L. D Jackle

THE CAMBRIDGE WEEKLY CHRONICLE, AND FARMER'S REGISTER.

"THE MAIN END OF EVERY GOVERNMENT SHOULD BE THE WELFARE OF THE PEOPLE, AND THE DIFFUSION OF SOCIAL HAPPINESS."

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☞ *All letters addressed to the Editor, must be post paid.*

POETRY.

"The reigning eagle of Parnassian skies,
Now soaring 'midst the tracks of light and air
And now the monarch of the woods and lair."

A Sketch.

"Ah say, can love be bought with gold?"

She sate alone—the blue eyed girl—
Gaily deck'd, in her summer bower;
Her snowy brow a single curl
Half shadow'd with its golden shower;
A gleam of sunshine rested on
Her face of loveliness, though wan.

Her hopes were crush'd—her loves were dead,
And passion's self had ceased to thrill—
Joy from her bosom far had fled—
No time her sorrow now could heal;
And melancholy spread a hue,
No sunshine from the soul burst through.

She lov'd but one—how deep her bliss,
When hope return'd the soft-breath'd feeling,
In tender tones as pure from his,
As in her bosom 'twas revealing:
But disappointment threw a blight
On expectation then so bright.

She thought he turn'd a look to her,
As at the threshold of his bosom,
Love ne'er had knock'd for entrance there—
'Neath winter's breath, soon fades the blossom:
He lov'd her with as pure a fire
As her's upon love's funeral pyre.

She gave her hand—a man of years—
Of wealth, the altar, stood beside:
And she in loveliness and tears
Became the victim of her pride:
Her hand—'twas all she had—she gave,
To be thenceforward memory's slave.

To drown the thoughts that now arise
To sadden life's once smoothest way,
To Fashion's court she often hies,
To bask her in its sunny ray;
But oftner sits the weary hour,
Joylessly in her summer bower.

DESULTORY SELECTIONS.

From the Evening Post and Saturday News.

An Essay on Human Nature as it is.

There are a class of individuals whose characteristic trait is to study human nature with the nicest discrimination. The most delicate shades of action, the most subtle springs of thought and feeling lie open to their pen, and points which with others would easily have escaped detection, are by them subjected to the narrowest scrutiny. Such undoubtedly merit the applause of all who really and sincerely wish a solution to the enigma of human character—the real gordian knot of human nature. They deserve the good will of their fellow mortals, because every discovery they make, be it ever so trifling in itself, is tending to increase the bulk of human knowledge, and adding, a mite at least, to the legacy we must sooner or later hand down to our descendants; besides all are personally interested in the subject under consideration, and however beneficial each discovery may be to succeeding ages, it is of equal benefit to themselves. If the age should ever arrive, as we sincerely hope it will, when men instead of seeing each other "as in a glass darkly, shall see face to face," when the labyrinths of each man's breast shall be open to the inspection of his neighbors, when the deep mysteries of self shall be unlocked by the key of criticism, a radical change will have come over the aspect of human affairs, a change for the better and not for the worse. Let us analyze the subject a little. In the present age, motives and impulses are never presented to the view in an unvarnished light, the soul and its affections are completely cloaked up, and defy any thing like human observation. Men move on together; mingle in the affairs of business, pass the alotted time of their being, and are gathered to their fathers, riddles to each other, and almost riddles to themselves. Dissimulation seems to be the watch word of creation, and he who can show the most tact in the art is the best fellow, and is praised for having so well performed his part in life's great drama. Her object when viewed through a distorted medium must appear altogether different from what it really is, either in external shape, color, or dimensions. The law of physics finds a parallel in our depraved natures. We are each a distorted medium, and he who would expect to see motives and principles in their true light by making outward actions the standard of his calculations, is looking for an impossible result. We are casting no imputation upon nature; nature has undergone a sort of alchymy, we would not confound one with the other, they claim no kin, the one is utterly incongruous with the other. This shade of subtlety has been induced by many circumstances, it is not our province to detail them, we wish if we can to sketch the probable picture the human soul would present were this thick, dark covering torn away from it, to delineate its probable features, were the mask of deceit removed. We shall lay aside the fanciful in our sketch. Truth demands it, so does reason. Let us turn our steps to the mart of business. See there behind his counter stands the man who ranks high in respectability. The world esteemes his morality and integrity. He is the standard of mercantile excellence, and he who would whisper any thing to his detraction would be branded at once as a villain. There he stands trying to sell his commodities to one who he knows is a stranger to the quibbles of trade, and whose simplicity urges him to suppose all others like himself. Did a man of his own stamp occupy the place of this guileless purchaser, he would still be the man of upright dealing, but *here* he may dupe his fellow with no danger of ever being exposed to the censure of the world, by which he is so much respected, and so his morality and integrity are laid aside to suit a particular emergency to be taken up again at pleasure. This is the world's justice. We had thought it to be a steady, ever-acting principle, dwelling in the breast, a constant tenant, and allowing no other principle to take its place, but here it is the paltry instrument of man, the cowering slave of his will, instead of the supreme ruler of his doings. Come with me now to the domestic scene where nature should be seen in her true colors, however elsewhere disguised and perverted. You see seated at the table of a family circle, a guest, who, if we may judge by the attention lavished upon him is a universal favorite. The cordiality of his reception would seem to indicate the strongest degree of friendship on the part of his entertainers at first sight we share the joy which seems to pervade the assembled group, and praise their act of hospitality. But when upon further enquiry we discover that their guest is a man of wealth, the veil is torn from our eyes, and the motive stands out in all its deformity. By kind attention they expect to secure a return of favor, which shall doubly repay them for the mite they have bestowed. What a principle of action, and this is the world's hospitality! Some may suppose we can go no further, we wish we could not, but we can. We can extend our remarks to affairs of religion, we can tear the cloak from sanctity itself. The church presents a field for observation. In the first ages, they who added themselves unto the body of Christ's followers were men who could not dissemble. What motive could have urged them in that period of bitter persecution, to embrace the faith of a despised Nazarene but one of the purest stamp? Since then the case has changed. Men join the church now-a-days as they did then by *numbers*, but it is because the "Pharisees and rulers have believed on Him." In our times a man to maintain a respectable footing in society finds it his interest to join the church. Be he merchant, tradesman, or professional man, he expects an extension of his business by such a step. They who are of the "same household of faith" will certainly be something in his pocket, nor is this all. He can keep fellow-members out of the money which he owes them, for debts contracted, longer than he could persons who he knew did not belong to the church at all. If a fellow-member is a tradesmen, he can empty his shelves, and sit on his labour without the least fear of molestation, for surely he knows that a member would rather wait four years than put justice in requisition. Thus he can smile at the law, and then thank the church for it, while the mechanic who kneels at the same table with himself is sometimes forced to wish he had never joined the church where men professing and calling themselves christitans, act ten times worse than men who never set foot within its pale. Christ is wounded in the house of his friends, and here at least where motives should be as pure as Heaven itself, we see God at the top, and self all the while at the bottom. The church then, we say it with nothing of irreverence, the church is made a cloak of motive, and of all the cloaks which human ingenuity has devised, to distort the principles of human action—the church in my humble opinion is the best cloak a going. How often is the name placed upon the subscription list, to let the world see how nicely it tallies with the fifty or the hundred, and to let the "right hand know what the left hand doeth" when men would have it seem that pure benevolence was their only spring of action. How often are the courtesies of life exchanged between families or individuals, while envy or hatred is still rankling in the bosom, and only waiting some excitement to put forth its fruit of bitterness. How often will the lip utter what the heart disowns, and the hands perform what the will denounces. How often are the purest affections of the soul degraded from their office; love will bow with deference to the gold where it turns with abhorrence from the person; power will awe into respect, where weakness would be followed by insult. We will write volumes of panegyric on the man of influence and standing, and load every gale with slander and detraction, if he fall from his station by some change of fortune. Alas for poor human nature, "The greatest mystery to man is man." We have been sparing of examples in sketching this picture. We say not whether it be true to the life or not; it remains with our readers to answer the question severally for themselves. Perhaps their consciences may even now be giving a twitching response. Perhape some point in this moral delineation may tally with their own case exactly. If so well, we have come to the determination to watch closely the springs of human action, and whenever we have traced them to their course to sketch them for our own benefit and instruction, we will view character in its every phasis, and we think from what we have already seen and experienced, however little it may be, that human nature as it appears to be, is altogether distinct from human nature as it is.

UPSILON.

THE AGRICULTURALIST.

"Venerate the plough,
And o'er your hills and long withdrawing vales
Let Autumn spread its richest treasures to the sun,
Luxuriant and unbounded."

Memorial of Charles L. Fleischmann, in Relation to the Manufacture of Beet Sugar.

Continued from our last.

To the honorable the Senate and House of Representatives of the United States of America in Congress assembled:

The memorial of Charles Lewis Fleischmann, a naturalized citizen of the United States.

RESPECTFULLY REPRESENTS:

"In regard to an exact saccharometer, of a simple and practical construction, with the aid of which all manufacturers can ascertain, to a fiftieth part, the richness of the saccharine matter in beets, and of all other substances containing crystallizable sugar, the learned researches of a young chemist, M. Peligot, promise great success. Lime and baryte have the property to combine with crystallizable sugar, and form together an insolvable composition, in which, nevertheless, the sugar does not alter, and is easily separated from it. In bringing this fact to a simple mechanical operation, no doubt is left that the quantity of sugar contained in beet sirup can be ascertained with the greatest nicety.

"The problems proposed by the Societe d' Encouragement are at this time almost solved. It does not any longer propose to discover a new method, but only to perfect the processes which are already verified, by an application on a large scale. Among the advantages which are derived from the renovation of the manufacture of the beet-sugar, is the extensive of the culture of the beet-root; because it will be easy for every farmer to send his dry product to any market, far or near, as the weight of the raw beet is reduced, by the process of desiccation, to less than one-sixth part. The beet can now be raised anywhere, however distant from the manufactory; and, reciprocally, it is possible to establish manufactories in all parts of France, to concentrate them in such places where fuel is plenty and at a low price; whereas, at present, the manufacture is only possible close to a field fertile enough to produce beets. Another important fact: 1,000 pounds of beets contain 100 pounds of sugar. The price of beets is about 12 francs: the expense of drying and extracting the sugar would not exceed 10 francs, (this is sufficiently proved by experiments;) making the total amount 22 francs. Suppose that one tenth of the sugar is lost, the manufacturer would have 90 pounds of sugar for 22 francs, or 100 pounds for less that 25 francs. Allowing for small expenses, &c., 50 per cent., the sugar (the refined sugar of this country) could be delivered to the consumer for 38 centimes (or 7 1-2 cents) per pound.

"This will create a revolution in the consumption of sugar, as well as in the division of the branches of industry, over the whole globe; then, instead of importing sugar from the southern regions, it will be left for us to furnish them.

"MICHEL CHEVALIER."

Another proof of the practicability and great advantage of this improvement, is the enthusiasm with which it was adopted and put into operation by the Germans themselves, who are generally very careful and prudent in all their speculations. They have already established extensive manufactories on the Rhine.

The importance of Mr. Schuetzenbach's discovery is best proved by chemical analysis and examination of the physiology of plants. This analysis of the beet root shows that 100 parts of the root contain—

86.3 parts of water,
3.2 parts fibrous matter,
10.0 parts of crystallizable sugar,
0.5 parts of mucilage.

By the new process, the water in the beet is evaporated, and there remain only 13.7 parts of dry substances, which consist of the sugar, mucilage, and fibrous matter.

The sugar dissolves in clod or warm water almost instantaneously.

The mucilage is indissolude in water; when in a dry state and mixed with water, it only swells to a slimy matter.

The fibrous matter is indissoluble, and has neither in the old nor new process any injurious influence.

From this analysis we learn that the mucilage is the only substance which causes all the difficulties of the extrac-tion of sugar. The principal process consists, then, in the separation of the mucilage from the sugar. But is this mixture a work of nature, or the result of the manipulations? or, does the cellular tissue, of which the beet-root is formed, contain the sugar in its pure state, separated from the mucilage?

These are questions as to the physiology of the beet, which were first suggested by Raspail, a French chemist, (in his work on the physiology of plants, Paris, 1837,) and he solved these important problems by the following microscopic experiments:

"When a thin slice of the red beet-root is brought under the focus of a microscope, it will be observed that the texture of the beet is formed of hexagonal cells, transparent, and of a purple color; these cells are crossed by white ones, four or five times longer than the purple cells; this tissue of white cells is crossed again by bundles of opaque cylinders, of a gray color, through which the spirals (elements generateurs) are observed.

"When a drop of acid (acide sulphurique albumineux, which has the property of colouring saccharine substances purple) is put on this thin slice, the colors change; the part which was purple turns yellowish, the long cells remain white, but the opaque cylinders become purple."

From this it follows that the cells, naturally purple, enclose the coloring matter and the mucilage, and the opaque cylinders the sugar in its pure state. Thus the mucilage in the beet-root is separated by nature from the sugar, and mixed during the manipulation, which caused all the difficulties of the extraction in the old process, when the mucilage was combined with the sugar in grating, pressing, and even in defecation.

To separate this five-tenths parts of mucilage which the beet contains, occasioned not only the loss of considerable sugar, but also labor, fuel, and costly material, as, for instance, animal charcoal, blood, &c.

The new process acts entirely in conformity with the results of scientific investigation, and the whole process is reduced to a simple operation, which gives a sure gain of 8 per cent. of white refined sugar from 100 pounds of the raw beet-root.

The beets are now cut in thin slices, dried before any fermentation can take place, ground to fine powder, so that all cells are broken apart, and mixed with water, which dissolves the sugar before the mucilage begins to swell. The pure uncolored liquor obtained is evaporated, and the sirup brought into moulds to crystallize.

These statements should be considered as a sufficient proof of the infallibility and practicability of the new improvement; and the introduction and general adoption of it in this country would be of the highest importance to the welfare of its population.

Some enterprising citizens of the United States sent agents to France to investigate the manipulations of this branch of industry; but the results have yet effected very little, and the sugar produced from the beet in this country is of no great account, which arises probably from the want of skilful and intelligent operators in the former complicated manipulations. But, at present, in Europe, the maniputations are reduced to a process much simpler than brewing of common of common table-beer, which can be comprehended and performed by every person. The period is not distant when farmers will produce their own sugar, or at least raise and dry the beet ready for the manufacturer.

The general argument against the introduction of this branch of industry, that labor is too high in the United States, is incorrect, when we consider the other great advantages which the United States have over every other country on the globe, in almost every business, and especially in this branch of industry:

1st. The United States possess a climate which suits the beets better than any climate of Europe, because the summers are excessively warm, which increase the saccharine property of the beet-root.

2d. Plenty of cheap and rich land, subject to but a small tax.

3d. Inexhaustible stores of fuel, from which the great natural water-courses, railroads, and canals branch, over the whole Union.

4th. Well-constructed labor-saving machines of all descriptions.

5th. An intelligent population, which, when once acquainted with this branch of industry, will soon bring it to great perfection—a population understanding the use and management of machinery, and famous for improvements and inventions. Whereas, in Europe, the land is overtaxed, high in price, and therefore the interest upon it considerable; subject to tithes and other feudal burdens; while the fuel is scarce and valuable, and its transportation high and slow. The population are entirely unacquainted with labor-saving machines, and possess very little mechanical ingenuity, while their enterpise is prohibited by the excise laws of their petty governments.

It is obvious that America overbalances, with its advantages, the low prices of labor in Europe; and that she is able not only to provide herself with all the sugar wanted for home consumption, but also to supply other countries.

The sugar now produced in Louisiana averages only about 4 1-2 pounds per head for the population of the United States, or about 70,000,000 pounds annually, which is but a small part of our consumption, as enormous sums are yearly paid to foreign countries for sugar, as the following table shows, viz:

1832,	imported into the	United States	$2,933,688
1833,	do	do	4,752,343
1834,	do	do	5,537,829
1825,	do	do	6,806,184
1836,	do	do	12,514,551

This sum will annually increase in proportion as the population augments and their comforts and means improve.

By the adoption of this new branch of industry, the sums at present paid for imported sugar would be, in a short time, a clear gain to the country: its agriculture would be improved, and thousands of acres of exhausted and deteriorated land would be again taken up and improved. To procure the necessary manure for this purpose, the farmer would be obliged to increase his live stock, which would find, during the winter season, plenty of food in the residuum of the manufactory. It would increase the consumption of sugar among the less wealthy class, and would make their condition of life more comfortable, and, of consequence, greatly extend the population of the country.

The manufacture of sugar is not confined to the beet and cane only. In Hungary there are, at present, manufactores which make sugar from pumpkins. The following article, translated from the Hanover Communicator, 1837, gives the particulars, as follows:

"A manufacturer in Hungary, for three years past, has used pumpkins for the mannfacture of sugar. We have seen raw and refined sugar, also sirup from this manufatory, and found the refined sugar equal to the colonial in every respect. The raw sugar is crystalline, coarse-grained, lightcolored, and of more agreeable (melon-like) flavor than the common raw beet-sugar; the sirup is of a blackish-green colour, and has also a melon-like flavor, but is suitable for consumption. The juice, obtained by pressure, yields, on an average, ten per cent. of sugar; but the water-melon of the south of Hungary is still more productive than he pumpkin of the north. The sugar obtained from the pumpkin is always considerable, whether the fruit has been raised on rich or poor land.—The manipulation is said to be more simple than the manufactory of beet sugar, and requires less attention, as the pulp and the juice may stand for three weeks without getting sour or lousing any quantity of sugar. The juice, during the process of evaporation, does not rise in the boilers, and is not so liable to be burnt. The residuum is very good food for cattle. One acre produces 650 cwt. of pumpkins; twenty pumpkins yield sufficient seed for one acre of ground. From the remaining seed a very good table oil of about 16 per cent. can be obtained.

"MARQUARDT."

Indian corn, at the period of tasselling, yields just half as much sugar as the sugar-cane; and it is astonishing that this well-known fact did not induce persons to plant corn especially for that purpose.

To make use of green corn and pumpkins profitably, and to improve the crop of beet in quality and quantity, the following plan is, therefore, suggested, which would keep a manufactory in operation all the year rooud:

We know that the beet requires a deep soil, sufficiently provided with decomposed manure, as when planted in green manure they yield much less sugar, and the operation is rendered more difficult; to prepare the field properly for the beet, it should be well manured. (no matter in what state the manure may be applied,) ploughed, and planted in cord and pumpkins, leave room for the horse hoe. When the corn begins to form the tassel, it should be cut off, and the sugar extracted from it. The pumpkin has then all the influence of the sun to come to full maturity, and should be used, when ripe, for sugar. The following year the field would be in first-rate order for the beet, and the following rotation of crops, viz:

Indian-corn & pumpkins, with manure, } for sugar,
Beets, } for sugar,
Barley, } for sugar,
Clover,
Wheat.

An acre of good cultivated land yields, on an average, twenty tons of the beet root. Beets were sold this fall, near Boston, for $5 per ton.

One ton of beets yields, when treated after the new method, 180 lbs. of white refined sugar.—The cost of manufacturing a ton of beets into sugar would be, at very high estimate, $6. One hundred and eighty pounds of refined beet-sugar would cost $11, or 6 1-10 cents per pound, for which we now pay, at the lowest rate, 16 cents.

Mr. Norbert Rillieux, of New Orleans, has recently invented an apparatus for reducing saccharine liquids, which has been patented in the United States, and is already tested.

This apparatus surpasses Howard's and Roth's, or any other invention of this description, not only in simplicity and cheapness, but also in the arrangement in the boiling of sugar, according with the laws of science and economy.

The liquor is reduced by two vertical cylinders heated by steam, over which the sirup is distributed in small quantities. One of the cylinders operates under a vacuum, and entirely evaporates the condensed liquor, by a low degree of heat, to hinder the formation of molasses—an improvement of the highest importance, which, till new, has never been accomplised. The sirup can be reduced to any degree of the saccharometer desired, which is performed by the most ingenious and simple contrivance of a differential thermometer. This apparatus will greatly facilitate the manufacture of sugar, in regard to the economy of labor, fuel, and time, and the perfection of the product. This apparatus will rank among the most ingenious and important inventions.

The production of indigenous sugar in France was one of the main pillars of Napoleon's continental system; and the successful extraction of sugar from the beet was relied on as the surest guaranty of its stability.

That branch of productive industry, therefore, which the first statesman and captain of the age regarded alike as the means of conquest and the source of wealth and independence, cannot be considered a matter of indifference to the Government of this great and growing republic, whose duty and privilege it is to watch over the interest and welfare of its citizens—a Government aspiring to no conquest, yet whose enviable distinction it is to be regarded as the last hope of freedom—the last asylum of liberty.

The information imparted in the preceeding pages, collected as it is from the most authentic sources, it is hoped will be regarged as of the highest importance to any and every government charged with the duty of promoting the great interest of a nation.

Having traced the history and progress of the manufacture of the beet-sugar, from its first discovery in Europe to the present time, through all its varied experiments and decreating expenses, until no longer requiring the bounty of Government, but yielding a revenue, the only remaining inquiry is, how shall the American people avail themselves of the important advantages of this new source of national wealth and industry?

To acquire a correct and minute knowledge of this new branch of industry, (now practically unknown in this country,) it is necessary to visit Hungary, Germany, France, and England, in order to examine all the recent and important discoveries and improvements relating to the manufacture of beet-sugar.—To accomplish this object, it would require the following qualifications:

1. A thorough knowledge of the old method of extracting sugar from the beet, and every apparatus hitherto used.
2. A thorough knowledge of agriculture, in order to ascertain the precise cost of the production of the raw material, the influence which it has on the different systems of agriculture, and the economy in regard to the feeding of cattle, &c.
3. A knowledge of chemistry and physics.
4. A knowledge of the languages of the different countries to be visited, and a thorough acquaintance with technical and vulgar terms in mechanics and agriculture, as well as the *patois* of the countries.
5. A knowledge of mechanics and the art of drawing, in order to be able to delineate any apparatus at first sight and at a glance, as manufacturers are not always willing to have their apparatus examined minutely.