until the surface was changed by a rotation of crops.

Your obed't, O FISKE.

Worcester, April 17, 1820.

[*Mass. Spy.*

CATERPILLARS.

Farmers who are in the habit of *rearing* CATERPILLARS, for *ornament* and *use*, will doubtless be gratified to learn, that the late favourable weather has produced a goodly show of their favourite vermin. They are already basking in the sun, and expanding by the nutricious aliment of foliage and fruit buds; and if not prematurely molested, (which there is little reason to apprehend) we may, in due time, taste from our kneading troughs the former repasts of Egypt.

Judging from the produce of last year, it may be fairly calculated that many of our farmers, (and some who *do not belong to the Agricultural Society*) will, this year, raise double as many bushels of *caterpillars* as of *apples*. Those (and there are some,) who prefer the appearance and flavour of the latter, will do well to look to their trees immediately. A thimble full of these reptiles, which can now be destroyed in an instant, would fill a hat a month hence, and would require tenfold the labour to subdue them. Every farmer's common sense will suggest the best method of extirpation. [224] —*Ibid.*

A method of taking the Honey without destroying the Bees.—The common practice of killing the bees, in order to obtain the honey, few can witness without some little compunction; and as there is a very simple method of effecting the object without any injury to this most interesting little animal, (which, on the score of interest, as well as humanity, claims regard,) I beg leave to communicate it through your paper, should you deem it worthy a place in it.

In the evening, when the bees have retired, take the hive gently from the stand; spread a table cloth on the ground; set the hive on it, placing something under to raise it three or four inches; then draw up the corners of the cloth, and fasten them tight around the middle of the hive, leaving it so loose below, that the bees will have sufficient room between it and the hive—then raise the lid of the hive a little, and blow in the smoke from a segar; a few puffs of which, as it is very disagreeable, will drive them down: continue raising the lid gradually, blowing in the smoke all around, and in a few minutes it will be found that they have all gone out of the hive. You may then take off the lid, and cut away as much of the honey as you may think proper. If the operation be performed the beginning of July, you may take nearly all, as there will be time enough to provide a sufficiency for their support during the winter. As soon as you have taken the honey, put on the lid, loosen the cloth, and spread it out, and in an hour or two the bees will have returned into the hive. It may then be replaced on the stand, and on the following day they will be found at work as usual.

This method is very simple, and preferable to that sometimes practised, of driving the bees into another hive; as you get all the honey, and moreover the new comb, which is still empty; and the young bees, not yet out of the cells, are preserved. There is also danger in driving, of their not liking their new habitation, and, in that case, of their sallying out and making war on their neighbours.

The above method has frequently been practised by myself and others, and we have always found it to do well.

AMATOR MELLIS.

Washington, June, 1819.

[*Am. Farm.*

Conversion of Rags into Sugar.—We find this is no joke. There is in the *Annales de Chemie* a long and very circumstantial account, from the pen of M. Henry Braconnot, of Geneva, of the whole process of this singular discovery; and are now so well satisfied there is nothing of "pleasantry" in the matter, as at first sight appeared to many, that, should we be told to-morrow that, as linen may be converted into its constituent principle, sugar—(a piece of fine Irish linen into a loaf of double refined!)—so may wool be converted into its constituent principle, fat—(an old threadbare coat into a basin of fine gravy soup!)—we shall be prepared to look quite grave at the announcement.

"The conversion of wood into sugar (says M. Braconnot) will, no doubt, appear remarkable; and when persons not familiar with chemical speculations are told that a pound weight of rags can be converted into *more* than a pound of sugar, they may regard the statement as a piece of pleasantry, though nothing can be more real."

The agent in making this wonderful conversion is sulphuric acid, and those to whom it may not be enough to know that the thing can be done, will find ample directions as to the *modus operandi* in M. Braconnot's Memoir. We shall content ourselves here with one extract:

"I made these 359.2 gr. of sugary matter (obtained from old cloth well dried) into the consistency of sirup; at the end of twenty-four hours it began to crystallize; and some days after, the whole was solidified into a single mass of crystallized sugar, which was pressed strongly between several folds of old cloth; crystallized a second time, this sugar was passably pure; but, treated with *animal* charcoal, it became of a shining whiteness.—The crystals were in spherical groupes, which appear to be formed by the union of small diverging and unequal plates. They are fusible at the temperature of boiling water. This sugar, of a fresh and agreeable flavour, produced in the mouth a slight sensation of coolness. It dissolves in hot alcohol, and crystallizes by cooling. Dissolved in water, and mixed with a little yeast, it fermented; the vinous liquor which resulted, furnished alcohol by distillation. Burned with potash, and its charcoal washed with diluted nitric acid, it yielded a fluid not troubled by nitrate or barytes. It would be useless to insist farther on the properties of this sugar: it is evident that it is perfectly identical with the sugar of grapes or of starch." [225]

RUTA BAGA EXPERIMENTS.

1819, July 27—Sowed three fourths of an acre of Ruta Baga, in ground prepared as follows, viz. —Stubble turned in deep—harrowed fine—furrowed deep at four feet distance—filled the furrows with *earth burnt ashes*, (burnt according to the plan prescribed by Mr. Cobbett, in his "Year's Residence,") which I covered by turning a furrow over them on each side; this formed a ridge about eighteen inches broad at top, which being smoothed a little with a hoe, and a drill made along the middle of it with the same instrument; I then sowed the seed and covered it with a hoe, from one to two inches deep; it came up on the 7th of August. When the roots were nearly a fourth of an inch thick, I thinned them to about a foot distance in the rows, and kept them free from weeds by two good ploughings and hoeings, (they would have been the better for a third) notwithstanding the unexpected dry season;—the last of November, many of them would measure fifteen inches in circumference—I left them to stand in the ground all winter. I was off the state, from the middle of December to the middle of February; on my return at the latter period, the snow had just disappeared, when I found my turnips had grown at least one fifth larger, since I saw them in December; many of them measuring six to seven inches diameter. The latter part of February was unusually warm for the season. The tops began to grow rapidly, but the severe cold nights of the early part of March, first freezing, and the warmth of the middle of the day, as often thawing them; many rotted in the ground—had they been pulled when the warm weather *commenced*, this would have been prevented. They are the cheapest, and with the exception of corn, they are the best food for milch cows and hogs, I ever met with—I have been feeding mine upon them for the last 6 weeks. Within a week past, I had them all pulled, (except those left for seed,) and thrown in heaps. Should the weather prove too warm, I shall spread them, in which way they will keep good until midsummer. Having repeatedly heard it asserted, that horses would not eat them, I determined to ascertain the truth of the assertion; accordingly, a parcel of them were washed and cut in pieces, and each horse served with about 3 galls. of them, when two out of five eat them greedily, two others eat them, but with less appetite, and the fifth refused. They had no other food allowed them for the night, and the next morning not the smallest piece was to be found in their trough.

[*Am. Far.*

THE FRUIT GARDEN. [226]

Mr. Southwick,

The art of inoculating or budding fruit trees, (although the simplest and easiest of all things,) appears to be deemed a mystery by most of our farmers, and is too generally neglected, under a belief that it is a difficult or expensive operation. If the following short directions should prove the means of changing even one thorn bush into a pear or quince tree, I shall be fully paid for the trouble of scribbling them down.

In the month of August and fore part of September, cut from the tree you wish to increase some of the young wood of the last summer's growth, (the cuttings should be thrifty and healthy) cut the leaves off, leaving about half an inch of the foot stalk on the cutting; at the foot, and immediately above the foot stalk, *lies the bud*; with a keen knife begin to cut half an inch above the bud, and bring out the knife a little below, taking about half the woody substance with it; then separate the bark from the wood, carefully observing that the bud be not injured in the operation. If the operation be properly performed, the bud will be separated from the wood, and remain unbroken and entire in the bark: this bark and bud is now to be speedily inserted into the tree you wish to change. Choose a smooth spot in some young and healthy branch, or sprout, and with a keen knife cut gently through the bark, about one inch in length, and a small cross cut near the upper end; separate the bark gently from the wood at this cross cut, being careful not to wound the bark or wood, and immediately insert the bud, laying it smooth and even under the bark of the tree; with a string of bass wood bark, or woollen yarn, tie it in so as to hold it close to the wood, being careful not to injure the bud nor foot stock—and the operation is done.—In two or

three weeks after, the bud will have united to the wood, and the tyings should be loosened or taken away. The bud will remain dormant until the next spring. In April following, they should be examined, and if the buds then appear healthy and vigorous, the branch should be cut off immediately above the bud, and removed: in a few weeks this bud will take place of the old branch, and in two years produce fruit of the kind you wish.

By this simple operation, the ordinary sour peach tree, which is an incumberer of the ground, may be made to yield the delicious Rare Ripe, the Early Ann, or other favourite peaches; or may be converted into a plum tree: and the ordinary *wild plum tree* may be made to yield the richest and most delicious of our cultivated plums and peaches; our thorn bushes may be made to yield the rich and luscious pear; and our crab apple stalks be loaded with the finest varieties of our cultivated apples and cherries; apricots and nectarines are equally susceptible of improvement by the same easy means; nay, our wild gooseberry bushes may be converted into the best varieties, and our native grape may be made to yield an elegant dessert fruit.—All which I know by

EXPERIENCE.

[*Plough Boy*.

THE PEAR TREE.

A pear tree, brought from Holland, and planted in the year 1647, is now in full bloom, standing in the Third Avenue at the intersection of Thirteenth Street, New York. This is probably the oldest fruit tree in America. About 70 years ago the branches of the tree decayed and fell off, and at that time it was supposed the tree was dying; but without any artificial means being resorted to, new shoots germinated and gradually supplied the room of their predecessors. The tree now is in full health and vigour, and appears to be not more than 30 years old; the fruit ripens the latter part of August, has a rich succulent flavour, and has been known by the name of the spice pear. [227]

[*Evening Post.*

On raising young Potatoes in the Winter months.—In the beginning of May, lay a quantity of the largest ox-noble Potatoes, on a dry cellar floor, two or three deep, and turn them over once in about three weeks, rubbing off all the white sprouts as they appear, but not the spawn or rudiments of the young potatoes. At the end of September, have ready a few boxes; at the bottom of each put six inches of decayed leaves, dried to a vegetable mould, and place upon it a single layer of potatoes, close to each other; then put another layer of the same mould, six inches deep, then another of potatoes, and so on till the boxes are full.—Set the boxes in a dry covered place, free from frost, never giving them any water.—They will produce good fine young potatoes in December; and those which are ready may be taken off, and the old potatoes replaced until the remainder of the produce shall be ready.

Cure for foundered horses, by a surgical operation.—"The operation has succeeded admirably and will probably lead to a similar practice in the human subject. It has hitherto failed frequently in the *Tic Doloureux* and other diseases, either from the regeneration of the divided nerve producing a union and restoration of sensation, or from the effect being produced by the swelling of the ends of the cut nerve sufficient to effect the union. But the excision of two inches in length effectually prevents such a restoration of feeling. Mr. Sewell, the well known assistant professor at the Veterinary College, who has the exclusive claim to this improvement, in the course of the last eighteen months, performed this operation on above 100 horses, with uniform success, except perhaps two or three cases, in which there was great organical disease of the foot. Although the operation requires the skill of Mr. Sewell, it is very simple. It consists in cutting down upon the trunks of the nerves which enter the foot in contact with the arteries, on each side of either the small or large pastern joint, and then removing a piece of the nerve. A few minutes after the operation, the animal walks and trots like a sound horse, which just before could scarcely move at all, and then in extreme pain. The principle is obvious—it is that of removing the conductors of sensation from the seat in the disease to the brain. The division of the arteries accompanying the nerves is carefully avoided."—*Journ. Arts and Science.*

To destroy insects which infest fruit trees.—Take a small quantity of unslackened lime, mix it with soft water, to the consistency of very thin whitewash—apply this mixture with a brush, to the trees, as soon as the sap begins to rise, and wash the stems and large boughs with it, taking care to have it done in dry weather, that it may adhere and withstand rain. In the course of the ensuing summer, this will be found to have removed all the moss and insects, and give to the bark a fresh and green appearance. The trial is simple, and not attended with much trouble, expense, or danger.

AGRICULTURAL MEMORANDA.

Oranges, &c.—If the cuttings of *Lemons* or *Oranges* are placed in a pot, or box, so as to *touch* the bottom of it, it will considerably facilitate their growth.

To preserve Peaches from frost.—After a cold night when there is any appearance of frost on the *bloom*, or *young fruit* of peach trees—wet it thoroughly with cold water. Even if the blossoms are discoloured, this operation recovers them, provided it is done in the morning before the sun shines upon them.[10] [228]

Method of forcing Fruit Trees to bear fruit.—With a sharp knife make a cut in the bark of the branch, which you mean to force to bear, and not far from the place where it is connected with the stem; or if it be a small branch, or shoot, near where it is joined to the larger bough. The cut is to go round the branch, or to encircle it, and to penetrate to the wood. A *quarter of an inch* from this cut, you make a second cut, like the first, round the branch, so that by both encircling the branch, you have marked a ring upon the branch a quarter of an inch broad, between the two cuts. The bark between these two cuts you take clean away, with the knife, down to the wood, removing even the fine inner bark which lies upon the wood; so that no connection whatever remains between the two parts of the bark, but the bare and naked wood appears white and smooth. But this bark ring, which is to compel the tree to bear, must be made at the right time, that is, when in all nature the buds are strongly swelling, or are breaking out into blossom. In the same year a callus is formed at the edge of the ring, on both sides, and the connexion of the bark that had been interrupted, is restored again without any detriment to the tree, or the branch operated upon, in which the artificial wound soon again grows over.

New mode of preparing Indian Corn.—Take the corn in its green state, when it is fit to eat; boil it; then cut it off the cob—spread it on a cloth in the sun to dry—put it in bags, and when boiled again, it is as sweet and good as when first pulled.

THE GREAT LAKES.

A Table, shewing the quantity of water contained in the St. Lawrence, and all its tributary Lakes and Rivers. (From Darby's Tour.)

LAKES	*Medium depth.* Feet.	*Superficial Area.* Feet.	*Solid Contents.* Feet.
Superior,	900	836,352,000,000	752,716,800,000,000
Huron,	900	527,568,000,000	501,811,200,000,000
Michigan,	900	376,898,400,000	59,208,560,000,000
Erie,	120	418,176,000,000	50,181,120,000,000
Ontario,	492	200,724,480,000	98,756,444,160,000
St. Lawrence, and other rivers and smaller lakes,	"	41,176,000,000	83,520,000,000
		2,430,894,880,000	1,742,757,644,160,000

Lake Superior, in its greatest length, is 381 miles; its breadth is 161; and its circumference is little less than 1152 miles—it is as remarkable for the transparency of its waters as for its extraordinary depth.

Lake Huron, from west to east, is 218 statute miles long; at its western extremity it is less than one hundred miles broad; and, at about one hundred miles from its eastern shore, it is barely 60 miles broad; but near the centre it suddenly bends away to the southward, and is a hundred miles in breadth; making a circumference of little less than 812 miles.

Lake Michigan deepens into a bay of 262 miles in length, by sixty-five in breadth; and its entire circumference is 731 miles.

Slave Trade.—A letter from Sierra Leone, dated Dec. 14, states, that there was more slave-dealing carried on at that period in the neighbouring rivers, than when it was allowed by the British government. [229]

From the Boston Gazette.

HISTORICAL SKETCHES, &c.

The first Americans who are known to have visited the Western country, were James M'Bride, and several others, who in the year 1754 descended the Ohio river, as far as the mouth of Kentucky river.

In 1769, Colonel Daniel Boon, and a few others, undertook to explore this vast wilderness, then so little known. After many hardships and fatigues, they reached the neighbourhood of Lexington, where they remained until 1771.

In 1775, Colonel Boon, with a party of soldiers and emigrants, built fort Boonsborough, which was the first settlement made in the state of Kentucky.

Notwithstanding many obstacles, the inhabitants of Kentucky were estimated, in 1784, at 12,000 souls.—No settlements were made north of the Ohio, until three or four years afterwards.

On the 1st of March, 1786, the "Ohio Company" was formed at Boston, consisting of officers and soldiers of the Revolution, who, by an act of Congress, were entitled to a military grant of land, in the territory northwest of the Ohio. This company completed a contract with Congress for one million five hundred thousand acres, on the 27th of Nov. 1787. An association of 46 men, under Gen. Rufus Putnam, proceeded to take possession of the purchase; and on the 7th April following, they pitched their camp and cleared the ground where Marietta now stands.

In 1788, Congress passed an ordinance establishing a colonial government over the Northwest Territory. Arthur St. Clair was appointed governor.

Cincinnati was first called Losantiville, but Governor St. Clair, in 1790, altered its name. In 1789, the population of this place consisted of only eleven families.

In 1792, a Presbyterian church was erected at Cincinnati; and the citizens were compelled by law, to take their fire arms with them, when they attended church. The first school was also established this year, and consisted of about 30 scholars.

In 1792, the small pox broke out among the soldiers at Fort Washington, and one third of the citizens and soldiers fell victims to its ravages.—[This was the same year it spread throughout Boston.]

Since the above period, the western country has increased in a ratio "truly astonishing."

In 1810, the population of Cincinnati was estimated at 2300; in 1813, at about 4000; and in 1819, at more than 10,000; "an increase truly astonishing." The greatest part of the population are stated to be from the middle and northern states; but there is also a mixed assemblage of emigrants, "from almost every part of Christendom; and it is not uncommon to hear three or four different languages spoken in the streets at the same time."

In 1819, in Cincinnati, there were 1890 buildings, many of brick and stone, of two stories and upwards; 10 places of public worship, a college, five banks, court-house, jail, two market houses, several manufactories, &c.

Some of the religious societies were formed in Cincinnati, with only ten members; and all have been created within 16 years. There are also several Bible societies, Sabbath school societies, a medical society, humane society, &c.

Since the introduction of steam-boats, considerable attention has been paid at Cincinnati to exportation; and from October, 1818, to March, 1819, it amounted to $1,334,080, and consisted of flour, pork, bacon, lard, tobacco, &c.; while the amount of imports, for the same period, amounted to only $500,000. In 1817, the imports amounted to $1,442,266, and in 1818, to $1,619,000! They seem to be convinced that the only way to relieve the western states from their "present embarrassments," is to *export more and import less*, which will soon effect a rapid change in their affairs. [230]

About 60 steam-boats, from 25 to 700 tons, and many of them finished in a style of elegance and taste, are now in successful operation, and most of them have been built within two or three years.

There are three auctioneers in Cincinnati, 25 attorneys, 22 physicians, 3 companies of "Independent Military," handsomely uniformed, whose appearance is "nowise inferior to the Eastern Military."

Three newspapers are now printed at Cincinnati, all upon an imperial sheet.

It is estimated, that 120,000 bushels of salt are sold annually at Cincinnati, which at $1.50 amounts to $180,000. The various kinds of lumber sold are estimated at $150,000 a year.

We might enlarge these items, and several other articles worthy of record, but our limits will not permit.

THE ROBBER DISAPPOINTED.

A few months ago, a farmer living a few miles from Easton, sent his daughter on horseback to that town, to procure from the bank smaller notes in exchange for one of one hundred dollars. When she arrived there the bank was shut, and she endeavoured to effect her object by offering it at several stores, but could not get her note changed. She had not gone far on her return, when a stranger rode up to the side of her horse, and accosted her with so much politeness that she

had not the slightest suspicion of any evil intention on his part. After a ride of a mile or two, employed in very social conversation, they came to a retired part of the road, and the gentleman commanded her to give him the bank note. It was with some difficulty that she could be made to believe him in earnest, as his demeanour had been so friendly; but the presentation of a pistol placed the matter beyond a doubt, and she yielded to necessity. Just as she held the note to him, a sudden puff of wind blew it into the road, and carried it gently several yards from them. The discourteous knight alighted to overtake it, and the lady whipped her horse to get out of his power, and the other horse who had been left standing by her side, started off with her. His owner fired a pistol, which only tended to increase the speed of all parties, and the young lady arrived safely at home with the horse of the robber, on which was a pair of saddlebags. When these were opened, they were found to contain, besides a quantity of counterfeit bank notes, *fifteen hundred dollars in good money*! The horse was a good one, and when saddled and bridled, was thought to be worth at least as much as the bank note that was stolen.

As this story is somewhat wonderful, I enclose you my name as a voucher for the truth of it, and am yours, &c.

[*Nat. Recorder*.

MARIVAUX.

The following anecdotes from *Esprit de Marivaux*, a book, probably, not known to many of your readers, may serve to amuse some of them.

Marivaux was scarcely less remarkable for his indolence than his wit.—He was said to be "by nature the laziest creature in the world;" but his goodness appeared on the most trifling circumstances. He was one day setting out for the country with Mad. Lallemand de Bez. Marivaux and the lady's sister were already in the coach; she staid behind to give some orders to her domestics. In this interval, a sturdy young fellow, about eighteen or twenty, plump and fresh coloured, came to the coach door begging. Marivaux, struck with the contrast between the appearance and profession of the man, looked out, and reproved him. "Are you not ashamed," [231]
said he, "a young fellow in perfect health and vigour, to have the meanness to beg your bread, when you might procure it by honest labour?" The fellow, struck with this rebuke, was, at first, confounded and silent; but presently afterwards, scratching his head, exclaimed with a shrug and a sigh, "*Ah! sir, if you did but know—I am so lazy!*" Marivaux, who was himself sensible of the pain of labour, was so pleased with the fellow's confession, that he gave him a crown.

Fontenelle having heard that Marivaux was sick, and having just reason to fear that he, who never laid by any money, might be in want of it at such an exigence, went to him, and when they were alone, told him his suspicions. "Perhaps," says he, "more money may be convenient to you than you have by you.—Friends should never wait to be solicited; here is a purse with a hundred louis d'ors, which you must permit me to leave at your disposal."—"I consider them (said Marivaux) as received and used; permit me now to return them with the gratitude that such a favour ought to excite."—"What benevolence and generosity, in one of these friends," says the author, "what delicacy and greatness of mind in the other!"

[*Nat. Gaz.*

A curious phenomenon.—Extract of a letter dated May 4th, 1820, from a respectable physician of Northumberland, Pennsylvania, to an eminent member of the faculty in this city.

"About twelve years ago the wife of the parish minister had twins. She was a debilitated nervous woman. Her mother a healthy old lady of seventy-five, who firmly believed the prayers of the faithful could remove mountains, began to think what a comfortable thing it would be, if she could nurse one of the twins. The consequence was, that her breasts filled with milk, and she nursed it for twelve months, affording all that time an abundant supply, to the great relief of the mother.

"This story cannot be contradicted; for the most respectable persons in Northumberland have related it to me, persons who could not be deceived, and would not deceive me. They say that she often carried the child abroad in the course of her visiting, telling the wonder wherever she went, and giving her friends ocular demonstration of the lactiferous miracle."

[*Ibid.*

Works of Fiction.—Hannah More, in her last work, remarking on the subject of "unprofitable reading," observes, "many works of fiction may be read with safety, some even with profit; But the constant familiarity even with such as are not exceptionable in themselves, relaxes the mind that wants hardening, dissolves the heart which wants fortifying, stirs the imagination which wants quieting, irritates the passions which want calming, and, above all, disinclines and disqualifies for active virtues, and for spiritual exercises. The habitual indulgence in such reading

is a silent, mining mischief. Though there is no act, and no moment, in which any open assault on the mind is made, yet the constant habit performs the work of a mental atrophy; it produces all the symptoms of decay, and the danger is not less for being more gradual, and, therefore, less suspected."

GREENSBOROUGH, *(Pa.) May 5, 1820.*

Law Case.—JACK vs. MAUNS.—The plaintiff brought suit against defendant for a rifle gun, which defendant had exchanged for a horse. The defendant insisted on the bargain being annulled, on the ground of a special agreement, that if he did not like the horse, he should be returned within a stipulated time. The cause was referred to arbitrators, who awarded, that the plaintiff should take back the horse, and the defendant his gun, the spectators pay the drink, and the justice the [232] cost of arbitrators. Judgment on the award—*parties satisfied*.

THE SPANISH INQUISITION.

During the reign of Ferdinand and Isabella, and in the Pontificate of Innocent VIII. the Inquisition was established for the prosecution of heretics. It was originally intended to take cognizance of only the Jews and Moors—but so rapidly did it extend its influence, that during the sway of Torquemada, the first Inquisitor-General, it was calculated that 6000 persons were burnt by his order; and upwards of 20,000 fell victims in various other ways. From the above period to the present time, it is impossible to calculate the number of persons who have fallen victims to its horrid cruelties. The late revolutions in Spain have abolished the Inquisition, opened the doors of its prisons, and set the captives free. This measure alone is a subject of the highest congratulation to the friends of freedom throughout the world.

[*N. Y. D. Adv.*

Mr. Ellery.—The venerable Mr. Ellery, the subject of the extract which we give below, was one of the signers of the Declaration of Independence, and upwards of ninety years old when he died. The writer of the letter is a gentleman of Rhode Island, of much distinction, who was intimately acquainted with the deceased.

Extract of a letter, dated Newport, (R. I.) March 14, 1820.

"Old Mr. Ellery died like a philosopher. In truth death, in its common form, never came near him. His strength wasted gradually for the last year, until he had not enough left to draw in his breath, and so he ceased to breathe. The day on which he died, he got up and dressed himself, took his old flag-bottomed chair, without arms, in which he had sat for more than half a century, and was reading Tully's Offices in the Latin without glasses, though the print was as fine as that of the smallest pocket Bible. Dr. W. stopped in on his way to the Hospital, as he usually did; and on perceiving the old gentlemen could scarcely raise his eyelids to look at him, took his hand, and found that his pulse was gone. After drinking a little wine and water, Dr. W. told him his pulse beat stronger. "O yes, Doctor, I have a charming pulse. But," he continued, "it is idle to talk to me in this way. I am going off the stage of life, and it is a great blessing that I go free from sickness, pain and sorrow." Some time after, his daughter, finding him become extremely weak, wished him to be put to bed, which he at first objected to, saying he felt no pain, and there was no occasion for his going to bed. Presently after, however, fearing he might possibly fall out of his chair, he told them they might get him upright in the bed, so that he could continue to read. They did so, and he continued reading Cicero very quietly for some time; presently they looked at him and found him dead, sitting in the same posture, with the book under his chin, as a man who becomes drowsy and goes to sleep."

[National Gazette.

Benjamin West.—This distinguished American artist died in London at the advanced age of 82, [233] being born on the 10th of October, 1738, in Chester county, Pennsylvania. His genius and industry as a painter have never been surpassed, and his productions will long be admired for their great and unrivalled merit. He was much attached to his native country, and took great pleasure in conversing with his fellow citizens, and giving every facility to American artists—he viewed our progress in arts and in science, with deep interest, and his long absence did not alienate his affections from his native land. "Yesterday," said he to an American, "was fifty years since I first arrived in London—I remember travelling on the top of the Canterbury coach, and stopping about two miles from London, at a mean tavern, and taking a dinner before I entered the metropolis to seek my fortune; and I could not avoid yesterday going to the same tavern, calling for a dinner alone in the same room, looking back on the fifty years I had spent, the

progress I had made in my profession, the friends I possessed, and the adventures I had met with." This was a singular epoch in the life of an individual.

[*Nat. Advocate.*

MISCELLANY.

Other people's eyes the cause of ruin.—Almost all the parts of the body, says Dr. Franklin, require some expense. The feet demand shoes; the legs stockings; the rest of the body, clothing; and the stomach a good deal of victuals. Our eyes, though exceedingly useful, ask, when reasonable, only the cheap assistance of spectacles, which would not much impair our finances. But the eyes of *other people* are the eyes that ruin us. If all but myself were blind, I should want neither fine clothes, fine house nor fine furniture.

Enormous Bird.—Mr. Henderson has discovered, in New Siberia, the claws of a bird, measuring each a yard in length; and the Yaknts assured him they had frequently in their hunting excursions, met with skeletons, and even feathers of this bird, the quills of which were large enough to admit a man's arm. This is a fact in support of the tradition, that the earth was formerly inhabited by giants, for men, not exceeding ourselves in stature, would have been helpless against birds of prey of this magnitude.

Martial glory.—In the Edinburgh Review of Dr. Seybert's "Statistical Annals of the United States," there is an admonition to the Americans to abstain from martial glory. "We can inform them," (says the Reviewer) "what are the inevitable consequences of being too fond of glory. Taxes upon every article which enters into the mouth, or covers the back, or is placed under the foot—taxes upon every thing which is pleasant to see, hear, feel, smell, or taste—taxes upon warmth, light, or locomotion—taxes on every thing on earth, and the waters under the earth—of every thing that comes from abroad, or is grown at home—taxes on the raw material—taxes on every fresh value that is added to it by the industry of men—taxes on the sauce which pampers man's appetite, and the drug that restores him to health—on the ermine which decorate the judge, and the rope which hangs the criminal—on the poor man's salt, and the rich man's spice—on the brass nails of the coffin, and the ribands of the bride—at bed or at board, couchant or levant, we must pay! The school boy whips his taxed top—the beardless youth manages his taxed horse with a taxed bridle on a taxed road; and the dying Englishman, pouring his medicine which has paid seven per cent., into a spoon which has paid fifteen per cent., flings himself back upon his chintz bed, which has paid twenty-two per cent.—makes his will on an 8l. stamp, and expires in the arms of an apothecary, who has paid 100l. for the privilege of putting him to death.—His whole property is then taxed from 2 to 10 per cent., besides the probate. Large fees are demanded for burying him in the chancel; his virtues are handed down to posterity on taxed marble; and he is then gathered to his fathers to be taxed no more."

Law Intelligence.—R. & C. Rhodes, vs. Peleg Congdon. The court are of opinion that the legal mode of computing interest, where there have been partial payments, is, to cast the interest on [234] the principal, up to the time of the first payment, which add to the principal; and from this sum deduct the payment, and so on through all the endorsements when one year or more intervenes between the payments, provided the sum paid is greater than the sum due for interest, when the payment is made; if less than such sum is paid, to be applied towards the payment of interest; and where the note or mortgage has not run one year, then, cast the interest tin the payment, as well as the principal, up to the end of the year.—The above decision was made by the Supreme Court, at their late April term, in Kent, Maryland.

On Books.—Dr. Aikin in his valuable letters from a Father to a Son, thus elucidates the value of a Library:—"Imagine (says he) that we had it in our power to call up the shades of the greatest and wisest men that ever existed, and obliged them to converse with us on the most interesting topics—what an inestimable privilege should we think it!—how superior to all common enjoyments! But in a well furnished library we, in fact, possess this power. We can question Xenophon and Cæsar on their campaigns—make Demosthenes and Cicero plead before us—join in the audiences of Socrates and Plato, and receive demonstrations from Euclid and Newton. In books we have the choicest thoughts of the ablest men in their best dress. We can, at pleasure, exclude dulness and impertinence, and open our doors to wit and good sense alone. Without books, I have never been able to pass a single day to my entire satisfaction; with them, no day has been so dark as not to have had its pleasure. Even pain and sickness have for a time been charmed away by them. By the easy provision of a book in my pocket, I have frequently worn through long nights and days in the most disagreeable parts of my profession, with all the difference in my feelings between calm content and fretful impatience."

European Literature.—-The catalogue of the fair of Leipsic, for 1819, contains one thousand two hundred and sixteen new works, in Greek, Latin, and German; thirty-eight novels, thirty dramatic pieces, twenty-seven geographical maps, fifty-nine pieces of music; and seventy-seven works in foreign languages, the French, Italian, Polish, Bohemian, Danish, and Spanish.

Egypt.—The last news from this country, of inexhaustible curiosity, contains information respecting the labours of that magnificent undertaking, the Grand Canal of Alexandria. Already the primary effects of it have given an impulse to agriculture and industry, such as might be expected from it. The culture of cotton, of the sugar cane, of the mulberry tree, is beginning to assume a degree of activity, as also the rearing of silkworms; and some important new

manufactories are already at work, holding out the promise of future commercial prosperity.

Lakes in New Holland.—It appears that two large seas or sheets of water have been discovered in the interior of New Holland, supplied chiefly by two considerable rivers, whose sources are on the western side of the Blue Mountains.

Missions in India.—The Reverend James Bryce, in a sermon preached in Calcutta, March, 1818, said, "Zeal the most active and disinterested, and diligence the most assiduous, have not been spared by the Christian missionary, in his pious attempts to convert the natives of India. But, alas! it may be doubted, if at this day he boasts a single proselyte to his creed, over whom he is warranted to rejoice."

Increase of Taxes in England.—A meeting of the magistrates, and other owners and occupiers of land in Monmouthshire, was held lately at Abergavenny, for the purpose of petitioning [235] Parliament for relief. The 1st clause of the petition states, "That the farmer at this time can obtain but little more for his corn than in the year 1793, although the taxes are increased *four fold*, and the poors' rates above trebled, since that period."

British Exports.—The exports of white and plain calicoes from Great Britain, were—In 1814, 58,928,174 yards; in 1815, 65,669 930; in 1816, 50,251,102; and in 1817, 63,525,555.

Scull of king Robert the Bruce.—Lately in the church of Dumfermline, the grave of the celebrated warrior king Robert the Bruce was opened, in presence of a numerous assemblage of men of rank and science. The scull, and various parts of the skeleton, were in a state of preservation: now that the opinions of Gall and Spurzheim are not passed over as mere pieces of quackery, the curiosity of anatomists, and even of the public in general, was excited by this invaluable opportunity of inspecting and examining such a scull as that of king Robert the Bruce. We are told, that several of the propensities of this great man, were strongly expressed in the eminences of the scull—in particular, that the organ of *combativeness* was the most prominent of the whole.

Power of Ice.—The following singular account of the power of ice, is taken from an English periodical publication, of January 1820.

"Huyghens, in order to try the force with which ice would expand itself when confined, filled a cannon, the sides of which were an inch thick, with water, and then closed the mouth and touch hole so that none could escape. The instrument, thus filled was exposed in a strong freezing air. In less than twelve hours the water within was frozen, and began to dilate itself with such force, that it actually burst the piece in two different places. Mathematicians have calculated the force of the ice on this occasion; such a force, they say, would raise a weight of 27,730 pounds. From hence, therefore, we need not be surprised at the effects of ice destroying the substance of vegetables, trees, and even splitting rocks, when the frost is carried to excess.

"The late frost produced quite a phenomenon at the back of the Cold-Bath-Fields prison, where the New River Water Company's leading iron pipes cross the Fleet Ditch. The pipes not having been properly cemented, or the cement having worn away, the water had spouted up high in the air: and when the very severe weather was, it commenced freezing, and continued to freeze till a large cascade or fountain of ice was actually formed, as white as snow, about ten feet above the pipe, and reaching in large icicles concocted together nearly to the water in the ditch below. The bank was covered with a thick coat of ice from the spray, which blew from the water-fall. The circumference of the frozen pile could not be less than eight or ten feet, at half that height from the pipe. At a distance it was not possible to distinguish it from water spouting and falling down; and when close to it the ice looked so clear and beautiful, and the rarity of such an object being considered, made every one behold it with wonder and admiration."

Ingenious Machine.—The National Fire and Life Insurance Association, (London) have introduced a newly invented machine, which possesses the following properties: In case of fire, it instantly awakens the party in whose sleeping room it is placed—immediately lights a lamp—makes known the hour of the night, and not only that a fire has commenced, but in what room.

Chinese Superstition.—The following article, which gives some idea of Chinese superstition, is taken from a Peking Gazette:—"The 1st of May, 1818, there arose suddenly at Peking, a tempest, [236] that obscured the heavens and filled the air with sand and dust. The Emperor, thinking it was a judgment from heaven, was very much alarmed, and very anxious to know what it meant: he assembled his ministers of state, and commanded them to endeavour to discover the cause of it: he then reprimanded his astronomers for not having foretold it to him. 'You announced to me,' said he to them, 'three days ago, the happy influence the stars had over me, foretelling a long and prosperous life; this was mere flattery, while you either would not or could not tell me of this impending misfortune.' Three of those *sages* gave their opinion, that the cause of this tempest was the dismissal of the late chief minister, *Sung Tajin*, and advised him to recall him; but his Majesty, far from approving their proposal, reprimanded them for having the presumption to meddle with the royal prerogative. The body of mathematicians gave in their opinion, assuring him that if this whirlwind, accompanied with dust, continued during the whole day, it indicated a perverse conduct and variance of opinion between the sovereign and his ministers, as well as a great drought and famine. If the wind disturbed the sand, moved the stones, and made much noise, inundations were to be expected; and if the dust continued to fall one hour more, the plague would rage in the southern regions, and half the inhabitants to the southeast would be sick."

The Gazette expresses his Majesty's uneasiness at this long drought. His Majesty has ordered his sons to fast, to pray, and offer sacrifices to heaven, to earth, and to the god of wind. There

was to be a solemn festival on the 25th of May, 1819, at which all the princes, ministers, and nobles, were to appear in procession, wearing mourning as a mark of their contrition!

To Farmers' Wives.—A most excellent method of making BUTTER, is now practised in England, which effectually prevents its changing and becoming rancid.—The day before churning, scald the cream in a clean iron kettle, over a clear fire, taking care that it does not boil over. As soon as it begins to boil, or is fully scalded, strain it, when the particles of milk, which tended to sour and change the butter, are separated and left behind. Put the vessel into a tub of water, in a cellar, till the next morning, when it will be ready for churning, and become butter in less than quarter of the time required in the common method. It will also be hard, with peculiar additional sweetness, and will not change. The labour in this way is less than the other, as the butter comes so much sooner, and saves so much time in working out the buttermilk.—By this method good butter may be made in the hottest weather.

DIED,

In the parish of Aiglish, in the vicinity of Killarney, Ireland, at the very advanced age of *one hundred and fifteen years*, Theodore O'Sullivan, the celebrated Irish Bard.—This extraordinary man, who was a great composer in his native language, expired suddenly, in April last, whilst sowing oats in the field of his great grand children, and retaining his faculties to the last moment! He is said to have sung to the plough one of his favourite lyrics, and actually breathed his last at the final stanza of his national melody. The deceased also followed the occupation of a cooper, and is said to have made a churn, from which butter was taken for the christening of his 26th great grand child.

Lately, at the hospital at Bourges, France, aged 103 years, and 13 days, Etienne Delametaire. He was born blind, and employed for upwards of 60 years in turning a grindstone.

FOR THE RURAL MAGAZINE.

[237]

The more disinterested our benevolence, the nearer we approach to the gods, was the sentiment of a reflecting heathen, who lived at a remote period of antiquity. Disinterested benevolence, though of rare occurrence, is nevertheless, to the honour of human nature, sometimes witnessed. 'When it is, the effect, like that produced by beholding an island of verdure in a sandy desert, or a retiring evergreen in the wintry waste, is in the highest degree cheering and delightful. DAVID G. SEIXAS, a young man of this city, of limited pecuniary resources, but of truly philanthropic and elevated views, has for some time past gratuitously instructed a number of deaf and dumb children, with singular success. His unobtrusive merit has at length in some measure become cognisant to the public; and as it is ascertained that there is a considerable number of unfortunate individuals, of this description, in the city *and its vicinity*, an association has been formed, under the most respectable auspices, for establishing an Institution for their instruction.[11] It is hoped and believed, that exertions to promote so excellent an object, will be aided with ample and willing patronage.

THE DEAF AND DUMB BOY!

When smiles play around thee, why sad and forlorn,
Amid all the transports thy fellows enjoy;
In life's cheerful morning what prompts thee to mourn?—
Alas! he is SILENT—poor sad-fated BOY!

When nature is robed in her mantle of green,
And winter has fled with his vapours & snows,
Every bough has its vocalist gladd'ning the scene,
He naught of this soul-cheering melody knows!

His ear never welcom'd the music of sound,
His tongue never utter'd the wonders of thought,
His DUTIES and END wrapt in darkness profound,
Have ne'er to this child of misfortune been taught.

Perchance ere the period when heart-rending woes,
To a premature grave had a fond mother brought,
As maternal affection more fervidly glows,
When our path through existence with sorrows is fraught!

Life's gath'ring ills were dispell'd by her smiles,
For love an inaudible language can speak;
But bereft of that friend who all suffering beguiles,
The tear of affliction now traces his cheek.

His wants disregarded, his wishes unknown,
Yet generous bosoms with sympathy feel,
When they make his condition—a moment their own,
His eloquent, silent, resistless appeal.

Though drear be his prospects, we view with delight,
His sorrowing features now bright'ning with joy,
For Mercy descending in vesture of white,
Will solace the SPEECHLESS AND DESTITUTE BOY.

E.

TO THE EDITORS OF THE RURAL MAGAZINE.

The following is a copy of Verses which I took from a manuscript above forty years ago. I think them good, and as I have never seen them in any printed book, I infer they are very rarely to be met with.

From your friend and well-wisher,
May 8, 1820.

C. E.

ON MAN'S DEPENDANCE ON HIS CREATOR.

Through all the various shifting scenes
Of life's mistaken ill or good,
The hand of God conducts, unseen,
The beautiful vicissitude.

He portions with paternal care,
Howe'er unjustly we complain,
To each his necessary share
Of joy and sorrow, health and pain.

Trust we to youth, or friends, or power,
Fix we our foot on fortune's ball;
When most secure, the coming hour,
If he sees fit, can blast them all.

When lowest sunk with grief or shame,
Gorged with affliction's deepest cup,
Lost to relations, friends, or fame,
His powerful hand can raise thee up.

Before his throne the poor, opprest
With slanderous rage, acquitted stand;
He guides the exile to his rest,
And country, in a foreign land.

His powerful consolations cheer,
His smiles erect the afflicted head;
His hand can wipe away the tear
That secret wets the widow'd bed.

All things on earth, and all in heaven,
On his eternal will depend;
And all for greater good were given,
Would man pursue th' appointed end.

This be my care. To all beside,
Indifferent let my wishes be;
Passions be calm, and dumb be pride,
And fix'd my soul, my God, on thee.

TO THE EDITORS OF THE RURAL MAGAZINE. [238]

My leisure hours are mostly employed in holding a sort of literary *chit-chat* with some favourite author or editor; but I am never more agreeably entertained than at your *Evening Fire-side*, by the various topics there introduced and discussed. The Essayist *remarks* the pride, extravagance, and vices, which at present prevail, and *teaches* us that these are unworthy of rational beings, and that their opposites, humility, prudence, and virtue, with the exercise of charity and forbearance, can alone ensure us felicity. The Agriculturist descants on the improvement of the soil, the rearing of flocks and herds, and the enviable pleasures of rural occupations. The Mechanic sets forth the superior advantages of some new invention; while the man of science communicates the result of ingenious experiments in the particular branches of knowledge which have engaged his attention. And last, though not less a favourite than the rest, is the Bard, whose title to poetic inspiration is not unfrequently evinced by his giving

——"*to airy nothing*
"A local habitation and a name."

While thus highly amused and instructed myself, I am unable, being of humble capacity, to contribute in return to the edification of others, unless by occasionally communicating what I may chance to glean in the course of some of my *literary* peregrinations. As this may not be unacceptable, I send you, as a token of my good will, and desire for the prosperity of your interesting Miscellany, a *scrap* of American poesy, which, though published a few years since in some of the public journals, it is believed will be new to many of your readers. The writer is a young lady of Virginia, by the name of HENNING, who thus modestly speaks of a production, which, it must be admitted, is alike creditable to herself, her sex and country:—"The subject which I have selected, has already employed the talents of an eminent poet, (*Akenside*,) and as he has gathered in the rich harvest which it presented to the sickle of his genius, I must, like Ruth of old, be content to collect the scattered ears, not however expecting the same result to my employment as that which attended my fair-famed predecessor."—Your friend,

X.

ODE TO IMAGINATION.

Oh thou! whose power inspires the minstrel's song.
And pours the tide of tuneful verse along,
Whose rapid wings through ether speed their flight,
While earth extended lies beneath thy sight,
Send one bright beam of that celestial blaze,
That round thy brow in dazzling lustre plays,
One ray, to gild the gloom of mental night,
And burst its shroud with thy refulgent light!

By thee each scene, that meets the gazing view,
Is cloth'd in beauty's bright attractive hue:
'Tis thine to wake the bold exalted thought,
With splendour graced, with mental ardour fraught;
The lofty strain of eloquence is thine,
By thee its torrent rolls, its beauties shine;
Thy power directs the mind's adventurous flight,
And guides its course to Grandeur's lofty height.

'Tis thine fair Beauty's brightest forms to trace,
Adorned with charms and rich in every grace,
By thee the painter's mimic canvas shows
A youthful form where each attraction glows;
By thee the eye its seeming lustre sheds,
By thee the rose the snowy cheek o'erspreads,
Till to the sight the lovely semblance seems
A living goddess, sung in fabled themes.

Nor does the strain whose headlong torrent falls,
While sounding echoes strike the lofty walls,
Nor Venus robed in heavenly charms alone,
The potent magic of thine influence own.
Oft have thy visions cheered the drooping breast,
By anguish pierced, by gloomy cares opprest,
A while suppressed the deep complaining sigh,
And wiped the tear from sorrow's streaming eye.

The lonely exile, forced afar to roam,
And leave for ever his lamented home,
Though foreign scenes to meet his view arise,
By thee transported, sees his native skies.
Each scene, that gave his youthful heart delight,
Again salutes his fond enraptured sight,
And Friendship's voice, which once he loved to hear,
In tender accents meets his listening ear.

But who can tell how wide thine influence reigns?
The weary captive, bound in galling chains,
Cheered by thy light, forgets his dungeon's gloom,
And seems to gaze on Nature's vernal bloom,
The leafy grove, the blue ethereal sky,
The flowery field, delight his wondering eye,
While Nature's music breathes its thrilling notes,
And on his ear in melting softness floats.

Fair Queen of Visions! I invoke thine aid,
Whose wondrous force, what strain has e'er display'd?
For who can trace thy wild eccentric course,
Or paint of mental light the lovely source?
As well might Art with feeble skill essay
To paint the warm enlivening orb of day,
With mimic hues its sparkling beams to light,
And pour its radiance on the aching sight!

E'en though I gained that mountain's fabled height,
Where Music breathes the soul of warm delight,
I'd ask not power thy wondrous might to sing,
So far beyond my thought's sublimest spring,
But send one beam of that celestial blaze,
That round thy brow in dazzling lustre plays,
One ray to gild the gloom of mental night,
And burst its shroud with thy refulgent light.

AN INVOCATION TO POVERTY.

BY CHARLES JAMES FOX, ESQ.

Oh, Poverty! of pale, consumptive hue,
If thou delight'st to haunt me still in view;
If still thy presence must my steps attend,
At least continue as thou art—my friend!
Whene'er example bids me be unjust,
False to my word—or faithless to my trust;
Bid me the baneful error quickly see,
And shun the world, to find repose in thee:
When vice to wealth would turn my partial eye,
Or interest shut my ear to sorrow's cry,
Or courtiers' custom would my reason bend,
My foe to flatter—or desert my friend;
Oppose, kind Poverty, thy tempered shield,
And bear me off unvanquished from the field.
If giddy Fortune e'er return again,
With all her idle, restless, wanton train;
Her magic glass should false Ambition hold;
Or Avarice bid me put my trust in gold;
To my relief, thou virtuous goddess, haste,
And with thee bring thy daughters ever chaste,
Health! Liberty! and Wisdom! Sisters bright!
Whose charms can make the worst condition light,
Beneath the hardest fate the mind can cheer,
Can heal Affliction, and disarm Despair!
In chains, in torments, Pleasure can bequeath,
And dress in smiles the tyrant hour of Death!

GLORY TO GOD.

To thee, PROTECTIVE God, I owe,
All that I have, or hope, or know,
Each ray of mind that seems to shine
Is but a clouded gleam from thine.

The lust'red heavens present thy zone,
The peopled earth thy living throne,
The globe, which nature holds of thee,
Is bound by thy infinity.

Poor, and unbless'd, not mine the power
To shield from want one frugal hour,
Yet from thy rich regard I drew,
The bread of peace, and promise too.

How vain the pride of man appears,
How weak the vigour of his years;
But thou one *vital spark* has given
To light, and lead *his hope* to Heaven.

PRAYER AND PRAISE TO GOD.

O Thou, who ere the lapse of time
Wert glorious, with unfading prime.
Enduring God! thy pity give
To me who but a moment live.

Thy strength the elements controls,
And rest the axis of the poles,
To me in sinful suffering weak,
The words of pardoning mercy speak.

Thou Light of Worlds! whose quenchless ray
Blooms in the brilliant blush of day,
On me, in darkest error blind,
Pervading pour the all-seeing mind.

Parent of Life to thee we owe
The nerves that thrill, the veins that glow;
Me, who descend the oblivious grave,
May thy absolving goodness save.

Immortal Being! God alone,
All-giving Nature is thy own,
To Thee her wandered race restore,
And bid her breathing world adore.

[*P. Folio.*

PRICES CURRENT,

At Philadelphia, May 25, 1820.

		D. C.		D. C.
Beef, Philad. Mess, (plenty,)	*bbl.*	13.00	to	13.50
Butter, Fresh	*lb.*	0.25	"	0.31¼
Cotton Yarn, No. 10,	"	0.36		
Flax, Clean (scarce)	"	0.16	"	0.18
Flour, Wheat Superfine (dull,)	*bbl.*	4.75	"	5.00
Firewood—Hickory,	*cord,*	6.00		
Oak,	"	3.00	"	3.75
Grain—Wheat,	*bush.*	1.00		
Rye,	"	0.55	"	0.60
Corn, Penn.	"	0.55	"	0.60
Barley,	"	0.75	"	0.85
Oats,	"	0.37	"	0.42
Hams,	*lb.*	0.11	"	0.13
Hemp, Kentucky,	*ton.*	200.00		
Plaster of Paris,	"	4.50		
Leather, Soal	*lb.*	0.24	"	0.80
Pork, Jersey and Penn. Mess	*bbl.*	15.50	"	16.00
Shingles, Cedar	1000	25.00	"	27.00
Molasses, S. H.	*gal.*	0.10	"	0.15
Nails of all sizes,	*lb.*	0.07½	"	0.12
Seed, Clover	*bush.*	8.50	"	9.00
Wool—Merino, clean	*lb.*	0.75	}	
Do. in grease	"	0.50	}Rising.	
Common	"	0.50	}	

It is generally believed, we have not had a rain for several years so beneficial in its consequences as the late one, taking into consideration the season, the dry state of the ground and the quantity fallen. An accurate Rain Guage is kept at the office of the Board of Health, in Philadelphia, from which the following is extracted.

			In.	Hun
May	6,	Shower,	0	.12
"	11,	do.	0	.25

"	12,	do.	0	.15
"	14,	do.	0	.03
"	16-17,	Rain,	0	.40
"	17-18,	do.	0	.16
"	18-19,	do.	0	.80
"	19-20,	do.	0	.40
"	20-22,	do.	0	.45
"	-24,	Shower,	0	.32
			3	.08

State of the
THERMOMETER AT PHILADELPHIA,
For the last Month.

Days.	9 o'cl.	12 o'cl.	3 o'cl.
1	65	76	77
2	60	65	65
3	57	69	69
4	60	70	73
5	66	72	72
6	62	63	51
8	58	66	69
9	65	68	68
10	64	73	76
11	62	67	70
12	70	75	73
13	68	75	68
15	62	67	67
16	56	59	57
17	50	51	51
18	53	56	55
19	50	52	52
20	55	56	58
22	62	69	70
23	68	75	79
24	76	80	74
25	68	72	71
26	55	54	53
27	60		

BANK NOTE EXCHANGE,

At Philadelphia, May 25, 1820.

	Disc't.
U. S. Branch Bank Notes,	½
Rhode Island—generally,	1
Connecticut—generally,	2
Massachusetts—Boston,	1
Country generally,	4-6
New York—City Bank Notes,	par.
Country generally,	2-3
New Jersey—generally,	par.
Pennsylvania—Farmer's Bank, of Lancaster; Easton; Montgomery County; Farmer's Bank, Buck's County; Delaware Bank, at Chester,	par.
Northampton,	2½
New Hope Bridge Co.	1
Susquehanna,	3
Farmer's Bank at Reading,	7½
Lancaster Bank; York Bank	3

Gettysburg,	}	
Northumberland; Union,		17
Greensburg; Brownsville,		12½
Farmers & Mechanics' Bank at Pittsburg,	}	30
Delaware—generally,		par.
Excepting the Commercial Bank of Delaware; and Branch Bank, do. at Wilmington,	}	5
Laurel Bank,		50
Maryland—Baltimore Banks,		½
Baltimore City Bank; Annapolis; Hagerstown,	}	2-3
Cumberland Bank of Allegany; Snowhill,	}	50
Elkton,		37½
Virginia—Richmond and Branches,		1½
Country generally,		2½-3
N. W. Bank, at Wheeling,		10-12½
Columbia District—Mech. Bank of Alexandria,	}	5
Country generally,		1
North Carolina—generally,		6
South Carolina—State Banks, generally,	}	2
Georgia—State Banks, generally,		2
Augusta Bridge Company,		50
Kentucky—No sales.		
Ohio—Marietta; Stubenville,		15
Bank of Chillicothe,		5
Country generally,		25-50

TO OUR SUBSCRIBERS.

We present you with the SIXTH number of the Rural Magazine. You will recollect the terms of subscription. We were now to receive the first year's payment—THREE dollars; and annually, from this time, the same sum. Your punctuality will confer on us an additional favour, and afford a criterion by which we may, in part, judge of our future support.

We contemplate no material alteration in our plan. In the first part of each number we shall present you, as heretofore, with essays of different kinds; in the second, with agricultural subjects; and in the third, or last division, with a miscellany made up of every variety that presents.

Our present list of subscribers is about what we had anticipated, but is not yet sufficiently large. We calculate, however, before the close of the year, to see it so increased as to support us in our hope of success. This will, in some measure, depend on those who have seen and desire the continuance of the work. Could each of you procure among your neighbours two or three, or even one additional subscriber, our purpose would be answered. We therefore request your assistance in this way, and enclose a subscription paper. Subscribers will be expected to take the numbers from the beginning of the year. A complete index and title-page will be furnished for each volume.

RICHARDS & CALEB JOHNSON.

PHILADELPHIA,

PUBLISHED MONTHLY BY
RICHARDS & CALEB JOHNSON,
No. 31, Market Street,
At $3.00 per annum.

FOOTNOTES:

[1] The pose is 40,000 square feet of Berne, equal to 32,500 of Paris, and about 35,000 English feet, that is, equal to about $^{4}/_{5}$ths of an English acre.

[2] See Davy's Elements.

[3] This manner of analysing soils is that described by M. Rose, member of the institute of France, &c. and recommended to French agriculturists.

[4] The ill effect of a succession of crops of the same kind was not unknown to the Romans. We have proof of this in the following passage of Festus: "Resistilibus ager fit qui continuo biennio seseritur farreo spico id est aristato, quad ne fiat *solent, qui pradia locant, excipere*."

[5] The "Sterilis tellus medio versatur in æstu" of Virgil, shows the opinion he entertained of a husbandry that left the fields without vegetation.

[6] The good effect of these mixtures was known to the ancients, from whom the practice has descended to us.

[7] See Arbuthnot on Ploughs.

[8] Mr. Levi M'Keen, of Poughkeepsie.

[9] In Flanders, wheat yields 20; rye, 26; barley, 26; and oats, 40, for one.—Wheat holds only the fifth rank in value in the harvest of Flanders. In England, wheat never yields more, on an average, than 10 or 11 for one; barley, something less than 10 to 1; and oats only between 8 and 9 for one. In some highly ameliorated farms in the county of Suffolk, Arthur Young reports a produce of 36 bushels of wheat, and 64 bushels of barley to the acre; and that in the county of Kent, soils of middling quality, equally ameliorated, yield per acre 52 bushels of wheat, and the same quantity of barley. But in Flanders, there are soils which yield much more than this—namely, 72 bushels of wheat, 120 of barley, 128 of beans, and 72 of coleseed.—These, however, are extreme cases, which do not affect the general question of comparative growths; while, however, they shew that the amelioration of land, in any country, is calculated greatly to increase its productiveness.

[10] This seems to be analogous to the condition of a frost bitten joint or limb, which is recovered by the application of cold water; but injured, sometimes destroyed, by being brought near a fire, or the influence of sudden warmth.

[11] This truly laudable enterprise, as well as many others of a similar character, (without derogating from the important services of others,) is most essentially indebted to the enlightened zeal, and public spirited benevolence of one of the Vice-Presidents, ROBERTS VAUX, Esq.—The justice of this small tribute to distinguished worth, although dictated by friendship, will be cheerfully acknowledged by his fellow citizens generally.

Transcriber's note:

Minor typographical and punctuation errors have been corrected without note. Irregularities and inconsistencies in the text have been retained as printed.

Mismatched quotes are not fixed if it's not sufficiently clear where the missing quote should be placed.

The cover for the eBook version of this book was created by the transcriber and is placed in the public domain.

*** END OF THE PROJECT GUTENBERG EBOOK THE RURAL MAGAZINE, AND LITERARY EVENING FIRE-SIDE, VOL. 1 NO. 06 (1820) ***

Updated editions will replace the previous one—the old editions will be renamed.

Creating the works from print editions not protected by U.S. copyright law means that no one owns a United States copyright in these works, so the Foundation (and you!) can copy and distribute it in the United States without permission and without paying copyright royalties. Special rules, set forth in the General Terms of Use part of this license, apply to copying and distributing Project Gutenberg™ electronic works to protect the PROJECT GUTENBERG™ concept and trademark. Project Gutenberg is a registered trademark, and may not be used if you charge for an eBook, except by following the terms of the trademark license, including paying royalties for use of the Project Gutenberg trademark. If you do not charge anything for copies of this eBook, complying with the trademark license is very easy. You may use this eBook for nearly any purpose such as creation of derivative works, reports, performances and research. Project Gutenberg eBooks may be modified and printed and given away—you may do practically ANYTHING in the United States with eBooks not protected by U.S. copyright law. Redistribution is subject to the trademark license, especially commercial redistribution.

START: FULL LICENSE

THE FULL PROJECT GUTENBERG LICENSE
PLEASE READ THIS BEFORE YOU DISTRIBUTE OR USE THIS WORK

To protect the Project Gutenberg™ mission of promoting the free distribution of electronic works, by using or distributing this work (or any other work associated in any way with the phrase “Project Gutenberg”), you agree to comply with all the terms of the Full Project Gutenberg™ License available with this file or online at www.gutenberg.org/license.

Section 1. General Terms of Use and Redistributing Project Gutenberg™ electronic works

1.A. By reading or using any part of this Project Gutenberg™ electronic work, you indicate that you have read, understand, agree to and accept all the terms of this license and intellectual property (trademark/copyright) agreement. If you do not agree to abide by all the terms of this agreement, you must cease using and return or destroy all copies of Project Gutenberg™ electronic works in your possession. If you paid a fee for obtaining a copy of or access to a Project Gutenberg™ electronic work and you do not agree to be bound by the terms of this agreement, you may obtain a refund from the person or entity to whom you paid the fee as set forth in paragraph 1.E.8.

1.B. “Project Gutenberg” is a registered trademark. It may only be used on or associated in any way with an electronic work by people who agree to be bound by the terms of this agreement. There are a few things that you can do with most Project Gutenberg™ electronic works even without complying with the full terms of this agreement. See paragraph 1.C below. There are a lot of things you can do with Project Gutenberg™ electronic works if you follow the terms of this agreement and help preserve free future access to Project Gutenberg™ electronic works. See paragraph 1.E below.

1.C. The Project Gutenberg Literary Archive Foundation (“the Foundation” or PGLAF), owns a compilation copyright in the collection of Project Gutenberg™ electronic works. Nearly all the individual works in the collection are in the public domain in the United States. If an individual work is unprotected by copyright law in the United States and you are located in the United States, we do not claim a right to prevent you from copying, distributing, performing, displaying or creating derivative works based on the work as long as all references to Project Gutenberg are removed. Of course, we hope that you will support the Project Gutenberg™ mission of promoting free access to electronic works by freely sharing Project Gutenberg™ works in compliance with the terms of this agreement for keeping the Project Gutenberg™ name associated with the work. You can easily comply with the terms of this agreement by keeping this work in the same format with its attached full Project Gutenberg™ License when you share it without charge with others.

1.D. The copyright laws of the place where you are located also govern what you can do with this work. Copyright laws in most countries are in a constant state of change. If you are outside the United States, check the laws of your country in addition to the terms of this agreement before downloading, copying, displaying, performing, distributing or creating derivative works based on this work or any other Project Gutenberg™ work. The Foundation makes no representations concerning the copyright status of any work in any country other than the United States.

1.E. Unless you have removed all references to Project Gutenberg:

1.E.1. The following sentence, with active links to, or other immediate access to, the full Project Gutenberg™ License must appear prominently whenever any copy of a Project Gutenberg™ work (any work on which the phrase “Project Gutenberg” appears, or with which the phrase “Project Gutenberg” is associated) is accessed, displayed, performed, viewed, copied or distributed:

> This eBook is for the use of anyone anywhere in the United States and most other parts of the world at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at www.gutenberg.org. If you are not located in the United States, you will have to check the laws of the country where you are located before using this eBook.

1.E.2. If an individual Project Gutenberg™ electronic work is derived from texts not protected by U.S. copyright law (does not contain a notice indicating that it is posted with permission of the copyright holder), the work can be copied and distributed to anyone in the United States without paying any fees or charges. If you are redistributing or providing access to a work with the phrase “Project Gutenberg” associated with or appearing on the work, you must comply either with the requirements of paragraphs 1.E.1 through 1.E.7 or obtain permission for the use of the work and the Project Gutenberg™ trademark as set forth in paragraphs 1.E.8 or 1.E.9.

1.E.3. If an individual Project Gutenberg™ electronic work is posted with the permission of the copyright holder, your use and distribution must comply with both paragraphs 1.E.1 through 1.E.7 and any additional terms imposed by the copyright holder. Additional terms

will be linked to the Project Gutenberg™ License for all works posted with the permission of the copyright holder found at the beginning of this work.

1.E.4. Do not unlink or detach or remove the full Project Gutenberg™ License terms from this work, or any files containing a part of this work or any other work associated with Project Gutenberg™.

1.E.5. Do not copy, display, perform, distribute or redistribute this electronic work, or any part of this electronic work, without prominently displaying the sentence set forth in paragraph 1.E.1 with active links or immediate access to the full terms of the Project Gutenberg™ License.

1.E.6. You may convert to and distribute this work in any binary, compressed, marked up, nonproprietary or proprietary form, including any word processing or hypertext form. However, if you provide access to or distribute copies of a Project Gutenberg™ work in a format other than “Plain Vanilla ASCII” or other format used in the official version posted on the official Project Gutenberg™ website (www.gutenberg.org), you must, at no additional cost, fee or expense to the user, provide a copy, a means of exporting a copy, or a means of obtaining a copy upon request, of the work in its original “Plain Vanilla ASCII” or other form. Any alternate format must include the full Project Gutenberg™ License as specified in paragraph 1.E.1.

1.E.7. Do not charge a fee for access to, viewing, displaying, performing, copying or distributing any Project Gutenberg™ works unless you comply with paragraph 1.E.8 or 1.E.9.

1.E.8. You may charge a reasonable fee for copies of or providing access to or distributing Project Gutenberg™ electronic works provided that:

- You pay a royalty fee of 20% of the gross profits you derive from the use of Project Gutenberg™ works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg™ trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, “Information about donations to the Project Gutenberg Literary Archive Foundation.”

- You provide a full refund of any money paid by a user who notifies you in writing (or by e-mail) within 30 days of receipt that s/he does not agree to the terms of the full Project Gutenberg™ License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project Gutenberg™ works.

- You provide, in accordance with paragraph 1.F.3, a full refund of any money paid for a work or a replacement copy, if a defect in the electronic work is discovered and reported to you within 90 days of receipt of the work.

- You comply with all other terms of this agreement for free distribution of Project Gutenberg™ works.

1.E.9. If you wish to charge a fee or distribute a Project Gutenberg™ electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from the Project Gutenberg Literary Archive Foundation, the manager of the Project Gutenberg™ trademark. Contact the Foundation as set forth in Section 3 below.

1.F.

1.F.1. Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread works not protected by U.S. copyright law in creating the Project Gutenberg™ collection. Despite these efforts, Project Gutenberg™ electronic works, and the medium on which they may be stored, may contain “Defects,” such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.

1.F.2. LIMITED WARRANTY, DISCLAIMER OF DAMAGES - Except for the “Right of Replacement or Refund” described in paragraph 1.F.3, the Project Gutenberg Literary Archive Foundation, the owner of the Project Gutenberg™ trademark, and any other party distributing a Project Gutenberg™ electronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH 1.F.3. YOU AGREE THAT THE FOUNDATION, THE TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU FOR ACTUAL, DIRECT, INDIRECT,

CONSEQUENTIAL, PUNITIVE OR INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.

1.F.3. LIMITED RIGHT OF REPLACEMENT OR REFUND - If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.

1.F.4. Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work is provided to you 'AS-IS', WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

1.F.5. Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.

1.F.6. INDEMNITY - You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project Gutenberg™ electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of Project Gutenberg™ electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project Gutenberg™ work, (b) alteration, modification, or additions or deletions to any Project Gutenberg™ work, and (c) any Defect you cause.

Section 2. Information about the Mission of Project Gutenberg™

Project Gutenberg™ is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need are critical to reaching Project Gutenberg™'s goals and ensuring that the Project Gutenberg™ collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project Gutenberg™ and future generations. To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation information page at www.gutenberg.org.

Section 3. Information about the Project Gutenberg Literary Archive Foundation

The Project Gutenberg Literary Archive Foundation is a non-profit 501(c)(3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Contributions to the Project Gutenberg Literary Archive Foundation are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's business office is located at 809 North 1500 West, Salt Lake City, UT 84116, (801) 596-1887. Email contact links and up to date contact information can be found at the Foundation's website and official page at www.gutenberg.org/contact

Section 4. Information about Donations to the Project Gutenberg Literary Archive Foundation

Project Gutenberg™ depends upon and cannot survive without widespread public support and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine-readable form accessible by the widest array of equipment including outdated equipment. Many small donations ($1 to $5,000) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written

confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit www.gutenberg.org/donate.

While we cannot and do not solicit contributions from states where we have not met the solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations. To donate, please visit: www.gutenberg.org/donate

Section 5. General Information About Project Gutenberg™ electronic works

Professor Michael S. Hart was the originator of the Project Gutenberg™ concept of a library of electronic works that could be freely shared with anyone. For forty years, he produced and distributed Project Gutenberg™ eBooks with only a loose network of volunteer support.

Project Gutenberg™ eBooks are often created from several printed editions, all of which are confirmed as not protected by copyright in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in compliance with any particular paper edition.

Most people start at our website which has the main PG search facility: www.gutenberg.org.

This website includes information about Project Gutenberg™, including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.