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THE
CANADIAN
MERCHANTS' MAGAZINE

AND

COMMERCIAL REVIEW.

VOLUME FOURTH.

FROM JANUARY TO JUNE, 1859.

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CANADIAN
MERCHANTS' MAGAZINE
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COMMERCIAL REVIEW.

VOL. IV.

JANUARY, 1859.

No 1.

THE ADULTERATION OF COMMERCIAL COMMODITIES.

TEA, COFFEE, COCOA, AND PEPPER.

TEA, the well-known Chinese plant, genus *thea*, is so extensively used in this country as to be classed among the necessaries of life. It is imported from China in vast quantities, and is supposed, in many instances, to be extensively adulterated before it enters into consumption.

To ascertain whether other than tea leaves have been substituted for or mixed with genuine tea: To do this effectually it is necessary to acquire a thorough acquaintance with the character and appearance of the tea-leaf, and also of the leaves which are sometimes mixed with tea in the various stages of their growth, especially the condition of the hedges, and the arrangement and distribution of the bundles of woody fibre and vessels called veins. To form an idea of the general appearance of the tea-leaf, and of the leaf of the poplar, elder, sloe, and oak, they ought to be seen, or at least a diagram of them. From which it will easily be perceived that the tea-leaves have a different structure from the sloe and elder, which are most commonly substituted for them. They are more elongated and more delicately serrated. Before examination the leaves should be untwisted by infusion or moisture. They should then be submitted to the microscope, by which the tea will, in most instances, be distinguishable from the substitutes, even if the latter be rubbed or ground into very small pieces. Another mode of distinguishing tea-leaves from others, is by infusing a large portion of each. Genuine tea contains gum, gluten, or saccharine matter, a large quantity of *tannin*, and a peculiar nitrogenized principle called *theine*. The leaves of

the sloe are astringent, and contain a considerable quantity of tannin, and on this account they are frequently employed in adulteration. On analysis it is found that while the average amount of nitrogen or *theine* in tea exceeds 5 per cent., that in sloe, hawthorn, and elder leaves but seldom exceeds 3 per cent., and in the first two is always much under this average.

To ascertain whether tea has been dyed, or mixed with adulterating ingredients: The presence of *salt of copper* may be detected by putting a pint of tea into a flask, with a small quantity of cold water, agitating it or shaking it for some time, and throwing the whole upon a filter; a portion of the liquid which filters through, being tested with ammonia, will, if adulterated, immediately assume a beautiful sapphire blue colour; another portion of the filtrate, being tested with ferrocyanide, will produce a reddish brown precipitate of ferrocyanide of copper.

The presence of logwood may be detected by moistening a small portion of tea-leaves, and rubbing them gently on a sheet of white paper, which, in that case, will be stained bluish black. If a portion of the tea be thrown into cold water it immediately imparts a pinkish or purplish colour, which becomes red by the addition of a few drops of sulphuric acid. This is an indication of the presence of logwood, for genuine black tea produces only, after a time, a golden brown liquor, which is not reddened by sulphuric acid. The presence of *plumbago* or *black-lead* is detected by the shining or lustrous appearance of the leaves. If a thin slice be removed from the surface of one of the leaves and placed under the microscope, it will be seen to be minutely studded with small black particles. And if a spoonful or two of the tea be infused in boiling water, the liquid will frequently acquire a blackish hue, and, on evaporation, the bottom of the vessel will be found to exhibit the dark shining and characteristic coating of black-lead. The presence of *talc*, *china-clay*, and *soap-stone* is indicated by the silvery lustre of some of the particles when placed under the microscope, especially if the leaves be expanded in hot water, redried and the surfaces attentively examined; some of the particles will be found to reflect light, and appear more or less iridescent.

The presence of *indigo* is also detected by the microscope, under which it appears as minute granules and irregular fragments, many of which reflect a blue or greenish colour, and it is easily distinguished from Prussian blue, the only substance which it nearly resembles.

The presence of *turmeric powder* is likewise ascertained by the microscope. The presence of Prussian blue is discovered by the non-effect of chlorine in bleaching it, as also by the action of liquor potass, and dilute sul-

phuric acid ; the first turns the fragments of a reddish hue, and the latter restores the colour.

Adulterations in green tea may, in many cases, be detected as follows : Put a sample of the suspected tea in a sieve, hold it under a gentle stream of cold water flowing from a tap four or five minutes ; if the tea be painted, it will change its colour, and upon drying, with a very gentle heat will gradually assume the appearance of ordinary black tea ; the residue washed off will generally be found, on microscopic examination, to be *Prussian blue, turmeric and French chalk*. A more simple test still, is to rub a little of the suspected tea, moistened, between your hands ; if it is coloured it will soon impart some of the colouring matter to your hands. Other methods of detecting adulterations are the following : If the leaves be coated to any considerable extent it will be sufficient, simply to view one or two of them as opaque objects with a glass of one inch focus, when the colouring matter entering into the composition of the facing will be detected as minute specks, each reflecting its appropriate tint.

Another method is, to scrape gently two or three of the leaves on the surface with a pen-knife, when, if they be faced, the colouring matters may be detected in the powder, thus separated, viewed as an opaque object. A third method is, to place five or six leaves on a slip of glass, moistening them with a few drops of water, and after the leaves have become softened, firmly squeezing the water out between the finger and thumb ; this will then be found to contain more or less of the ingredients forming the facing, should such have been employed. Or should it be desired to obtain the results on a larger scale, one drachm or so of the leaves may be agitated in a little water for a few minutes, which will detach much of the facing without unfolding the leaves, and which facing will collect as a sediment at the bottom of the vessel, as explained above.

Having, by any of these processes, determined whether the sample of tea be faced, the next thing to be ascertained is the nature of the adulterating substances. The blue colouring matter has generally been found to be either Prussian blue or indigo. The former is recognized by the angular form of the fragments, and by their brilliant and transparent blue colour, but most decidedly by the action of the liquor potass, which quickly destroys the blue, turning the fragments of a dull reddish brown colour. This re-agent may be easily applied to the smallest particles of Prussian blue under the microscope. The latter is known by the irregular form of the particles, their granular texture and greenish blue tint, but chiefly by the fact that the colour is not destroyed by the liquor of potass. The yellow dyes commonly used are turmeric powder and Dutch pink ; the first of these is at once recognized by its microscopic characters, which have been already described,

and the latter, by the action of liquor potass, and acetic acid; the one reagent converts the bright yellow into a dark brown, and the other occasions effervescence; results explained by the fact that Dutch pink consists of vegetable yellow, in combination with chalk, or carbonate of lime. The white powders used are usually kaaline, soap stone, or sulphate of lime, and although some clue may be obtained as to which of these is employed in any particular sample of tea, by the appearance of the leaves and the microscopic character of the powder, yet, in order to obtain decided results it is necessary to institute a chemical analysis. It appears that genuine tea contains five or six per cent. of gum. Therefore, if any considerable portion be found beyond this analysis, it may be presumed that something has been added, either for giving a gloss or curl to the leaf, or to fix other adulterating ingredients.

To ascertain whether any of the tea-leaves have been used before, the form of the dry leaves should be particularly noticed. If they want the characteristic twist; if they be broken and agglutinated in little masses of irregular shape, there is a reason to suspect that the tea is spurious. Wash the sample for a minute or two in cold water, distilled, and, if they appear glossy, it is probable they consist of exhausted tea leaves, made up with gum; in which case they should be subject to a chemical analysis, when it will probably be found that the tannin and theine, which give to tea its peculiar colour and aromatic flavour, have almost entirely disappeared, leaving a greater quantity of lignin (or woody substance) and gum, in proportion to the bulk, than is contained in the genuine tea. The following table shews the per centage of lignin, gum, tannin, and colouring matter, and carbonate of lime, found in samples of genuine green and black, and in samples of tea which had been used before and were seized for being spurious in 1843. The proportions will form a good criterion for a chemical examination in future cases:—

	Lignin.	Gum.	Tannin and coloring	Carbon- ate of lime, &c.	Copper.
Green Tea, genuine.....	55.3	5.4	39.3		
	81.9	13.4	4.7		
Green Tea, containing exhaust- ed tea-leaves.....	84.9	6.8	1.1	4.0	3.2
	84.0	11.4	.8	3.8	
	87.5	4.8	.6	3.6	3.5
	71.5	12.0	14.6	1.9	
Black Tea, genuine.....	46.8	5.9	47.3		
	78.6	15.5	5.9		
	81.3	18.0	.7		
Black Tea, containing exhaust- ed tea-leaves.....	72.9	19.9	7.2		
	90.1	15.5	4.4		
	78.1	20.5	1.4		
	72.0	10.0	16.9	1.1	
	84.9	11.6	1.0	2.5	

COFFEE.

Coffee is the seed of a tree of the family rubiacee, cultivated principally in the East, and the berry, being first roasted and ground, is extensively used in this country as a beverage. A considerable portion of it is sold in the ground state, and then it is said to be extensively adulterated with chicory, corn, beans, potatoes, and other articles, all of which have to be roasted or partially charred before they can be mixed with the roasted coffee. In order to detect these adulterations, it is necessary to become well acquainted with the characteristics of the genuine and adulterating articles respectively.

The coffee berry, previous to roasting, and even after it has been soaked for a long time in water, is hard and tough, in which respect it differs from all those substances which are used in its adulteration, and which become softened by immersion in cold water; the hardness of the coffee-berry is even retained subsequently to the charring, and is so great that by this character alone, the fragments of the ground and roasted coffee-berry may be easily distinguished from those of chicory. It consists of an assemblage of vesicles or cells of an angular form, which adhere so firmly together that they break into pieces rather than separate into distinct cells. The cavities of the cells include, in the form of little drops, a considerable quantity of essential oil, upon which the fragrance and active principle of the berry depend. The testa, or membrane presents a structure very distinct from that of the substance of the berry itself, and when once seen it cannot be confounded with any other tissue which has yet been observed entering into the adulteration of coffee. It is made up of elongated and adherent cells, forming a single layer, and having oblique markings upon their surfaces. The quantity of this membrane present, in a broken and divided state in any sample, affords, therefore, some clue to the quantity of coffee contained in it. When the coffee is roasted, the essential oil wholly disappears; partly arising from the heat, and partly from its being diffused throughout the cavities of the cells. Chicory, on the other hand, is the root of a plant; the chief bulk of the root being made up of little cells which are generally of an *elongated* form, but sometimes *rounded*; and which, unlike the cells of the coffee-berry, separate from each other with great readiness, and present appearances which, when once observed, cannot be mistaken. Chicory, owing to the absence of essential oil, readily imbibes water, and when immersed in that fluid, becomes soft, in which also it differs from the roasted coffee-berry.

Corn, deprived of its investing tunics or husks, consists of a net-work of cells, in each of which a variable number of starch granules is included.

These granules differ in character in different plants. In the majority of the corn tribe, the granules are flattened and rounded discs, of moderate size, are obscurely marked with a number of concentric rings. Beans, and Peas, deprived of their seed covering, possess a structure altogether analogous to the grain of corn; the granules in the pea and bean are large, oval, sometimes uniform, and the central cavity is of an elongated shape presenting the appearance of a furrow under the microscope. The structure of the potato resembles, to a great extent, that of the corn, pea, or bean; after boiling, the cells readily separate from each other. These cells present a somewhat fibrous appearance, and are of course much larger than the starch granules, many of which are contained in each cell. The granules, as seen in potato flour, are large, oval, and beautifully marked with concentric rings; but in the boiled potato, they lose much of their form and beauty, and become generally misshapen and collapsed.

To detect roasted corn, peas or beans, in coffee, make an infusion of the suspected coffee, decolourizing it as much as possible by means of animal charcoal, and testing the cold liquor with an aqueous, or an alcoholic solution of iodine, which, in that case, will produce the characteristic blue colour indicative of the presence of starch.

Another method of detecting the presence of *chicory* in ground coffee, is to moisten a little of the suspected coffee and roll it between the fingers; it will, if any quantity, form a little pellet or ball, whilst the pure coffee treated in the same manner, cannot be agglomerated, and remains in powder. Or, throw a portion of the suspected coffee into a glass of water without stirring the coffee remains for a while floating on the surface, but the ground chicory absorbs the water immediately, and falls to the bottom of the vessel, imparting a yellowish or brownish yellow colour to the liquor. If the coffee under examination, instead of being thrown into a glass, be put into an inverted bottle from which the bottom has been removed, or into a funnel, the chicory which falls down first may be at once separated by adroitly removing the cork, and collecting the chicory in any convenient vessel placed underneath, after which it may be easily identified by its taste and pastiness. If torrefied *ground rice, corn, roasted biscuit, or bread*, be mixed with the coffee or chicory; the chicory absorbing water more rapidly, will fall to the bottom first, and may be separated by the means referred to.

As the ashes of all vegetable substances are white or nearly so, should the ashes of burnt coffee appear red, or a rusty red colour, it is a sure sign that a mineral, such as venetian red, ruddle or some other analogous substance has been mixed with the coffee. See the *Lancet, Normandy's Commercial Hand-Book, &c.*

COCOA.

Cocoa is the bruised seed of the tree *Theobroma cocoa*, cultivated chiefly in the West Indies. Simply bruised, the seeds constitute the cocoa of the shops; reduced to a paste, mixed with sugar and flavoured with vanilla, they become chocolate. These articles are said to be adulterated in many instances to a great extent, but as the detection of the adulteration requires an intimate knowledge of the properties of the genuine nut, and of the matters usually mixed with it, it is attended with considerable difficulty. The most pernicious ingredients said to be mixed with this otherwise grateful and nutritious aliment, may however be discovered by simple analysis.

To detect mineral substances or earthy matter in cocoa—Incinerate, that is, burn to ashes, an ounce of the suspected cocoa, and weigh and test the ashes. If chalk or carbonate of lime be present, an effervescence will ensue on the application of a mineral acid. If the presence of any of the red earths be suspected, as these all contain iron, the ash should be tested for this metal, for which purpose it should first be treated with hydrochloric acid, this should afterwards be diluted, and the proper re-agents applied. Another mode of treatment, recommended by Dr. Normandy, is to grate 500 grains of the suspected article, into as fine a powder as possible, and throw it into about half a pint of cold water, stir the whole briskly for about ten minutes, leaving it at rest for about two minutes, and decanting the supernatant liquor. The earthy matter will then have subsided and will be left as sediment.

The presence of animal fats with which cocoa and chocolate are frequently adulterated, may be detected by the palate; for the chocolate generally has in this case a cheesy or rancid flavor, altogether different from the flavor of the genuine article. By exposing the suspected article to the atmosphere for a few days the fatty matter will become rancid.

PEPPER,

PEPPER, is the berry of various kinds of plants which grow principally in India, Java, and the Eastern Islands. The difference between Black Pepper and White Pepper is, that the latter has been divested of its outer coating by blanching, and is consequently much less pungent and strong than black pepper. These articles, when ground, are frequently adulterated with ground oil cake, linseed meal, rice, and other like substances.

The presence of adulterating ingredients in Ground Pepper may frequently be detected by the use of a microscope; but before we can make

such an examination available, we must become acquainted with the characteristics of the genuine and adulterating articles respectively.

The *Lancet* gives the following hints for attaining this requisite knowledge:—When Black Pepper is diffused through water, little particles, of three different kinds, intermixed with a fine powdery substance, are visible; some of these black, others reddish, and the last white; the black are the fragments of the outer, and the red those of the inner cortex, while the white are the pulverized seed itself. The powder is formed of the cells of the seed, some united in twos and threes, but the majority either separate and entire or broken to pieces, as well as of starch granules of extreme minuteness. In the black particles but little evidence of structure is to be seen; and where doubt is entertained of their nature it is necessary to bleach them with chlorine, and then examine them. In genuine white pepper, no black fragments ought to be seen, but numerous reddish brown particles are always present, usually adherent to the white cells which form the central part of the berry. So great is the quantity of starch in the seed or centre of the berry, that the cells, when touched with a solution of iodine, become deep blue. *Linseed* has two coats; the outer gives polish to the seed; in its cells the mucilage which linseed yields so abundantly is contained; the inner coat has narrow elongated cells. The oil is in the outer particles of the seed, and the starch in the inner. When reduced to meal, these structures, by a little patient investigation, may be detected; the parts most frequently seen, being fragments of the fibrous coats and little masses of starch, the appearances of which can be easily distinguished from the characteristics of pulverized pepper. *Mustard Seed* is readily detected, even when ground into powder. The external membrane is formed of large transparent and nucleated cells; the second is formed of very minute angular cells, containing part of the coloring matter; the third is composed of cells, two or three times larger than those of the second coat. *Rice* is easily distinguished by its colour and the angular form of its particles. *Wheat Flour* and *Pea Flour* are well known, and need no description. In fact, no description of these adulterations can supply the place of experience and close investigation. A useful mode of proceeding, is, to get samples of each kind of the adulterating ingredients most commonly used, ground to meal, and then closely inspect them by the microscope. We may then become more familiar with their characteristic features, so as to be able to detect their presence when in combination with ground pepper.

To ascertain whether ground pepper be genuine, and of a good quality the best way is to find the amount of piperine contained in it. This may be

done by treating 1,000 grains, for example, of pulverized pepper with alcohol of specific gravity, 0.83. until they are exhausted. The solution is then distilled to the consistence of an extract, the extract so obtained is then mixed with a solution of caustic potash, which dissolves the resin, and leaves a green powder which should be first washed with water, and then dissolved in alcohol of specific gravity 0.833. By spontaneous evaporation, the solution yields quadrilateral transparent obliquely truncated crystals of piperine, which are tasteless and inodorous, insoluble in cold water, and sparingly soluble in boiling water, from which they separate on cooling; soluble in alcohol, especially with the help of heat: the alcoholic pepper yields about $1\frac{1}{2}$ per cent. of piperine, and of course, if the article be adulterated, the reduced proportion of the piperine obtained, may serve to indicate the quality of the pepper, or the extent of the fraud.

To detect imitation Pepper, or P. D., when made of mustard, &c.— Throw a certain quantity of the suspected pepper into tepid water; the genuine pepper remains solid, and retains its spherical shape, whilst the spurious grains swell out, soon become soft and gluey, and on stirring become disintegrated, and fall into powder.

THE RETIRED MERCHANT.

There is a period for which most men look—for retirement from the cares and labour of life; it is an indefinite period, but is expected by nearly all to be reached sooner or later. The farmer expects to leave the plow, the mechanic his work-shop, the author his labors in the field of letters, the physician his practice, the lawyer his profession, the artist his studio, and the merchant his counting-room: all intend to go into retirement. The farmer, perhaps, intends to live at ease on his old homestead, lie in the shade of trees of his own planting, and wander over fields which his own industry has subdued; the mechanic, the author, the physician, the lawyer, the artist, and the merchant, have each their favourite phantom, and each has constructed an "air-castle" according to his peculiar taste, where he proposes to spend the last years of his life in the enjoyment of undisturbed pleasure. But, as the merchant, from the precarious nature of his employment, indulges most deeply in these anticipations, we propose to follow him in his retirement, and make him a type of the whole. He, like his predecessors, time out of mind, will occupy his new mansion on the avenue! He has been years planning and building it, and it is finished at last, and ready to occupy; his "air-castle" is finally made to take a substantial form.

It is a massive edifice; ships have sailed to and fro to gather the materials used in its construction and embellishment; artists of rare skill have been em-

ployed in superintending its erection from the time the first turf was lifted until the crowning cope-stone was set upon it; the ample grounds are coursed by a labyrinth of walks, overhung with trellised vines, and set thickly and orderly with curious and beautiful trees, and in the midst of all, a fountain throws its sparkling jets of spray far up in the sunlight. Men gaze upon it as they pass, and learn to look with contempt upon their more humble homes; young men look upon it despairingly, and wonder when they too shall become retired merchants, dwelling in princely mansions! Having neither time, taste, nor inclination to direct the furnishing of his new home, the merchant leaves it mainly in the hands of others, and they furnish the decorations and needed furniture; the spacious halls and rooms are filled with the latest styles of workmanship, and the walls are hung with quaint and costly specimens of the painter's art.

The library room receives much attention, and great skill is expended to render it attractive; not being very much acquainted with books, the merchant gets a connoisseur in literature to select for him; he looks to the library for his greatest happiness, when the cares of business are at last laid aside—at least he knows it is essential to every well furnished dwelling. His place of business is now occupied by another, and his old home too, is inhabited by strangers. He left both reluctantly, for there were associations connected with both which he could not forget; there he won his early triumphs as a trader; there he launched his ventures on the sea of speculation, and saw them return laden yet deeper by the profits of exchange; there he made the acquaintance of those who became his companions and rivals in business; he will meet them now less frequently, and with less pleasure, for they no longer have common interests; when they call upon him in his new home upon the avenue, they will be received with painful formality, and the merchant will call to mind their familiar meetings in the counting-room and on 'change, and wonder what has come over the spirit of his dreams! And there in his old home, which had grown too unpretending for his ambition, he enjoyed the fruits of his early business life, and there, day by day, the wife who presided over it shared the joys of his triumphs, and mingled her sympathies with his misfortunes. But these things are all of the past! His great gains are securely invested; he watches no longer with pleasing anticipations the issue of any adventure; the wheel of fortune has rolled to him its golden treasures, and he at least sees the hopes of a life-long ambition fully realized.

The merchant has finally reached that situation in life which most men look forward to, and expect, or at least hope, to attain. Wealth is a precedent condition to its attainment, and none expect to reach it without; it is the central idea, towards which all physical and mental labor is attracted—the great incentive to all effort—at once the means and the end. Hence the dominant idea with the masses is to get wealth; not so much as a means of securing rational enjoyment for present, as to purchase it in the future. The man who is toiling more like a galley slave than a rational, free agent, and denying himself of even life's poorest pleasures, will find a ready apology for his foolish course in the promise he has made himself of retiring from business after he has secured a competence. Indeed, this is the subterfuge of most men who are starving the soul and killing the body in laying up riches; the merchant promised himself a respite from labor and care, for years before he closed his business, and went on the avenue.

The avowed object in casting aside care and business is to find time and means to enjoy real happiness; this is the phantom men pursue through life, and for which they prepare as for a feast. In what true happiness consists, or, in other words, what it is, has been the subject of much speculative philosophy, and it involves not less than a solution of the problem of life itself. We defined it as a state of enjoyment; but the question which concerns us most deeply, is, how can the mind be best prepared to harmonize with external objects? Enjoyment is perception with pleasurable sensation or emotion; but as all sights which are in themselves beautiful, and all sounds which are in themselves harmonious, do not strike the eye and ear of all alike, they cannot be said to be, as to some, either beautiful or harmonious, and consequently can produce little or no sensation of pleasure. Experience teaches us that where there is no harmony of thought or feeling, there can be no pleasurable association of mind with the external objects in nature, or of mind with mind. The mind which has been educated in one direction, is not turned in another, without for a time producing unpleasant emotions; the man who has spent his life in the mechanic shop, would enjoy himself but sadly were he to undertake a journey among the rocks with a geologist: the matter of fact man of business finds no associations consonant with his nature and education among the woods and hills, while the poet and man of letters calls them his companions, and communes with them as with familiar friends; and the common laborer sees no more beauty in the finest painting than in the coarsest wood-cut, while the artist, with practical eye, views them widely apart, and awards to each its true merit. We say of the mechanic, the man of business, and the laborer, that they have not sufficient capacity to comprehend the worth and beauty of these several objects, while, in truth they may not lack the capacity, but only culture and familiarity with them! They reap no enjoyments from these contemplation; and if transferred from their accustomed vocations, where such objects and scenery predominated, they would be far from true happiness.

We are now prepared to follow the merchant to his new home—or, more properly, to his new state of existence—for the change has been so radical that he seems to have lost his identity. The world pronounces him the happiest of men; let us see if, from the nature of things, this can be a correct opinion. Commencing early in life with nothing beyond a requisite business education, he determined to attain a position of affluence; he has reached it, but it has cost him years of unremitting toil and painful anxiety. His mind has tortured itself with schemes of speculation, all bearing upon the one grand object of life, the attainment of wealth; it has not been permitted to be turned aside for a moment to contemplate any object of pleasure, lest some golden opportunity of gain should elude his grasp. He has travelled but little, and only from necessity, and then, with his mind so absorbed in business, as to derive no beneficial knowledge or substantial pleasure. He has read no books in connection with his ledger, has formed no attachments to society outside of his immediate calling; has cultivated no taste for the beautiful in nature or art; yet from these sources must he draw that happiness which he has devoted the best years of his life to secure. What will he do in his new home! Before his mansion is a landscape, in miniature, with trees and shrubs, clustering vines and flowering plants, with a fountain not unlike a natural cascade; but how are these to minister to his happiness? He knows the utility of wood in the construction

of warehouses, stores, and dry-docks, and in the building of ships and canal boats for the transportation of grain and merchandise, and of water as a highway of trade and traffic, and for the propulsion of machinery ; but beyond this he knows and cares nothing—the theory of his life has been utility. He will stare at his rare paintings as the fool stares on vacancy; but a delineation of some plan for labor-saving machinery, whereby a gain of twenty-five per cent., net, could be effected, would make his eyes beam with intelligence.

The library, which cost so much, and which contains all the standard works of art, literature, and science, affords but little of its promised pleasure, and why should it? The merchant is surrounded by a wilderness of books which he never read, and of which he never even heard. Here he entertains his old companions when they call occasionally to see him; and if he does not tell them during conversation, that “Mr. Waverley has written several good books,” his ignorance perhaps will lead him to commit some blunder equally absurd. He is not at home in his library after all; he is sorry for it, for here he rested his main hope of happiness; but it is now too late to enjoy even a small portion of the rich harvest of learning which genius and labor have gathered around him, and the thought but adds another pang to the sorrows of his retired life. As wealth is a precedent condition to retirement, so is knowledge to the enjoyment of happiness. The merchant has wealth, but not the knowledge necessary to enjoy it. Put him in possession of both, and happiness would follow as a consequence; but having but one, he fails in securing the one great object of life.

The love of study and meditation, when once acquired, outlive all other passions of the human mind. When all the fascinations of the world become powerless; when its passing glories are no longer heeded, and power itself is despised, then the mind, like a good angel, gleams up the past, and brings its golden sheaves of thought and fancy to minister to the necessities of faltering old age.

This leads us to remark in conclusion, what must be obvious to every observing mind, that, with us, too little time is given to mental culture in connection with the active duties of life. It is not sufficient that the young man begins business with the little he has learned in the college or academy; the labor of each successive day should be relieved by a season of study, for in this way there is a necessity created, which to satisfy, becomes a constant source of pleasure. And when he finally goes into retirement, whether from the mercantile profession, or any other department of business, he will carry with him the love of the true and the beautiful as a part of his very being, and will journey the down hill of life in the enjoyment of that serene happiness which it alone can secure.—*American Merchant.*

From Hunt's Magazine.

CAUSES THAT PRODUCED THE CRISIS OF 1857, CONSIDERED.

It is now more than a year since the commercial and financial crisis of 1857 broke upon us. It came suddenly and unexpectedly. It was intense, wide-spread, and painfully disastrous. A few persons were expecting what is

called a "change of times," a depression in business, and an unusual scarcity of money, but no one had the slightest conception of the reality. The time that has elapsed since it occurred favors an impartial investigation as to the cause or causes, both because the feeling produced has somewhat subsided, and because facts have been developed throwing light on the subject.

The importance of understanding this matter can scarcely be overestimated. It was a great public calamity, and not occurring in consequence of war, pestilence, or famine, nor from any extraneous or outside influences, and full statistics existing in regard to all the great interests of the country for many years, there is every reason why the subject should be so thoroughly understood as to produce general unanimity of opinion among intelligent men in regard to the causes. But how different is the fact. There are scarcely any two who agree, and especially in details—many judge from their own standpoint or experience, not looking at the whole subject; others, and they are numerous, have special theories by which they explain every fluctuation in business—and then the great mass are ignorant and look outside and beyond themselves—they are right and all else is wrong; this is their reasoning.

There are four great operating causes, or controlling interests, that have undoubtedly exerted, and that do exert, at all times, a marked influence upon the business and the prosperity of the country, namely, our banks, banking, or monetary system; the tariff; speculation and over-trading; and the credit system. Most of those who have written on the subject, so far as we have been able to ascertain, have attributed the crisis of last year to some one or all of these causes.

While all these act reciprocally upon one another, and each and all have more or less influence in shaping and directing our business as a whole, we think they have each, respectively, exerted a widely different influence in regard to the crisis of last year. This we propose to consider briefly; and we shall take up these interests in the order in which they are referred to above.

The time was when the monetary system of the country could be discussed on its merits. General Jackson's opposition to the United States Bank, caused the Bank question to become a political question. At first it was simple opposition to a national bank—not on its merits, but because it used its influence for political purposes—and approval of State banks. The latter were created in great number, without much regard to the wants of the community, and, not unfrequently, for party purposes, to insure political ends. All such were in the main, as a matter of course, unsuccessful. "Down with all banks" became the party cry; all good Democrats were expected to oppose banks, and all good Whigs to approve of them. Thus the banking question became a leading party question, and it was discussed in the same spirit that prominent party questions are discussed in times of high party excitement. Prejudice, and not reason and judgment, was appealed to. Triumph was the object, and not truth. Although this question has, to a great extent, ceased to be a foot-ball in politics, there is a popular prejudice against banks and paper currency that is ready to attribute all unfavorable fluctuations in business, whether confined to an individual or extending

over the country, to them. Much of this prejudice arises from ignorance of the nature and the functions of money, and of banks, and of paper currency.

What is money, and by what law is it governed? Money consists of gold silver, and copper coined. It is governed substantially by the same laws that regulate other property. It possesses a real cost value, and is the standard, or measure of money value, or of exchangeable value of all commodities in any and all communities where it is used and circulated as with us. Paper money has no intrinsic value—a bill of \$100 is worth no more of itself than a bill of \$1. It is a representative of property, or evidence of debt. It is not a measure or standard of value; neither does it influence prices any further than so much credit. It is a substitute for gold and silver, as a check, or a draft, or a bill of exchange, or a negotiable note is. A in Boston wishes to pay \$100 in New York; he procures the amount in a bank bill, or a certified check, or in a draft, or bill of exchange, suiting his own convenience, in whatever form he selects; to him it is paper money, more valuable under the circumstances than coin, although it has no cost value, and is simply a representative of property, or evidence of debt. It is a substitute for coin or property. Money, both real and paper, is a motive power in business. It facilitates business and the exchange of products. Supply and demand, in a measure, regulate its value. The amount required by a community is determined by the amount and the character of its business, the method of transacting that business, the geographical extent over which it is spread, and the facilities of communication. One community of equal population with another may have ten times the amount of money of the other, and still have very much less in proportion to its business wants. Whether money is plenty or scarce is not ascertained by the number of the population, neither is an increase of money or banking capital to be determined by comparing the amount at one period with that of another. It is regulated by the amount of business—this is the only true criterion.

Banks are the aggregation or association of previously acquired individual wealth. They do not create wealth of themselves any more than does a plow or a hoe. They aid and facilitate business as a steam engine aids and promotes mechanical production. Business exists and banks are required; they are not the forerunners but the followers of business. Business is made or created in a community, and a bank is required as a place of deposit, to collect and to facilitate the transmission of funds between different points, and to provide a currency. In these and other ways they aid in creating wealth; they are a labor-saving machine, one of the most important of modern times.

In the few suggestions we propose to make in regard to the influence or agency our banking system and paper money had in producing the crisis of 1857, we do not intend to discuss the whole theory of banks and paper money, but to take a practical view of the working of the system as developed through well regulated banks. It is contended by one class of writers, and they are very numerous, that not only the crisis of last year, but that all

disturbances in our financial and commercial affairs, arise directly or indirectly from our banking system. To this class belongs the Hon. Amasa Walker, of this State. He takes extreme or ultra views of the subject. He published a series of articles in this (Hunt's) Magazine, all but one prior to the crisis, discussing the points at issue. We propose to refer to these articles, not considering every point, but some of the more prominent ones, rather as preliminary to the main question. Mr. Walker is an able writer, has studied and taught political economy, and has had a large experience in business, and he has undoubtedly made the most of his case.

We begin with his article in the August number of 1857, on "Mixed Currency—its Nature and Effects."

He assumes—1. That a mixed currency is fluctuating, both in quantity and quality.

2. That not having the cost value of gold and silver it can perform well only one function of money, to-wit, that of medium of exchange.

3. That it is not correct as a standard of value, consequently, it is local in its use—money at home and "moonshine abroad."

4. That it causes an extension of credits, demand for foreign products, and the export of specie.

5. That it stimulates and depresses credits.

6. That it produces bankruptcies, which, he says, occur, "just in proportion to its expansibility and contractibility."

These points are argued somewhat at length, and a variety of bank statistics are given by way of illustration and proof. He says, "fixing our eye steadily on these great facts," (namely, the fluctuations of a mixed currency in quantity and quality,) "we are enabled to account for all those frightful convulsions in the monetary world which we know take place," such as "overtrading," "speculation," "gambling," "recklessness," etc., etc. It is very clear from the language that Mr. Walker believes our banking system to be an unmixed evil—in fact, the root of all evil, commercially and financially considered.

The first point, to-wit, "the fluctuations in quantity and quality of a mixed currency," is extremely important. Much of the error and prejudice concerning banks arises from not understanding clearly the rules or laws that regulate the issuing of bank bills and the true criterion of their value. In the main, supply and demand regulate their amount and their exchangeable value, or what is the same thing, their "quality."

A bank is established for its dividends and to facilitate business. It is clothed with limited and well-defined powers, and is managed by, or under the control of, a board of directors. It has four sources of profit—its capi-

tal, its deposits, its circulation, and its exchanges. Its circulation, that is, the amount in bills that it can have out at any one time, is limited by law, and depending upon the amount of specie on hand. The amount of its discounts is also restricted by law, and, as a general thing, cannot exceed at any time twice the amount of the capital. From them its profits are chiefly derived. When they can be increased and kept up to the limit without issuing bills, as they can in case of large deposits, the bank prefers not to issue bills, and in many instances, where the law allows it to use those of another bank, it does not. It is a common opinion that a bank can, and that it does, at pleasure, increase and diminish its circulation; and that the banks do capriciously affect the money market in this way. This is a great mistake. The true interest of the bank lies in having its customers, and the public generally, successful; consequently it acts with caution and prudence, doing all it can to promote the public good, consistently with taking care of itself. It never issues bills gratuitously, nor without securing or putting into its vaults their value. Every bill going from the bank is a debt against itself, payable on demand; and it is in the hands of the public, who, as it regards the bank, are jealous, unfriendly, and uncharitable.

The interest of the bank, and that of the public, depend reciprocally upon each other; the bank will do all it can in safety to accommodate the public; more than this the public have no right to expect, nor the bank to grant; and it is not only untrue, but absurd, to say that the bank increases or diminishes its circulation capriciously. It might be said with as much propriety that a prudent and responsible merchant buys and sells his goods in the same way. A merchant, in making his purchases, goes into the market, remembering that there is a pay day; in selling, he keeps steadily in view the question of getting his pay; and, not only so, of getting it in time to meet his own payments. This is the principle of the bank. They both may, and do, make mistakes—infallibility is not an attribute of humanity. We find a great *fluctuation*, as Mr. Walker says, in the amount of bank circulation, not only at periods distant from one another, but at different seasons of the same year, and also in different sections of the country, and he produces a variety of statistics in proof.

This *fluctuation* we regard as perfectly natural, forming no argument against a paper currency. If paper money of itself made the corn grow, built and equipped the factory, pegged the boots and shoes, constructed the railroad, it might be. Its office is of a very different character. After the corn is grown and ready for market it comes into aid in selling it, and in distributing it to consumers over the country. It lends its aid in the same way in scattering over the country all kinds of merchandise. The factory that turns out a million of dollars' worth of goods, the 80,000 people in Massachusetts engaged in making shoes, say amounting annually to \$50,000,000, are all benefited in the same way. As this corn, these goods, and boots and shoes are chiefly sold during five or six months of the year, it is very natural that more money should be required at one time than at another, causing a "fluctuation" in business, and a corresponding "fluctuation" in the amount of paper money in circulation.

Supposing the corn crop should fail, or partially so, and there should be scarcely any to send to market; supposing the factories should stop, or run half time, and supposing from any cause there is a great depression in business, a "fluctuation" in the amount of paper money in circulation ensues, comparing one year with another, just as it fluctuates in a single year by crowding the business into a few months; this is a logical and legitimate result. Objection might be made with the same propriety to a railroad, because there is a fluctuation in the number of cars sent over it daily, monthly, or yearly, as to our banking system, because of the fluctuation in the amount of bills in circulation. The number of cars is graduated by business and by passengers. Passengers go West to buy corn, and others come East to purchase the products of the factory and boots and shoes. These articles are sent simultaneously in their opposite and respective directions, creating a necessity for a number of cars and a larger amount of money at one time than at another. The condition of the banks in 1857, as compared with 1858, illustrate our argument:—

	Capital.	Specie.	Loans and discounts.	Circulation.
In 1857.....	\$370,834,688	\$58,349,838	\$684,456,887	\$214,778,822
In 1858.....	394,622,797	74,412,832	583,165,242	155,208,344

Business is extremely light this year as compared with the last, and we see that while the banking capital has been increased very considerably, the loans and discounts have diminished more than \$100,000,000, being about one-sixth; the circulation has decreased about \$60,000,000, more than a quarter; and the specie has increased nearly a third, upwards of \$16,000,000. This condition of the banks is not a matter of choice, in respect to decrease of loans and circulation, but of necessity. Their circulation, business having fallen off, is not required, and, as a matter of course, it returns to the banks.

The error in Mr. Walker's argument is fundamental. His premises are wrong, and, as a matter of course, his conclusions are wrong. He puts an effect for a cause. He assumes that the banks create and regulate the business of the country, when, in fact, the business exists, and the banks come in to afford facilities for transacting it.

His method of determining the value of paper money (he calls it the "quality") is certainly erroneous. Assuming that it may be worth at one time 90 per cent., at another only 50, at another only 10, or even 5 per cent., he comes to this conclusion by comparing the amount of specie in the banks, at a given time, with the circulation. For instance, in 1840, the circulation of all the banks in the United States was, in round figures, \$107,000,000, and they had only \$33,000,000 in specie, leaving the bills worth, by this criterion, only 31 per cent. We are at loss in determining why Mr. Walker adopts this method in discovering the value of the circulation. Why should specie be regarded as the true exponent of the value of our currency, or the debts of the banks, any more than it should be of the debts of individuals or of the community? It is a well-known fact that deposits are as much a debt in all respects against a bank as circulation. In 1840,

these same banks owed to depositors, in round figures, \$76,000,000. The depositors have the same right in law and equity to draw out the specie that the billholders have, and, as a general thing, they could do it with greater facility, having larger amounts, while the bills are scattered over the country.

If the value of a bank's indebtedness is to be decided by its specie, certainly the deposits should be an element in the calculation. In the case cited, the result would be very different from Mr. Walker's conclusion. The deposits added to the circulation made \$183,000,000, leaving the bills worth not 31 per cent., but 18 per cent. Now we regard this criterion, of judging the value of bills, as utterly fallacious, for a variety of reasons.

There may be two banks having each \$200,000 as a capital, and each having \$100,000 in specie and \$300,000 in circulation, and yet the bills of one may be worth in fact twice as much as those of the other. This is not an extreme case, and to a man who is acquainted with banks it is obvious, and at once understood. It is true a bank agrees to pay its bills and deposits in specie; but scarcely any person makes a deposit in a bank, or takes one of its bills, with reference to its specie. Other considerations control him. As a general rule he prefers not to take the specie; when he does, it is an exception. There are but about four cases in which a man wants coin, namely, to send abroad; to pay government; to make change; and to make a legal tender in case of anticipated litigation. This view was most strikingly exemplified last year, at the time our banks suspended. Although it was expected for weeks, and known for days, that they would suspend, there was no run upon them. Nobody doubted their solvency, or judged it by their specie. Let us examine a moment, and see where this criterion of Mr. Walker's will lead to.

As I have before said, the banks promise to pay their debts in specie. So do the savings banks—so do all merchants—bonds and mortgages, and all obligations of every name and nature, are payable in specie. The deposits in the savings banks in Massachusetts in 1856, amounted to upwards of \$30,000,000, and they held less than \$500,000 in specie, leaving, according to Mr. Walker's criterion, the deposits worth a fraction over one and a half per cent. We have no doubt that the individual and corporate indebtedness of the country at the time of the crisis of last year was, at the lowest calculation, *five thousand millions of dollars*, all payable in specie, and the specie in the country did not much exceed two hundred and fifty to three hundred millions, leaving the debt worth about 5 per cent. It is only necessary to carry out Mr. Walker's reasoning to its ultimate results to expose its absurdity.

The second general argument of Mr. Walker is, that paper money, not having the cost value of coin, can perform well only one function of money, to wit, that of medium of exchange; and not being a standard of value, it is local in its use—"money at home, and moonshine abroad."

The enemies of our banking system have a peculiar way of reasoning. Not content with charging upon the banks all the evils which business is heir

to, they attribute to them and paper money certain powers or functions which no friend claims they possess, and then proceed in the most formal manner to prove that they do not possess them. This is precisely what Mr. Walker does. He objects to paper money because it has not the power of coin and because it is not a standard of value. He might as well object to a horse, because it is not a cow, or a steamboat, because it is not a railroad car. We must take paper money as it is. It has no value *per se*. It is merely a representative of property—it cannot, in the nature of things, be a standard of value. It is simply a medium of exchange within a limited sphere; that is, where it is known. Where it is not known, it is as Mr. Walker says—“moonshine.”

The third general proposition of Mr. Walker is, that paper money causes an extension of credit; an increased demand for foreign products; and, consequently, the export of specie. All this comes to us in the form of mere assertion. Still, it may be true. We are not favored, however, with either facts or arguments to aid us in determining the case. The old syllogistic system of logic is relied upon:—the banks produce all our commercial and financial evils—the extension of credit is an evil—therefore the banks caused it.

It is impossible to determine from facts whether our system of money produced the results alleged, so far as the extension of credits and the increased demand for foreign products are concerned, for we have no facts or figures that directly bear on the subject. This is not true, however, in regard to the export and import of specie; we have reliable statistics concerning them, and also of the amount of paper money in circulation each year, at least for the last thirty years.

The excess of importations over the exportations of specie for each five years from 1830 to 1849, inclusive, is as follows:—

From 1830 to 1834.	From 1835 to 1839.	From 1840 to 1844.	From 1845 to 1849.
\$24,812,910	\$31,327,885	\$15,939,560	\$9,315,676

From 1850 to 1854, our exports of specie were largely in excess of our imports. The excess in these five years amounted to \$121,806,669. In 1855, the excess was \$52,587,531; in 1856, it was \$41,537,855. In seven years, from 1850 to 1856 inclusive, the excess of exportation of specie was \$215,932,055.

We will see for a moment how the movement in specie squares with Mr. Walker's argument. These statistics, and those of the banks, are the only reliable facts we know of that directly bear on the question; and what are the facts, and what do they teach us? and what are fair logical deductions therefrom?

After examining carefully, and we think critically, the bank statistics, and also those of all the great interests of the country, we have come to the conclusion that the banking capital and the amount of paper money in circula-

tion have decreased, from 1830 to 1856, inclusive, a period of twenty-seven years, three quarters; that is to say, in 1856, the banking capital and the paper money in circulation were each only one-quarter as much as in 1830; therefore there has been a decrease of three-quarters in the period named. This decrease has not been uniform from year to year, but in the aggregate the result is as we have stated, and in considering another branch of the subject we shall attempt to demonstrate it.

It will be borne in mind that Mr. Walker's argument, or rather assertion, is, that paper money causes an extension of credit, an increased demand for foreign goods, and consequently the export of specie. We contend that facts disprove his conclusion, and therefore his assertion falls to the ground.

From 1830 to 1836, inclusive, a period of seven years, we imported \$42,252,113 more specie than we exported. From 1850 to 1856, in the same length of time, we exported \$215,932,055 more than we imported. In the former period the paper money in circulation, in round figures, was four dollars to one dollar in the later, and yet we imported specie largely, and in the latter exported still more largely. Now, it may be said that during the latter period we were producers of specie, and as a matter of course, exporters. Admit this for argument's sake. Our facts are then conclusive as against Mr. Walker's assertion, for from 1830 to 1849, there was a very rapid decrease in paper money, and also a large diminution in the importations of gold and silver. From 1830 to 1834, we imported \$24,812,910 more specie than we exported; from 1845 to 1849, we imported \$9,315,676 more than we exported. Here is a falling off between these two periods of two-thirds in the importations of specie, and the paper money decreased about in the same ratio. Now, if these facts stood in the relation of cause and effect, we should have strong grounds for concluding that paper money brought specie into the country. But we do not assume this. We simply say these facts disprove conclusively Mr. Walker's assertions, that paper money necessarily drives specie out of the country. We wish to discuss the question fairly. A good cause is not strengthened by claiming for it what it does not possess, neither is a bad cause overthrown by denying it the little good that may rightfully belong to it.

Mr. Walker's next assertion is, that "paper money stimulates and depresses credit." Volumes have been written in favor of this statement, and yet we have seen no direct proof of the statement in the sense in which it is intended it should be understood. It is obvious, however, that whatever enlarges the sphere of business, extends improvements, or stimulates production, evidently, under our *vicarious credit system*, "stimulates and depresses credit." Our whole commercial system is floated along on credit. If the proof of this depended upon the cash transactions, that is, on the exceptions to the general rule, they are really too small in number to prove it. But more of this at another time.

The next point we notice is, Mr. Walker's assertion respecting paper money, that bankruptcies occur "just in proportion to its expansibility and contractibility." Here is great exactness, considering there is no proof, excepting the following statement. He says:—"We have seen it asserted, but

do not recollect upon what authority, that the comparative bankruptcies among business men in the different countries named were as follows:—In France, 15 out of every 100; England, 35; Scotland, 60; United States, 80.” This comparative statement would be much more forcible if it were more comprehensive. If Mr. Walker had only “remembered” about other countries—for instance, in Asiatic Turkey, among the Bedouins, 0 out of every 100; in European Turkey, 1; in Rome, 2; in Spain, 3; in Portugal, 4—he would have had a regular progression, not only in figures, but as it respects currency and banks, or bank facilities. In Turkey they have a purely specie currency; in Rome, only now and then a fugitive check or draft is seen; in Spain, paper money of the same kind is a little more frequently used, and so in Portugal; and when we reach France, we find modern paper money and a great increase of failures. Now, we have no doubt that failures among business men occur in the long run very much in accordance with this comparative statement, taking it as a whole; but to charge it to paper currency is contrary to fact, and simply absurd.

In California, and also in Australia, where they not only have a specie currency, but produce specie as an article of commerce, there are more failures and a more rapid and extreme fluctuation in the prices of goods than in any other part of the world. In France, and before the establishment of their present bank, which Mr. Walker views with such an unfriendly eye, there were instances of the wildest, the most senseless speculation that ever occurred; during which the number of failures and bankruptcies exceeded greatly anything that took place with us even in 1837. The crisis of last year was felt with more intensity in Hamburg and other parts of Northern Europe, where they have no paper currency like ours, than it was with us. Failures were more rapid, and the panic more sudden, complete, and all-pervading than even in New York. And there is still another fact bearing pertinently upon this point. There is more banking capital and paper money in New England, and, according to Mr. Walker’s criterion, of less value, than in any other portion of the United States, and yet last year the failures were fewer in proportion, and, with one or two exceptions, less disastrous, than elsewhere.

The true cause of mercantile failures lies much deeper in our system than paper money. It is to be found in the characters of our race. The Anglo-Saxons are the pioneers of modern civilization and improvement. They are adventurous, enterprising, and far-seeing. There is no spot on the face of the earth, however remote or difficult of access, they will not visit, provided it promises to put money into their purse. This adventurous spirit characterises them at home as well as abroad. We conquer countries; lay out, people, and improve States; cut down forests; cultivate farms; open mines; construct railways and erect factories, with a rapidity unknown and incomprehensible to the old countries. Cincinnati, of forty years’ growth, contains more inhabitants than Madrid, the largest city of Spain. Wherever such rapid improvement exists, and such extraordinary enterprise prevails, there will be much of rash adventure, failure, and vicissitude. Such results are natural, and no more depend upon paper money than the difference of character and temperament existing between our own people and those of Catholic Spain and France depend upon, or grow out of, paper money.

To be Continued.

THE COMMERCE OF INDIA.

The following admirable lecture on the commerce of India, delivered by Major Constable in Hamilton, will be found highly interesting and instructive, and we commend it to the attentive perusal of our readers. There is so much in it that is really valuable, and so little that could be consistently abridged without destroying the effect and interest of the whole, that, although we should be obliged to carry it through two numbers, we feel compelled to give it in full, feeling assured that the space could not possibly be better occupied :

Indian Commerce! the commerce of the most ancient and wealthy country on the globe, the origin of which is lost in the misty records of the past; for, long before History usurped the place of tradition, the Phœnicians, Egyptians and Carthaginians, carried on extensive and very lucrative trade with the countries eastward of the Persian Gulf, and of this trade it has been very pertinently remarked "that, whatever nation or city has, in the lapse of past ages, held in its hand the key of Indian Commerce and Influence, that city or country has, for the time, stood forth in the van of the civilized world as the richest and most flourishing." So long as Arabia enjoyed the full benefits of Indian Commerce, it was far-famed as *Araby the blest*. Indian Commerce found Palmyra composed of brick and left it more precious than marble. Monopoly of the Indian trade enabled Tyre, single-handed, so long to resist the mightiest efforts of the Macedonian Conqueror. Direct trade with India and the East speedily raised Alexandria into such marvellous pre-eminence. Through Moslem victories in the East, Bagdad started up at once the Rome, the Alexandria, the Athens of Asia, and Ghuznee, the Capitol of wild, cheerless Afghanistan, was long called, in allusion to her connection with the golden Indus, the celestial Bride. And during the century of Portuguese Dominion in Hindostan, Lisbon outpeered all her rivals." Thus has been described the value of Indian Commerce. Is that value altered now? You will each answer to yourselves at the close of the evening.

The discovery of the passage round the Cape of Good Hope was almost simultaneous with the successful voyage of the great Genoese. When Portuguese and English enterprise was first bringing the wealth of the East by this tedious route and pouring it into the lap of the West, Spanish freebooters were busy in the West, spoiling the simple natives of Peru and Mexico—giving for their rich stores of gold, the simpler and more common metals, cold steel and rounded lead.—Portuguese and English sailed forth in ships laden with the manufactures of Europe, to barter for rich spices, sweet scented gums, costly silks, or still more costly shawls. Spain sent forth her armaments laden with armed men clad in steel, with fierce war horses, to frighten the natives of the far western Continent into yielding, without equivalent, the coveted prizes of Eldorado.

It may be said that Spaniards and Portuguese had different material to deal with—the one found in the East, nations living under an ancient organization of law and order; and that the other, under such leaders as Pizarro and Cortez found but tribes of semi-savages. I think, however, that one has only to read Prescott's eloquent histories of the Conquest of Peru and Mexico to be convinced that, in these countries, civilization of a certain kind had reached a high degree of refinement, when the war cry of the ruthless Spaniard startled the wild fowl on the still waters of the Aztec lake, or was echoed back to the fathomless Pacific from the snow-crowned Cordillera. Where are now the descendants of those busy millions who obeyed the nod of the ill-fated Montezuma? where now the races who built the ibex, a road over the pathless Andes? The work of extermination began by Pizarro and Herman Cortez has been thoroughly completed by their descendants. Need I describe to you the condition of these countries to-day: Mexico and Peru, words synonymous with silver and gold, are a by-word and reproach among nations; countries conquered by the sword, have lived by the sword, and are now perishing under it. How differently has it fared with India, under the benign influence of Commerce. That the first Eastern adventurers were just as unscrupulous as those of the West, may well be believed. Tristan D'Acunha and Jose Albuquerque would doubtless gladly have emulated the deeds of the Spaniards, but they had other material to deal with, and Portuguese, Dutch, and English soon learnt that trade was more profitable than war, and the coveted wealth more readily obtained and more surely acquired by the exchange of commodities than by the exchange of blows.

The mercantile policy inaugurated three hundred years ago has been steadily followed out by our countrymen in the East. It is true that we have, while in the pursuit of Commerce, acquired an empire more extensive than ever lured in the dreams of the Macedonian madman; but this dominion has been obtained in spite of ourselves in the teeth of our endeavours to the contrary. The East India Company, at its rise, never had a thought of conquest, and for more than a hundred and fifty years a simply trading policy was maintained; but onward, irresistible march of events, of which I need not to speak again this evening, hurried the Company on from one acquirement to another, each fresh annexation more strenuously protested against than the former, until bit by bit, step by step has been built up in the East that great Babel of Empire—the possession and retention of which is alike a wonder to the casual observer, and a problem to the wisest statesmen of our time.

India with every variety of climate, sends forth every variety of produce. Her scorched plains, her wide expanse of marshy ground, her ever green and ever cool mountain slopes, her dark pine forest and snow-crowned summits afford in rich abundance every fruit and grain of the known world. A wanderer through Hindostan, may cheaply feast on the most expensive luxuries of our western world. To give a list of Indian products it would only be necessary to copy out *seriatim* an Agricultural and Commercial Encyclopædia. I have in vain tried to think of some one fruit, grain, or vegetable that may not be found in some part or other of that world's epitome. Here is a list of a few of the articles exported from India:—Cotton, Sugar, Indigo, Opium, Rice, Silk and silken goods, Muslins, Tea, Coffee, Spices, Gums, Tobacco,

Spirits, Linseed, Castor Oil, India rubber, Hides and tallow; but what necessity to draw out the list. The animal world vies with the vegetable in variety. Every beast and bird fit for the use of man is found in profuse abundance; game of every species is not more abundant in the well preserved English park than on the plains and hillsides of India. There also the earth yields up her hidden treasures of gold and iron and coal.

“ The diamond lights up the secret mine,
And the pearl gleams forth from the coral strand”

in that country of almost fabulous wealth and resources.

If India be the wealthiest, she is also, excepting China, the most populous country on the globe, and there the necessaries of life are obtainable with the least trouble and at the least expense. Mr. Newmarch estimates the bullion in India at two thousand millions of dollars. The great majority of the people feed and clothe themselves on a sum not exceeding \$0.75 a month. No public works are ever undertaken by private enterprise; the Government builds roads and bridges, and digs canals, yet the rate of interest is higher in India than it is now in Australia or California, for it ranges from 20 to 30 per cent. That fact is one of the anomalies of India. But I must not linger over generalities, but proceed to speak of the various articles most largely exported. First in importance is Cotton; the plant which produces it being, I fancy, indigenous to Hindostan; for we have accounts of its culture and manufacture many centuries before the Christian Era.

The cotton shrub is an annual, growing from two and one-half to five feet in height, and, when ripe, covered with white pods from which the cotton wool bursts in its white flaky form. In India, from natural tendency, or caused by the fierce heat of the sun, the husk of the pod at maturity is so dry and friable that in picking the wool it would appear to be impossible to prevent some portion of the covering adhering to the cotton, giving it a discoloured and dirty appearance.

An acre of land produces from 200 to 400 pounds of this wool, the average cost of cultivation being about two pence per pound; but cheap as this may appear, so many are the obstacles in the way of sale for an European market, that Cotton is about the least profitable crop of an Indian farmer.

In the first place the friable nature of the pod, and the leaf of the plant just alluded to, causes the wool to have not only a very dirty appearance, but by the very fine and adhesive nature of the leafy particles, seriously to interfere with the English manufacturers' cleaning machine—technically called, “The Devil”—which, accustomed to the cleaner fibres of the American plant, cannot apparently be induced to lay hold of, or cast out, these extraneous substances.

You are all probably aware that cotton wool, when picked from the shrub, adheres tightly to the oily seed which it surrounds; after gathering the crop the first operation is necessarily the separating the fibre from the seed. In India, from time immemorial this has been the work of woman, using a rude

machine called the "Churka," which was simply two small rollers, one of iron, the other of wood, the latter having a diameter half as large again as the former, which was generally three-fourths inch rod about eighteen inches long, fastened horizontally under the wooden one. This affair required two women to manage, one turning each roller, in opposite directions with one hand, while with their other hands the Kuppas, or seed cotton, is pressed up against the revolvers which catch the fibre and drag it from the seed dropped on one side, while the wool passes to the other. By this slow process two industrious women can manage to clean some forty pounds of wool per day.

The fibre of the cotton is not the least injured or destroyed by passing through these smooth rollers, which, however, setting apart the slowness of the operation, have a radical effect. It has been found impossible to turn two pieces of wood and iron so perfectly true throughout their required length as to prevent the seed being occasionally caught with the fibre; the oil which is then crushed out, giving East India Cotton the dirty yellow tinge so hateful to the eyes of the Manchester or Glasgow spinner.

The wool thus prepared is then placed in gunny bags, filled out by a man or woman tramping the elastic substance well down, while the bag is suspended from a tree or post. So elastic is the fresh wool that this primitive mode of procedure does not secure the desired object, for it is impossible thus to pack it without some soft places through which the dust or rain can enter and permeate through the entire bag. But this rude packing does not take place until after the cotton has been sold. It may lie for several days or weeks, even months, under a shed or even out in the open air, receiving the dews of the night and the dust of the day, without the farmer troubling his head about it.

The purchase made and the bags weighed out and delivered to the dealer, you would fancy that some care would be taken to deliver it at the port of shipment as little soiled as possible. Not a bit of it. Let us suppose that a native broker of Jelgaum or Kelguam in Berar has received an order from a mercantile house in Bombay for a certain quantity of cotton or *rooe*, as it is styled; he sends his servant for the Brinjarrie, with whom he has made a contract to convey his cotton at a certain rate during the season; to this contractor is explained the extent of the order and the despatch that is desired. A day, or it may be a month afterwards, the broker's premises is surrounded by a dozen or two fierce, savage looking Brinjarries, having in charge a sufficient number of half-starved bullocks to receive the load—two bags for each—which they carry along at the average rate of ten miles per day, thus making the journey from Kanguam to Bombay in about a month.

At every halting place the freight is pitched off the bullock into the dust or mud of the road, or on to the long wet grass as the case may be. The strongest sacking that ever was made would not stand the wear and tear of such a journey, and the gunny bags are not proof against the treatment, so that by the time Bombay is reached the wool is bursting out in all directions, with dust and filth adhering to it. In this state it is delivered at the immense screw-press warehouse, and in a few hours four of the native

bags are compressed into one solid bale for shipment to Europe. Seed, leaf and dirt are sent off together, and arrive in Liverpool to be exposed for sale, under the generic name of "Surat," which is in little demand, owing somewhat to the shortness and weakness of the staple, but more to the mode in which it is prepared for market.

The Government of India have made strenuous exertions to remedy this state of things, but their success has not been at all commensurate with the expenses incurred. The attention of Government was first directed towards improving the staple of the indigenous plant, which at the best was too weak and short to bear comparison with the produce of America or Egypt. Some hundreds of tons of Bourbon, Sea Island and Mastodon seed were obtained from this continent, and distributed to the Indian farmer, at the expense of the Government. Twelve practical planters were then induced by large salaries to leave their occupation in the States of Georgia and Mississippi, and to proceed to the cotton districts of India, to teach the natives by precept and example the American method of cleansing the wool and preparing it for market.

A lavish expenditure of public money built commodious storehouses, and distributed in every direction Whitney's saw-gins, by which the ryot or cultivator was invited to have his cotton crop cleaned and prepared for market free of expense. These saw-gins are simple enough. Whitney's patent is a box containing an iron grating with a peculiar curve, behind the grating is a roller set with a number of circular saws, which enter the open spaces of this grating at a particular angle; against these the seed cotton is thrown, the fibres are caught by the teeth of the saw and torn from the seed, which cannot pass through the narrow opening; the wool thus obtained is brushed off the revolving saws, and carried along by the wind evolved by the brushes through a long mouth of wood, the floor of which receives such dirt and dried leaf as this current of air may set free.

The saw-gins made by the Indian Government were generally small, with only 25 ten inch saws, capable of being kept in motion by two men, who could thus clean without any great exertion several hundred pounds weight in a day. The cotton thus cleaned was obtained at a great saving of time and expense, and also with a much less discolored appearance; but experience soon showed that what the cotton gained in appearance it lost in another way, for the Indian cotton was so short and delicate in staple that the saws cut it away instead of tearing it from the seed.

After the first year, saw-ginned cotton realized no better price in the Liverpool market than the article cleaned in their old time-honored way, so that the English merchants at the Presidencies were discouraged in their endeavors to second the patriotic efforts of the Government; and the natives would not adopt the new method on finding that if they missed a sale for exportation, their stock was useless, as the cutting received in the gin rendered it quite unavailable for home consumption in their rude spindles and looms. Their objections to the "Belatie Kaum"—English machine—was not to be overcome, when the Governor found it absolutely necessary to make some

small charge towards defraying the enormous expense of the establishment, which, however, was soon reduced by the return of the American planters to their own country, from whence it was an expensive mistake ever to have taken them. At last, Government ceased their exertions in this direction and the saw gins were idle or sold off to a few enterprising men, hopeful of a gradual introduction of the stronger American plant, or willing to save the price of labor at the cost of the staple.

Thus you have explained the inferiority of Indian cotton, compared with American; but even were it much better than it is, there are one or two grand obstacles in the way of supplying Manchester with the quantity there consumed. The first is the deplorable lack of the means of transport from the cotton districts to the seaboard. The Grand Trunk roads of India are the finest in the world. The far-famed Bath road in England is in no degree superior to the 1,400 miles of road which unites Calcutta with the Northwest and Bombay; but produce has to be conveyed in some instances many hundreds of miles by cross country roads of the most execrable character before the Trunk road is reached. And these bye-roads for many months in the year are rendered impassable for produce, owing to the heavy periodical rains rendering the ground a sponge and the summer rivulet a roaring torrent. India, it is true, possesses canals of gigantic proportions, of which I shall speak presently, but as far as the great cotton growing districts are concerned, there is no water communication whatever, and no means of creating it. The other grand obstacle in the way of a larger supply I cannot so readily explain. If, as has been the case on several occasions, the American cotton crop be short, or a scant supply be anticipated, the desired Surats are immediately in request, and prices rise accordingly in Manchester and Liverpool, causing a corresponding effect in Bombay and Calcutta. An increased breadth of land is sown with cotton in consequence of the high prices; but before the crop is ready, the European market has fallen, and the unfortunate ryot, always poor, and generally in debt, finds to his dismay that there are no purchasers for his cotton, which in all probability may be the only crop on his small farm of two or three acres. This has happened as I say more than once, until sad experience has taught the ryot that no dependence is to be placed on the appearances which formerly induced him to extend his small operations in the cotton line.

Of course this fall in price every article is liable to, and it would have a similar effect on the Indian farmer, whatever the produce might be. Their holdings are so small and their earnings so trifling that the merest fractional difference is intensely felt by them.

But I must linger no longer on this, to me, familiar subject. I should not have allowed it to detain you so long, did not the remarks I have felt called upon to make apply with equal force to other Indian exports.

Sugar is an article that might be raised in any quantity in Hindostan. Indeed, the exports of this necessary of life are enormous. Last year there was imported into the United States upwards of two thousand tons of Bengal sugar. Now, I am not, of course, aware as to the value of the article

in this market, but I know that in Khandes, the district in which I resided, a good, clean, wholesome looking sugar could be purchased wholesale at something less than one penny sterling per pound. Rice, about half that price in the districts, where it is raised, is increased in cost enormously by the difficulties of transportation. As an illustration of this increased expense, I found that, sending cotton to Bombay from a place 250 miles in the interior, in carts, well packed and carefully covered, was a larger item in the cost than all the subsequent charges from the time it reached Bombay till it changed hands in Manchester. If there were railroads in India, the internal trade would increase enormously, and her exports would be limited only by the wants of the rest of the world.

Opium is an export from India that deserves, like cotton, a more lengthy notice than my time will afford, for the many articles here enumerated. You are all aware that opium is the hardened juice of the poppy, and that, manufactured in India, it is sold to the Chinese; but it may surprise some to learn that the revenue derived from the export duty, is more than double the entire revenue of Canada, amounting to the large sum of two and a half millions of pounds annually, collected at the port of shipment, by a tax of two hundred dollars per chest, of 149 lbs. weight.

This trade with China has always been contraband, never having been legalized by the Chinese authorities. The East Indies claim the credit of never having trafficked in the drug, the smuggling having always been in the hands of private adventurers; but you will probably think that, if the Government be content to derive such a revenue from the article, they should share the blame attached to its sale.

In truth, the only excuse I have ever heard offered for this infamous trade is, that the Government of India would be bankrupt, were there a stop put to it, and this revenue consequently diminished by one-seventh. But, surely this plea of expediency is not becoming in a nation who paid, cheerfully, twenty millions for the liberation of their slaves.

Opium is the basis of all the mercantile gambling in India. It will not be uninteresting, probably, to hear something of one of the great merchant princes of Hindostan, most deeply engaged in this trade. In the year 1845 or '46, Ram Lall, of Jyepore, in Central India, made extensive opium contracts with the Bombay dealers for delivering, on a certain day, the price to be fixed by the ruling of the Government, opium sold by auction in Calcutta on a fixed date. When the advices of that particular day's prices reached Bombay, the dealers in that city were astounded—were, indeed, panic-stricken; the price was found to be 75 per cent. higher than was ever before known; and yet they were under enormous contracts at that exorbitant rate. The truth was soon understood. Ram Lall had himself run up the prices in Calcutta, by employing agents on the spot to bid against one another. An action was brought in the Supreme Court against Ram Lall, on the grounds that his dealings were gambling, not in legitimate trade. From this Ram Lall appealed to the Judicial Committee of Her Majesty's Privy Council, by whom the Bombay verdict was reversed, and Ram Lall declared to be en-

titled to damages exceeding one million sterling. The wily marwari knew well that it would be hopeless to attempt the collection of such a sum, and that the endeavour would entail ruin on his best customers, so he actually wrote them, that he would carry to profit and loss account the whole amount of his claims, if they would individually appear before his wakil or agent in Bombay, and lay at his feet their turbans in token of humble submission. This was joyfully done by all but the proud old Parsee Knight, Sir Jamesetjee Jeejeebhoy, who refused such humiliating terms, preferring to pay the uttermost farthing. This idea of Ram Lall's may well be called a new way to pay old debts. I wonder how it would answer here? I fear some of us might as well go without a hat, it would be off so frequently.

This man Ram Lall is perhaps the most influential native in India; he is by trade a Sheriff and Banker, and has agencies in all the principal cities of the continent. Like many other of our mercantile arrangements and customs, the system of remitting money from one district or from one country to another, is of eastern origin and of very ancient date. Banking and exchange are as well understood in Central India as in Treadneedle or Wall streets; no sharper, shrewder, or better informed business men are to be found in the world, than the Parsees of Bombay, the Marwarries of Central India, or the Circars of Calcutta.

In the ports of Calcutta, Bombay and Madras there are numerous English firms of high standing and great reputed wealth, but I believe no extensive business has ever been carried on without the co-operation of a wealthy native trader, either openly as a partner, or ostensibly as a cashier. In Calcutta many firms gazette their native partners, but in Bombay the other system prevails; and when I was there, one Parsee gentleman was cashier to three of the most extensive firms on the Western coast. The duty of these Burmesees, Shaffs, or Circars, as they are called, consists in finding the cash for the business of the firm, endorsing their paper and giving guarantee on commission for the up country dealers purchasing European goods. This latter is an absolute necessity for extensive merchants in the East. Natives of the most remote countries bordering on our Empire come to Bombay as purchasers. Dealers from Persia, Kohistan, Afghanistan or Beloochistan, jostle against the Arab and African Merchants in the sale-room of the English trader, and to such a pitch—some might call it to such a perfection—has the credit system been carried that the Parsee broker will as readily sell to a dweller in Zanzibar, Muscat or Cashmere, as to his next door neighbor. You will perceive how very rarely an European would possess such a knowledge of these distant markets as would justify sales to the unknown men arriving from thence. But the native brokers with the foreigners' credentials in his hands will gladly guarantee any purchases they may make for a commission of 2½ per cent. Nothing is more surprising than the intimate acquaintance with the whole Eastern world possessed by these men. An extensive trader or broker has agents in every port and in every town with which it is possible to do any trade, and is kept constantly posted on the state of the markets, &c.; and no dealer can arrive in Bombay or Calcutta without a detailed account of his character and position being received from these agents.

There is a very prevalent notion with Englishmen that the great trade of India is with us; nothing is further from the fact. As I told an audience here a few evenings ago, Indian trade was great and flourishing when Roman proconsuls were taming down our savage ancestors. Indian commerce has not declined; it has extended its ramifications over the whole world. Thirty years ago the exports from India into the United States was trifling in amount; now they reach to twenty millions of dollars annually. At the commencement of this century Indian trade with China had no existence, now it amounts to forty millions of dollars. Of course, the direct trade between England and her great dependency in the east is enormous; having increased from 2½ millions sterling in 1813 to 80 millions sterling in 1856; but these figures only represent a portion of Indian commerce. The whole of Central Asia receives her tropical supplies from Hindostan. Caravans laden with wool and gums travel many hundred leagues to exchange and return on their weary road with the coffee, sugar and spices of our possessions.

No estimate, with any pretensions to accuracy, can be made of the entire trade of India; but one thing is well known, that it is absorbing the whole bullion of the world. Many years ago, Mr. Newmarch, the great authority on the subject, estimated the balance of trade in favor of India, at the annual value of ten millions sterling, and added his belief that, large as was the sum, it was not more than sufficient to meet the loss by abrasion, &c., sustained by the bullion already in the country, which, as I have said, he placed at four hundred millions sterling—two thousand millions of dollars!

I cannot help believing that this estimated loss is somewhat exaggerated; and yet the sum, large as it appears, is only a shilling sterling for each of the two hundred millions of population, among whom the fondness for gold and silver ornaments amounts to a passion. To such an extent is this carried, that the wives and children of laborers, and servants, earning one and a half to two dollars a month, never appear in public without a tarlee on their necks, or bangles round their arms and ancles. The tarlee is a kind of necklace, which, like a ring with us, is put on at the time of marriage. The men sometimes assume wedding rings, but they prefer to decorate, what a New England lady would call, "their pedal terminations," the great toe of the right foot being the favorite.

Children of wealthy parents, on festive occasions, are so laden with golden treasure, as scarcely to be able to stagger along; and this silly custom has proved a fruitful source of robbery and murder. I remember that, a good many years ago, in the execution of my duty, I had to witness the hanging of a woman for the crime of child murder, for the sake of the ornaments. When she was brought out to the foot of the fatal ladder, I heard a loud sobbing from one of the native policemen on duty. On enquiring the cause of such a very unusual exhibition of feeling, I was told that the woman's husband was one of the force. The serjeant, in reply to my reprimand for inflicting such a duty on a husband, replied that it was at the man's own express wish that he was so situated. Just as the information was given, the woman cried out to her husband, "Bappro, come here." He stepped for-

ward ; then she said, " Look in such a part of the roof of your hut, and you will find such and such gold ornaments." Then she stopped, took one step up the ladder, and continued, " and in such another place you will find so much gold ;" and as she advanced step by step to meet her doom she disclosed a perfect mine of hoarded wealth to her now evidently consoled and almost smiling Bappro, who was not, however, allowed to profit by the discovery, as the hut was pulled down, bringing to light a marvelous quantity of children's gold and silver ornaments, obtained by the wretch during a murderous career of twenty years, and which the Government sequestered.

(To be Continued.)

TEXTILE FABRICS OF THE ANCIENTS.

The clothing of the human race is an interesting subject of inquiry, and if " fine linen" now holds but a secondary place in some respects; it once held a proud place among textile fabrics.

The Greeks and Romans are but moderns when compared with the Egyptians and Assyrians. The fashions of Paraol's court, and the luxury of Sardanapalus, bore little analogy to the stately extravagance of George IV. or of Louis Quatorze. But unless, as Byron suggested, some future age should actually disinterment George IV. and his courtiers, posterity probably will be puzzled as to Brussels lace with the same doubts which perplex writers on ancient linen. When Lucius Lucullus invited his friends to supper in the Hall of Apollo, had he a shirt to his back ? When lovely Thais inveigled the philosopher, had she a cambric handkerchief ? The learned say that Alexander Severus was the first emperor of Rome who wore a shirt, at least in our sense of the word, for everybody had an *indusium*. And here we are fairly plunged in the ambiguities of language, and we shall not easily emerge from them. The Roman *subucula*, the under tunic, was made of linen. Was it linen or calico ? Curtis uses *linum* of cotton and cotton cloth. In Yorkshire they call flax "line;" we moderns have restricted the word "linen" to the fabric made from flax. We may remark in general that the more deeply we dive into antiquity, the more completely isolated we find mankind, in their arts and luxuries, in their religion and in their government. Clothing was one of the prime necessities of life, and different races of men have clothed themselves with various materials ; the Chinese kept silk-worms, and from time immemorial have worn silk ; the natives of Hindostan cultivated the cotton tree, and consequently have worn calico ; the Syrian, the Iberian, the Gaul, made garments of the skins of beasts ; nay, the ancient Spaniard, and all that maritime population which dwelt on the shores of the Bay of Biscay, used leather for the sails of their ships. When Lucian, who was a Syrian, describes Timon in his poverty, he dresses the misanthrope in a diphthera, or leathern garment. Linen would have been unsuited to the poverty of Timon. Thus, even to modern times, while mankind live apart, nations are distinguished by their clothing. The native fabric of Otahcite was the tappa, made

from the bark of trees, but Queen Pomare, although like Penelope, skilled in the indigenous manufacture, preferred for herself an English cotton gown. At Manilla they make muslin from the fibers of the pine-apple; in New Zealand flax is in use, but the New Zealander does not employ the loom—he plaits the fibers into a square mantle for the chief.

So it is everywhere; the domestic production is cheap, the imported goods costly, and therefore valued. Thus linen, which so slowly made its way among the rugged Romans, was in more than one country the habiliment of females, of the luxurious, nay of the gods, and their attendants. In the days of old Homer, the wife of Ulysses superintended the spinning, but it was wool which her maids spun. Doubtless she had linen among her stores, but it was linen imported from Egypt, with which a trade already existed. Whether Penelope had not even some calico, may be doubted; for, if cotton was not yet cultivated in Egypt, it was brought from the East in caravans. The wares of China have been found in the Pyramids, and a portion of those of India, might have been there also. It is not at all unlikely that the rigging of the Grecian fleet which went to Troy, was supplied from Egypt; for at a period long subsequent to that expedition, we find Egyptian sailcloth made from flax, enumerated among the commodities for sale in the Tyrian marts. (Ezekiel xxvii., 7.) The manufacture of ropes from the same material, is a frequently recurring subject of those truly immortal designs which illustrate Egyptian arts.

Here we are, then, on the early traces of the East Indian trade. It was carried on partly by ships from the Malabar coast, and partly by caravans arriving at the Euxine Sea, or passing down through Syria to Tyre, or even to Egypt. In the age of Homer, we find a Mediterranean trade in iron flourishing in full vigor. When Talemachus inquires of Mentor whether he was bound, the Goddess in disguise, informs the prince that she was conveying iron to Brundisium, where she would take up a return cargo of copper. Doubtless the other goal of this voyage was on the coast of Pontus. The Chalybes, or Chalcæans, were famous for their iron—whether they got it from the higher Asia, or forged it themselves. At all events, this track was one of those by which Asiatic goods found their way into Europe for centuries. In the age of Pliny, iron came from the Seres, in company with wearing apparel and skins. But the earliest certain indication of the arrival of cotton in Europe is given by Herodotus. He relates the gift by Amasia, King of Egypt, to the Lacedæmonians, of a linen corslet ornamented with gold and cotton, B. C. 556. The embroidery on this corslet, whether executed with the needle or the loom, was a triumph of Egyptian art. Devices of all kinds, more especially of a religious character, were produced by the Egyptian craftsman, who wrought, according to Julius Pollux, with a warp of linen and a woof of cotton, or with colored thread, or gold. According to Pliny, whose information as to their operations was most accurate, they were familiar with the use of mordants. "In Egypt," he says, "they produce colored delineations with marvellous skill, not by applying the colors to the fabric, but drugs which take up the color. After the drug is applied there is no visible result; but the cloth, once plunged in the seething bath, is raised again partially colored. And marvellous it is, when there is but *one*

color in the vessel, how a succession of hues is given to the robe, produced by the quality of the drug which calls them out; nor can they be subsequently effaced by washing."

It was probably against this delineation of patterns ingrain that the prohibition of the Mosaic law in Leviticus xix., 19, and Deuteronomy xxii., 11, were directed. The Israelites were to be withheld from luxury; that is the point of many of their institutions; their strength consisted in their simplicity. But, moreover, they were to be preserved from the symbolism of Egypt. The embroidered representations of Egyptian gods were as hateful to Moses as the more permanent images in wood or stone.

Here, then, we have arrived at the great flax growing country. From Egypt the Greeks derived the manufacture of linen. But was all the linen which the Egyptians sold made from flax? More than one author has gone the length of asserting that the linen garments of the Egyptian priesthood, no less than the mummy wrappers, were all cotton. This notion counts among its partizans the well known names of Forster, of Tremellius, and of Dr. Solander. Rouelle, in the "Memoirs of the Royal Academy of Sciences at Paris in 1750," says that "all the mummy cloths without resinous matter, which he had examined, were entirely of cotton; that the rags with which the embalmed birds are furnished forth, to give them a more elegant figure, were, equally with the others, cotton." "Was the Egyptian flax cotton after all?" he asks, "or was cotton consecrated by religion for the purposes of embalming?" The inquiries carried on at the British Museum led to the same conclusions as those arrived at by the Frenchman. But the more recent microscopical investigations of Bauer and Thompson have overturned all these speculations. The fibers of linen thread are said by these more recent inquirers to present a cylindrical form, transparent and articulated, or jointed like a cane; while cotton offers the appearance of flat ribbon, with a hem or border at each edge. It has, indeed, been suggested that the ripeness of the cotton might affect the condition of the fiber, or that the ancient mode of treating the plant might give the Egyptian flax an appearance not presented by European specimens. Yet, although Philostratus expressly affirms that Calico was exported from India to Egypt for sacred purposes, the balance of opinion has inclined to the belief that all the cere-cloths at least were of flax.

As our enquiry leads us from the shores of Greece to the banks of the Nile, the language in which the subject of discussion is expressed is radically changed. In Egypt we are in contract with a Shemitic dialect. The Teutonic word "linen" disappears. The Greek in, purchasing a foreign commodity, had learnt the word *bussos*, and he has given it to the Romans as "byssus." But in the Shemitic dialects we meet with half-a-dozen words which may all mean linen or cotton, and whose significations has been abundantly disputed. No doubt these words had originally different significations; but eventually they were all confounded together. The account of the corslet presented by Amesis, if there were no other evidence, would prove that the Egyptians had cotton under the Pharaohs. The very phrase fo

cotton, which we find in the mouths of the Greeks and Romans, viz., linen of the tree" or "woollen of the trees" we find in the book of Joshua ii., 6. But "byssus" seems to have been selected as the name of the material specially destined for sacred rites. It certainly is the term which Herodotus employs in speaking of the mummy wrappers. But had the father of history another word in use, intelligible at least to Greek ears? On the other hand if *bussos* meant *linen*, why did he choose the foreign word? Byssus evidently had a special adaptation to his subject. That the Jewish byssus had a more yellow tint than the plant cultivated in Elis may be inferred from a passage in Pausanias; but the etymology of the word leads us to surmise that the name implied peculiar brilliancy and whiteness. Theocritus, who enjoyed the favors of Ptolemy Philadelphus, and may be supposed to know the appropriate name for the material used in Egyptian rites, represents one of his female characters as attending a procession to the grave of Artemis in a tunic of byssus.

But if we are in doubt as to the native names for the various sorts of Egyptian linens, the mummy wrappers leave no uncertainty as to the excellence of the workmanship. The interior swaths are indeed coarse; but some of the exterior bands vie with the most artistic productions of the modern loom.

The peculiarity of the Egyptian structure is a great disparity between the warp and the woof; the warp generally containing three or even four times as many threads as the woof. This disparity probably originated in the difficulty of inserting the woof when the shuttle was thrown by hand. To give an idea of the fineness of the Egyptian muslins, we may remark that the yarns average nearly 100 hanks to the pound, 140 threads in the inch to the warp, and about 64 to the woof. Some of the cloths are fringed at the end, and remind us of the garments prescribed to the Jews in the Mosaic law. (Numbers xv., 38.) Several specimens are bordered with blue stripes of various patterns. Had the patterns, instead of being confined to the edge, been extended across the structure, they would have formed a moderningham. The Nubians at the present day rejoice in similar shawls. The dresses in the Egyptian paintings, descriptive of women of rank or of deities, resemble our chintzes.

Such was the ancient linen, the staple commodity of Egypt. She exported it in Phœnician bottoms to the Mediterranean ports. It was not all made of flax. Both Pliny and the Rosetta stone testify that the calico was in especial favor with the priesthood; but their partiality for the more modern material was not strong enough to break through ancient customs. The experiments on the mummy cloths corroborate all which we know of Egyptian conservatism. For religious purposes the flaxen texture was rigidly demanded.

JOURNAL OF BANKING, CURRENCY & FINANCE.

Monthly Averages of Canadian Banks.

Bank of British North America and Gore Bank not included.

Date. 1857.	Capital.	Discounts.	Specie.	Circulation	Deposits.
March 31.	\$16,119,187	\$33,927,218	\$2,025,715	\$11,338,376	\$8,306,435
April 29.	16,295,597	33,232,219	2,145,249	10,859,571	8,507,157
May 31.	16,844,834	32,470,986	2,114,084	10,226,624	8,795,065
June 30.	17,246,140	32,307,199	2,210,933	10,511,876	9,650,326
July 31.	17,924,667	32,243,981	2,262,167	10,760,167	8,625,924
Aug. 31.	18,092,888	32,931,843	2,272,310	10,777,358	8,621,015
Sept. 30.	18,044,701	33,968,627	2,024,081	11,507,205	8,837,278
Oct. 31.	17,887,692	33,082,530	2,135,270	10,711,813	8,142,254
Nov. 30.	17,940,354	31,273,693	2,553,435	9,866,435	7,455,129
Dec. 31.	17,991,288	30,745,735	2,217,237	9,157,976	8,137,484
Jan. 31, 1858.	18,041,513	30,468,213	1,982,688	8,450,573	8,358,437
Feb'y 28.	18,057,669	30,758,657	2,042,757	8,477,114	7,251,386
Mar. 31.	18,071,775	30,921,803	2,004,000	8,352,030	7,249,846
April 30.	18,132,587	30,713,550	1,929,948	8,348,410	7,793,577
May 31.	18,165,652	30,068,176	2,107,873	8,057,114	7,614,409
June 30.	18,326,020	30,279,684	2,152,236	8,188,288	9,159,327
July 31.	17,757,635	30,300,069	2,075,230	8,438,313	8,616,399
August 31.	18,448,710	30,351,386	2,209,045	8,688,356	8,436,413
Sept. 30.	18,513,362	30,578,385	2,451,875	9,882,725	8,056,070
October 31.	18,607,010	31,365,829	2,469,191	10,571,047	8,880,820
Novem. 30.	18,639,446	31,474,245	2,496,732	10,104,005	9,434,110
Decem. 31.	18,857,962	31,837,132	2,567,069	9,833,706	9,134,362

Business of Canadian Banks, 1858.

BANK OF UPPER CANADA.

	Capital. \$	Circulation. \$	Deposits. \$	Specie. \$	Discounts. \$
January	3,110,250	2,306,947	3,015,571	336,497	7,227,823
February	3,110,250	2,132,526	1,868,721	347,535	7,067,024
March	3,112,875	2,081,739	1,798,165	337,939	7,005,421
April	3,114,435	2,165,550	1,841,381	280,490	6,939,254
May	3,114,435	2,123,894	1,865,173	327,445	6,704,674
June	3,116,885	2,108,925	3,137,347	401,952	7,023,508
July	3,117,245	2,278,122	2,709,687	369,862	7,014,309
August	3,118,255	2,271,421	2,068,448	411,525	6,920,898
September	3,118,925	2,399,690	1,915,070	494,410	6,800,186
October	3,119,845	2,605,319	1,970,016	466,714	6,956,540
November	3,120,255	2,574,583	2,107,096	384,439	7,121,977
December	3,120,680	2,477,468	2,200,199	442,191	7,245,650

QUEBEC BANK.

September	991,530	1,926,852	159,240	569,148	501,529
October	991,530	1,957,606	181,973	601,692	500,056
November	991,530	559,659	756,550	204,892	2,023,245
December	991,530	546,553	573,161	234,218	1,900,775

CITY BANK, MONTREAL.

	Capital.	Circulation.	Deposits.	Specie.	Discounts.
	\$	\$	\$	\$	\$
January	1,177,440	456,052	576,693	151,525	2,003,325
February	1,177,440	448,385	559,777	207,641	1,948,262
March	1,177,912	483,339	586,516	172,378	1,933,582
April	1,178,968	476,639	575,748	147,712	1,976,158
May	1,178,968	473,163	643,640	165,234	1,911,019
June	1,186,544	500,799	639,523	173,017	1,956,552
July	1,187,744	476,548	656,386	216,859	1,938,014
August	1,190,144	480,552	657,164	187,374	1,932,470
September	1,190,320	530,895	650,738	196,945	1,949,814
October	1,190,368	558,359	653,927	178,098	1,967,736
November	1,190,368	526,159	765,005	203,486	1,954,650
December	1,196,248	518,693	723,095	239,100	1,931,296

BANQUE DU PEUPLE, MONTREAL.

January	921,815	317,483	469,928	102,530	1,624,106
February	922,750	310,906	468,585	99,409	1,644,200
March	932,775	326,067	421,136	75,220	1,655,04
April	936,035	320,089	492,288	92,222	1,673,342
May	936,875	296,425	469,315	105,501	1,644,593
June	943,390	279,380	517,460	142,630	1,649,441
July	944,185	276,891	594,775	121,769	1,708,581
August	944,185	286,196	583,755	99,564	1,712,377
September	958,660	356,465	542,304	104,704	1,753,296
October	958,960	423,894	608,429	143,522	1,834,786
November	963,250	371,444	515,113	118,380	1,818,709
December	968,320	340,525	585,836	134,581	1,792,732

MOLSON'S BANK, MONTREAL.

January	747,183	265,882	277,455	85,462	978,23 ¹
February	747,963	360,082	295,094	71,204	1,118,49 ³
March	748,463	359,397	298,998	72,276	1,559,38 ⁰
April	790,203	331,962	326,536	71,450	1,169,69 ¹
May	791,343	298,728	333,265	104,387	1,009,22 ⁴
June	792,323	285,491	315,439	106,587	1,025,15 ⁰
July	820,963	276,431	342,539	106,826	1,070,74 ⁹
August	825,643	319,204	428,328	123,165	1,111,23 ³
September	849,643	405,053	372,483	135,964	1,198,80 ⁶
October	891,320	514,342	376,894	123,200	1,396,074
November	896,520	450,346	366,704	112,011	1,350,465
December	904,260	428,160	386,492	129,510	1,334,957

BANK OF TORONTO.

January	417,465	301,771	137,816	88,495	672,97 ⁹
February	421,270	298,963	140,368	98,629	654,81 ⁹
March	422,210	273,068	127,122	82,754	633,71 ⁸
April	422,750	268,944	130,933	85,242	648,267
May	426,230	250,731	111,386	72,842	647,454
June	427,290	252,873	139,697	77,418	643,085
July	430,440	253,280	173,588	93,695	634,905
August	434,220	264,345	193,382	87,143	646,886
September	455,140	338,245	206,341	101,190	780,247
October	459,060	430,999	227,562	103,603	851,547
November	461,130	434,432	216,456	104,947	835,968
December	463,490	418,292	265,034	109,122	884,309

COMMERCIAL BANK.

	Capital.	Circulation.	Deposits.	Specie.	Discounts.
	\$	\$	\$	\$	\$
January ...	3,750,860	1,237,740	1,139,009	358,426	5,978,666
February...	3,751,000	1,226,166	1,075,972	386,986	6,015,754
March.....	3,780,000	1,256,427	1,139,437	424,135	6,001,107
April.....	3,780,000	1,219,722	1,184,962	424,556	5,915,303
May.....	3,780,000	1,150,865	1,095,756	480,742	5,792,966
June.....	3,860,320	1,158,088	1,203,064	455,344	5,678,223
July.....	3,885,520	1,224,998	924,018	394,079	5,539,988
August....	3,886,000	1,359,247	961,098	444,822	5,623,400
September	3,886,000	1,719,153	927,899	403,022	5,734,873
October....	3,910,000	1,714,785	1,131,630	424,881	5,790,056
November..	3,910,000	1,634,210	1,314,685	494,169	5,886,018
December..	3,910,000	1,582,812	1,207,757	464,591	5,955,535

BANK OF MONTREAL.

January ...	5,744,800	2,313,599	2,221,788	628,902	9,383,841
February...	5,758,920	2,369,356	2,277,490	634,823	9,582,402
March.....	5,752,440	2,306,449	2,392,370	683,697	9,753,715
April.....	5,759,320	2,338,777	2,751,292	695,394	9,612,055
May.....	5,759,320	2,233,824	2,582,860	700,422	9,903,638
June.....	5,832,640	2,323,710	2,614,671	625,469	9,476,888
July.....	5,844,360	2,297,307	2,619,343	704,705	9,517,747
August....	5,846,180	2,422,373	2,888,815	705,369	9,506,606
September.	5,847,480	2,670,160	2,826,006	788,373	9,433,008
October....	5,850,780	2,846,665	3,177,786	784,051	9,507,464
November..	5,851,560	2,698,381	3,102,809	788,496	9,448,296
December..	5,913,140	2,684,280	2,975,132	716,835	9,694,628

ONTARIO BANK, BOWMANVILLE.

January.....	183,154	107,417	22,024	14,888	253,519
February....	189,431	161,482	15,629	24,324	318,624
March.....	191,262	145,553	17,499	31,632	327,114
April.....	196,938	113,080	18,897	16,180	314,406
May.....	203,343	107,333	21,844	31,794	290,238
June.....	209,607	119,796	31,201	29,780	315,554
July.....	211,918	141,002	34,156	23,993	369,304
August.....	213,038	136,031	44,429	30,017	368,309
September..	216,030	194,261	58,913	29,157	385,291
October....	235,416	229,633	68,606	30,959	447,794
November..	274,087	221,847	74,313	45,760	439,609
December..	309,548	211,847	76,071	36,945	445,756

NIAGARA DISTRICT BANK, ST. CATHARINES.

January.....	227,165	175,941	56,273	27,411	407,979
February....	227,265	173,250	77,177	26,821	410,663
March.....	227,475	167,500	88,978	20,447	416,690
April.....	227,575	173,267	66,950	21,241	416,436
May.....	227,755	173,030	60,964	23,282	415,673
June.....	228,155	190,934	72,130	24,076	437,795
July.....	248,227	220,260	69,612	19,032	462,779
August.....	249,011	230,337	73,148	20,839	470,119
September..	249,131	246,143	54,781	20,104	477,292
October....	250,228	251,725	86,031	21,457	527,988
November..	250,243	248,260	59,828	21,686	472,983
December..	250,243	213,820	79,662	21,080	459,713

INTERNATIONAL BANK.

December.....	100,000	27,000	6,916	15,366	69,743
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STATEMENT OF BANKS ACTING UNDER CHARTER

NAME OF BANK.	CAPITAL.		LIABILITIES.			
	Capital authorized by Act.	Capital paid up.	Promissory Notes in circulation not bearing interest.	Balance due to other Banks.	Cash Deposits not bearing interest.	Cash Deposits bearing interest.
Quebec Bank	\$ 1,000,000	\$ 991,530	\$ 546,553	\$ 69,980 43	\$ 398,623 92	\$ 174,538 69
City Bank of Montreal	1,200,000	1,196,248	518,693	28,516 79	431,907 74	291,168 86
Bank of Montreal	6,000,000	5,013,140	2,684,280	87,177 73	2,000,555 52	974,577 81
Commercial Bank	4,000,000	3,910,000	1,582,812	80,097 63	994,418 21	213,339 48
Bank of Upper Canada	4,000,000	3,120,680	2,477,468	946,961 02	2,003,222 42	196,977 58
Banque du Peuple	1,200,000	968,320	340,525	63,227 60	315,779 31	270,057 13
Molson's Bank	1,000,000	904,260	428,160	64,902 94	323,166 19	63,326 71
Niagara District Bank	1,000,000	250,243	213,820	10,748 62	60,162 40	19,500 96
Bank of Toronto	2,000,000	463,490	418,292	29,552 17	66,258 97	198,778 93
Ontario Bank	1,000,000	309,548	211,847	7,865 33	76,071 83	.....
International Bank	1,000,000	100,000	27,000	.....	6,916 21	.....
Total	23,400,000	18,127,459	9,449,451	1,288,970,26	6,677,082 72	2,402,284 14
13th Jan., 1858.						

Statement of Assets and Liabilities of Banks issuing Notes under the Free

NAME OF BANK.	ASSETS.				
	Debentures deposited with the Receiver General.	Real Estate.	Furniture and other Assets.	Debts due by other Banks, and Notes of other Banks.	Bills Discounted.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
(a) Bank of British N. America	478,833 33	.....	.....	.....	.....
Zimmerman Bank . . . . .	.....	.....	.....	.....	.....
(b) Niagara District Bank	11,670 00	.....	.....	.....	.....
Molson's Bank . . . . .	.....	.....	.....	.....	.....
Provincial Bank	140,600 00	1,000 00	2,555 81	.....	25,875 48
Bank of the County of Elgin	100,000 00	.....	1,328 00	7,915 40	96,358 81
Total	730,503 33	1,000 00	3,883 81	7,915 40	122,034 29

(a) Issues \$1 and \$2 Notes only under the above Act.

(b) Withdrawing its circulation under this Act.

CHAS. CAMBIE, Registrar.
January 1859.

FOR THE MONTH OF DECEMBER, 1858.

Total Liabilities.	ASSETS.							Total Assets.
	Coin and Bullion.	Landed or other Property of the Bank.	Government securities.	Promissory Notes or Bills of other Banks.	Balance due from other Banks.	Notes & Bills discounted & other debts due to the Bank not included under the foregoing heads.		
\$1,189,696 04	\$234,218 06	\$14,945 40	.....	\$37,615 41	116,653 19	\$ 1,900,775 47		\$2,304,207 53
1,270,306 39	259,100 73	34,900 00	196,638 35	100,096 40	127,488 90	1,931,296 50		2,628,020 94
5,740,531 56	716,835 55	357,471 19	688,264 00	223,357 93	823,946 00	9,694,628 59		12,564,503 26
2,870,667 32	464,591 79	193,339 48	490,000 00	120,900 12	461,187 42	5,955,535 95		7,595,554 76
6,624,629 27	442,191 75	219,314 77	322,224 33	160,991 00	684,873 90	7,245,650 38		8,075,246 13
989,589 04	134,581 96	55,952 17	101,542 05	37,879 09	38,170 68	1,792,732 10		2,160,558 05
879,555 84	129,510 91	20,513 85	200,000 00	48,735 40	109,707 96	1,384,957 05		1,843,425 25
304,231 97	21,080 68	7,907 29	44,402 98	4,837 00	55,816 33	459,713 22		593,127 50
712,850 07	109,122 07	.....	102,400 00	26,366 07	116,104 17	884,309 76		1,233,302 07
295,784 41	36,945 99	6,646 98	37,300 00	11,345 75	84,837 49	445,756 78		622,832 35
33,916 21	15,266 46	.....	10,000 00	8,977 00	32,049 33	69,743 78		136,136 57
19,917,788 12	2,513,545 95	910,091 13	2102,171 71	781,101 26	2,710,205 42	31,715,098 94		40,762,214 41

JOHN LANGTON, AUDITOR.

Banking Act, to 31st Dec., 1858, (13th & 14th Vic., Chap. 21, &c., &c.)

Debts due by Individuals.		Specie in Vaults.	Total Assets	Notes in Circulation.	Deposits.	Debts due to other Banks.	Other Liabilities.	Total Liabilities.	
\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	
.....	.....	478,833	33	184,887	00	.....	.....	184,887	00
.....	.....	11,670	00	11,667	00	.....	.....	11,667	00
99,821	99	6,998	72	275,022	00	.....	.....	275,022	00
4,313	16	17,556	03	227,471	40	550	00	124,442	59
164,135	15	23,524	75	992,996	73	54,446	74	1,410	06
				381,255	00	15,356	79	458,018	59

JOHN LANGTON,
AUDITOR.

(From the New York Herald.)

THE FINANCIAL CONDITION OF THE WORLD.

THE PRESENT PUBLIC DEBT AND PROBABLE LOANS.

The peculiar position of the Treasury at the present time, the increase of the public debt, and the falling off in the revenue, all of them the unprofitable legacies of the Pierce administration and of the financial revulsion of last year, have placed the President, the Secretary of the Treasury and Congress in a dilemma, out of which it is not easy to see the best way to extricate themselves for the benefit of the country. But one thing is certain, that the revenue will have to be increased by some device, either upon the President's safe system of specific duties, or the loose *ad valorem* principle of the Secretary of the Treasury.

A glance at the financial condition of the leading States of Europe and America reveals some strange and startling facts, as the result of a few years transactions. First, we find that the European States have been accumulating enormous public debts, the necessary consequence of an expensive aristocratic form of government, a hereditary nobility, and protracted costly wars. These debts amount in the aggregate to the immense sum of nearly ten thousand millions of dollars, and are apportioned as follows :

PUBLIC DEBTS OF EUROPEAN STATES.

Great Britain.....	\$3,876,563,473
France.....	1,606,398,494
Russia.....	1,043,414,123
Austria.....	1,208,420,090
Prussia.....	163,421,798
Spain.....	732,205,548
Portugal.....	100,366,319
Sardinia.....	135,404,045
Turkey.....	61,420,000
Bavaria.....	82,656,629
Belgium.....	121,150,000
Baden.....	17,211,536
Brunswick.....	7,224,296
Denmark.....	115,068,000
Frankfort.....	3,056,000
Greece.....	22,500,000
Hamburg.....	25,174,226
Hanover.....	34,659,778
Holland.....	480,595,339
Nassau.....	3,304,000
Oldenburg.....	2,270,400
Parma.....	2,841,600
Roman States.....	66,471,294
Saxony.....	36,794,400

Saxe Weimar.....	4,233,408
Saxe Altenburg.....	1,702,000
Saxe Coburg Gotha.....	815,268
Sweden and Norway.....	4,384,300
Switzerland.....	None.
Tuscany.....	None.
Wurtemberg.....	21,451,816
<hr/>	
Total.....	\$9,982,898,723

Compared with this extravagant shewing, the condition of the United States and the different States of the Union presents a less alarming state of financial affairs. The public debt of the United States is now over sixty-four millions, including the twenty millions of Treasury bonds, issued by the Secretary of the Treasury last year, while the aggregate debts of all the States amounts to nearly three hundred millions; but it must be taken into consideration that each State is a principality in itself, and that every town and village in each has its own municipal debts to account for. These debts would, probably, not fall short of a hundred millions more. A tabular statement will show exactly how we stand in this respect:

Debt of the United States.....\$ 64,910,777

STATE DEBTS.

Maine	\$ 1,124,000
New Hampshire	None.
Vermont	None.
Massachusetts	1,314,000
Rhode Island	382,335
Connecticut	None.
New York	31,483,258
New Jersey	95,000
Pennsylvania	39,268,111
Delaware	None.
Maryland	15,159,693
Virginia	29,899,512
North Carolina	5,208,848
South Carolina	5,693,277
Georgia	2,632,722
Florida	167,000
Alabama	5,888,134
Mississippi	7,271,000
Louisiana	10,703,142
Texas	None.
Arkansas	2,524,345
Tennessee	12,756,857
Kentucky	5,574,244
Ohio	17,927,000
Michigan	2,340,000

Indiana	6,969,017
Illinois	11,138,453
Missouri	19,602,000
Iowa	128,000
Wisconsin	100,000
California	4,128,927
Minnesota	None.
	\$239,499,875
Combined debts of the U. S. and the States	\$304,410,652
Aggregate debts of towns and villages	100,000,000
	\$404,410,652

But it must be said that while the debt of the European and South and Central American States—for the most part the result of ruinous wars—are a dead weight upon their shoulders, our debts have been incurred mainly to develop the resources of the country—to construct railroads and canals, build up cities, and redeem the soil of the forest and the prairie—and however heavily they may press temporarily upon the country or the individual States, they will one day bring forth rich fruits in a largely increased area of cultivated and peopled territory and material prosperity. It is true they have been unnecessarily increased by the wild speculation which preceded and produced the crash of 1837, and led to the subsequent repudiation of State debts.

The disastrous events which have been retarding the progress of Central and South America for so many years, have left them of course heavily in debt. The aggregate indebtedness of the leading States is over three hundred millions.

It is divided as follows:

PUBLIC DEBTS ON CENTRAL AND SOUTH AMERICAN STATES.

Bolivia	\$ 5,850,000
Brazil	73,277,250
Chili	8,500,000
Ecuador	14,840,821
Guatemala	1,200,900
Mexico	133,524,242
Peru	46,451,387
Venezuela	22,885,620
Honduras	350,000
Nicaragua	800,000
Costa Rica	250,000
San Salvador	886,695
	\$308,797,015

The total public debt of all the leading nations and States on this continent and in Europe would thus appear to be ten thousand six hundred and ninety-six millions one hundred and five thousands three hundred and ninety dollars. A large proportion of this has been accumulated within the present decade; and though in many of the European nations the capital may never be paid, still the annual payment of interest must be met, and it is a somewhat curious and interesting question to solve where the money is to come from. There can be no doubt that immense loans will be looked for during the coming year, and many are already proposed. It is seen that even this country has the considerable debt of sixty-four millions, whereas it was customary to have a surplus in the treasury of little less than that. In Jackson's time a sum as large was distributed as a loan among the different States, some of which have never repaid it—Florida and Mississippi, for example, which repudiated the Union bonds altogether. Illinois has not yet acquitted herself of the liability, but she is doing so by degrees. The United States, then, to begin with, requires a loan this year of some thirty millions. England, of course, just emerging from the Indian war, must borrow money, and we should not wonder if one of the first acts of the new Indian government was to ask for a new loan of fifty millions to meet the expenses of the insurrection. Then Russia wants forty millions, and is now, it is said, negotiating with the Rothschilds for that amount. Austria already proposes a loan, the amount of which is not stated, but we may put it down reasonably at fifty millions. In France the Emperor's design to establish a discount bank, with a capital of sixty millions, whereof half is to be loaned annually to the government, sufficiently indicates the financial condition of the empire; and as the deficiency in the Imperial treasury is about sixty millions of dollars, that amount, at least, will be probably asked for. So much for the great nations. We see, also, that Australia has issued bonds for thirty-five millions, to be raised within the next four years; and even St. Domingo is in the European market, endeavouring to negotiate a loan to pay the expenses of a war with Hayti. Here, then, are nearly three hundred millions to be raised this year. It may be asked what portion of that sum our capitalists can afford to furnish.

Looking now to the exigencies of the several States in the Union, we will find that many of them must borrow also, to complete their railroads, canals and other public works. New York must have at least eight millions and a half; Pennsylvania, Virginia, Missouri and Wisconsin are also in need of money. Kansas and the other new Territories, of course will require means to develop their rich resources. Minnesota asks for five millions, which the Legislature has voted for the railroad purposes of the State, and Massachusetts will probably require two millions more for the Hoosic tunnel.

Thus we have the following loans, which will, in all probability, be required at home:

United States	\$30,000,000
New York	8,500,000
Pennsylvania	5,000,000
Virginia	3,000,000
Missouri	5,000,000
Minnesota	5,000,000
Massachusetts	2,000,000
Wisconsin	4,000,000
Kansas and other Territories	8,000,000
Total	\$47,000,000

And the following, which foreign nations will want :

England	\$50,000,000
France	60,000,000
Russia	40,000,000
Austria	50,000,000
Australia	35,000,000
Total	\$235,000,000
Making a total of	305,000,000

Here are some facts for the financiers to muse upon, and some grave difficulties to be surmounted during the present year.

JOURNAL OF INSURANCE.

INSURANCE COMPANIES DOING BUSINESS IN CANADA.

CANADIAN OFFICES.

HEAD OFFICE.

Canada Life Assurance Company.....	Hamilton.
British America Fire and Marine Insurance Company.....	Toronto.
Provincial Fire and Marine Insurance Co.....	do.
Western Fire and Marine Assurance Co.....	do.
Provident Life Assurance and Investment Co.....	do.
Erie and Ontario Fire and Marine Ins. Co.....	Niagara.
Montreal Fire and Marine Ins. Co.....	Montreal.
Montreal Mutual Fire Ins. Co.....	do.
Cobourg Mutual Fire Ins Co.....	Cobourg.
Home District Mutual Ins. Co.....	Toronto.
British America Friendly Society.....	Montreal
Niagara District Mutual Fire Ins Co.....	St. Catherines.
Farmers' Fire Insurance Company.....	Hamilton.

Gore District Mutual Fire.....	Brantford, C.W
Imperial Fire, Marine and Life	Quebec.
Johnstown District Mutual Fire.....	Brockville.
Mutual Fire Insurance Company.....	Prscott, C. W
Midland District—Fire.....	Kingston.
Mutual Fire.....	Beauharnois.
Niagara District Mutual—Fire.....	St. Catharines.
Quebec Fire Insurance Company.....	Quebec.
Stanstead Mutual—Fire.....	Stanstead.

ENGLISH OFFICES.

Royal Fire and Life Insurance Company.....	Liverpool.
Phœnix Fire Insurance Company.....	London.
London and Liverpool Fire and Life Insurance Company..	do.
Equitable Fire Insurance Company.....	do.
Britannia Life Insurance Company of London	do.
Colonial Life Assurance Company.....	Edinburgh.
Eagle Life Insurance Co. of London, England.....	London.
International Life Assurance Company.....	do.
Professional Life Assurance Company.....	do.
Unity Fire and Life Assurance Company.....	do.
Beacon Fire and Life Insurance Company.....	do.
Anchor Fire Insurance Company.....	do.

UNITED STATES OFFICES.

	HEAD OFFICE
Great Western Fire and Marine Ins. Co.....	Philadelph.
Ætna, Fire, Life and Marine Ins. Co.	Hartford.
Home Ins. Co.	New York.
Connecticut Mut. Life Ins. Co.....	Hartford.
Farmers and Mechanics' Ins. Co.....	Philadelphia.
Continental Ins. Co.....	do.
Exchange Mut. Ins. Co.....	do.
Mutual Life Ass. Co.....	New York.
Mutual Benefit Life Ins. Co.....	Newark.
North-Western Fire and Marine Ins. Co.....	Oswego.
Pacific Mutual Ins. Co.....	New York.
Buffalo Fire and Marine Ins. Co.....	Buffalo.
Star Fire Insurance Co.....	Ogdensburg.
Hartford Fire Insurance Co.....	Hartford

TRADE AND NAVIGATION

TRADE OF TORONTO.

RETURN OF IMPORTS FOR THE QUARTER ENDING 31ST DEC., 1858,

	Value.	Duty.
Goods paying specific duty	\$239,498	44,243 51
Goods at 25 per cent.	7,995	1,998 72
" 20 " 	178,313	35,668 2
" 15 " 	201,021	30,154 31
" 5 " 	29,823	1,491 34
Free Goods	291,228	
	\$947,908	\$113,556 09

RETURN OF IMPORTS FOR THE YEAR.

Goods paying specific duty	\$518,052	\$152,455 00
" 15, 20, and 25 per cent. ad valorem	76,724	16,159 57
" 15 and 20 per cent. ad valorem	950,815	171,163 29
" 15 per cent. ad valorem	732,161	109,826 12
" 2½ and 5 per cent. ad valorem	387,030	11,544 28
Free Goods	774,152	
	\$3,768,934	\$461,148 26
Comparative statement for the year 1857	\$4,847,456	\$578,900 09

EXPORTS FOR THE QUARTER ENDING 31ST DEC. 1858.

Articles	Quantity.	Value.
Pig and Scrap iron—Tons	430	\$8,860
Fish, pickled—brls.	2½	8
Plank and Boards—M feet.	4,137	21,452
Shingles—Mille	119	234
Animals—Horses, No.	7	775
Horned Cattle	4	115
Butter, cwt.	7,300	1,040
Hides, "	1,004	5,020
Sheeps' pelts		400
Wool, lbs.	6,420	1,335
Barley and Rye, bus.	59,162½	54,116
Flour, brls.	8,773	45,687
Meal, "	53½	247
Oats, bush	62,680	25,991
Peas, "	9,607	6,904
Seeds "	36	45
Vegetables		20
Wheat, bush	69,503	77,910
Hardware		110
Carriages, No.	4	375
Ale, Beer, Cider, and Porter, gal	36	30
Whiskey, Brandy, and other spirits, do	3,010	1,520
		\$253,206
Total value of Exports for the year		\$625,682

THE TRADE OF HAMILTON.

RETURNS OF IMPORTS IN 1858.

	Value.	Duty.
Goods paying specific duty	\$491,777 00	\$91,620 05
Goods at 15, 20 and 25 per cent. ad valorem	44,552 00	101,000 42
Goods at 15 and 20 per cent. ad valorem	438,268 00	77,883 64
Goods at 15 per cent. ad valorem	451,033 00	68,104 41
Goods at 2½ and 5 per cent. ad valorem	342,805 00	12,926 10
Free Goods	3,121,366 00	.....
Total	\$3,100,801 00	260,634 62
From Great Britain		\$919,601 00
N. A. Colonies		1,753 00
U. S.		1,156,467 00
Other Foreign Countries		22,980 00
Total		\$3,100,801 00

IMPORTS IN 1858.

Goods paying specific duty	£139,382 19 9	£21,736 19 4
Goods paying 20 per cent.	20,470 8 8	4,094 4 9
Goods paying 15 per cent.	493,242 16 1	74,898 10 0
Goods paying 5 per cent.	7,209 18 11	365 0 6
Goods paying 2½ per cent.	125,345 8 6	3,153 11 3
Free goods	131,441 0 7	
Total	£623,272 12 6	£104,233 5 10
Or	\$3,693,091	\$413,933 17
Total in 1858	2,100,801	260,634 62
Decrease in 1857	\$1,592,290 00	\$156,295 55

QUARTER ENDING DEC. 31st, 1858.

Total goods entered for consumption, 1857	\$559,748 00	\$60,035 92
“ “ “ “ 1858	526,709 00	59,573 75
Decrease in 1858	\$33,039 00	\$462 17

EXPORTS—1858.

Produce of the mine	\$ 7,265
“ “ forest	94,781
Animals and other products	32,107
Agricultural products	830,522
Manufactures	50
Total	\$964,732

EXPORTS—1858.

Produce of the mine	\$ 574
“ “ forest	146,565

Agricultural products.....	954,245
Manufactures.....	643
Total.....	\$1,145,547
Decrease in 1868.....	\$180,81 ⁶

LEADING AGRICULTURAL PRODUCTS.

Quantities exported in 1857 & 1858.

	1857.	1858.
Barley and Rye, bush.....	12,248	99,527
Bran, cwt.....	0	2,820
Flour, bbls.....	113,903	103,042
Indian Corn, bush.....	164	94
Meal.....	57	106
Oats, bush.....	0	77,296
Pease, ".....	6	7,961
Flax, cwt.....	0	742
Flax seed, bush.....	1,410	0
Other Seeds.....	320	223
Wheat, bush.....	222,489	185,090
Wool, lbs.....	68,903	79,294

COMPARATIVE STATEMENT OF IMPORTS AT THE PORTS OF MONTREAL
TORONTO, AND HAMILTON IN 1857-8.

	1857	1858
Montreal.....	\$16,316,948	\$11,554,190
Toronto.....	4,847,456	3,768,984
Hamilton.....	3,693,091	2,100,801

DUTIES.

	1857	1858
Montreal.....	\$1,791,012	\$1,558,239
Toronto.....	578,900	461,148
Hamilton.....	416,933	260,634

CAN WE SECURE A PROFITABLE PARTICIPATION IN THE TRADE OF THE NORTH WEST STATES & TERRITORIES ?

[Continued from our last.]

The nature of the Lake business requires that this charge be realized during the season of Navigation, is between the 1st of May and the middle of November, about $6\frac{1}{2}$ months, but it must moreover be borne in mind that during two months of that period, the traffic is invariably light, it follows therefore that the business of the remaining four and a half months must be relied upon for compensating these disadvantages. Assuming therefore that the business of the two months will pay insurance in addition to repairs and working expenses, the four and a half busy months must be charged with the additional burthen, and in this way the charge per month, during the busies part of the season, be raised to 6,31 per cent., being equal to 21 per cent. per day, and during the remaining two months it will be 1.55 per month, or .05 per day.

Estimated therefore with reference to the tonnage of the larger vessel, this class of charges will amount to $14\frac{7}{10}$ cents per ton per day on her whole tonnage during the four and a half months, and to $3\frac{5}{8}$ cents per ton per day during the other two, while with reference to the smaller vessel, the charge will come to $30\frac{5}{8}$ cents per ton during the one period, and $7\frac{7}{8}$ cents during the other.

While passing through the canals, another element of cost will present itself—namely, the charge for towing—for no skill in working the vessel by steam power, can remove the necessity for tow horses, especially while manœuvring in the neighbourhood of Locks, or when passing some of the more contracted waters of canals when the use of the Propeller is unsafe to the machinery. This charge will not vary much from \$24 per day for the larger vessel, and \$16 per day for the smaller one, being equal to $2\frac{4}{5}$ cents, and $5\frac{3}{4}$ cents per ton per day in their respective tonnage capacities.

The elements examined in the previous paragraphs, may be collected together and tabulated in the following form :

ELEMENT OF COST	Cost per ton per day while in motion in the open lake.				Cost per ton per day while in motion through the canals.				Cost per ton per mile while in motion in the open lake.*				Cost per ton per day while at rest in port.			
	PROPELLER OF 1000 TONS.		PROPELLER OF 275 TONS.		PROPELLER OF 1000 TONS.		PROPELLER OF 275 TONS.		PROPELLER OF 1000 TONS.		PROPELLER OF 275 TONS.		PROPELLER OF 1000 TONS.		PROPELLER OF 275 TONS.	
	MOVING east.	MOVING west.	MOVING east.	MOVING west.	MOVING east.	MOVING west.	MOVING east.	MOVING west.	MOVING east.	MOVING west.	MOVING east.	MOVING west.	MOVING east.	MOVING west.	MOVING east.	MOVING west.
Fuel—In cents	\$ cts \$	cts	\$ cts	\$ cts	\$ cts	\$ cts	\$ cts	\$ cts	\$ cts	\$ cts	\$ cts	\$ cts	\$ cts	\$ cts	\$ cts	\$ cts
Crew	14 40	31 80	43 30	165 00	4 80	11 70	14 43	35 33	0 06	0 14	0 18	00 44				
Current Repairs	4 66	11 40	12 80	31 00	4 66	11 40	12 80	31 00								
Depreciation	14 00	34 27	30 50	74 67	14 00	34 27	30 50	74 67								
Insurance					2 40	5 87	5 80	13 50								
Value of Capital																
Tow'g in ship canals	32 06	77 47	86 60	211 67	25 86	63 24	63 53	154 50	0 137	0 322	0 36	0 882	18 66	45 67	43 30	105 67

* The low rate of charge theoretically established in this column, is not inconsistent with practical results already arrived at as the following quotation from rates from New York to Liverpool ruling, during the month of March, 1858, will shew:

“ Rates of freight from New York to Liverpool, are steady, with a moderate business. Engagements include 80,000 st bbl. to 5½d. per bushel in bulk.—Globe.

This quotation shows that as low a rate as 1 16-100 mills per ton per mile has been reached in ocean transit, when carried in sail vessels, and I find that so low a rate as 06-100 cent, per ton per mile, has been the average on coal from Newcastle to Aden, and that the ordinary rate of freight from Bengal to London, is £4 to £4 10s. stig. per ton for sugar, but the harbour dues at Calcutta are nearly 20s. per ton. Rice from Arracan, is shipped at from £3 10s. to £3 15s. stig., these rates are equal to about 1 3-10 mills per ton per mile. As between these rates and the average of East and West rates arrived at in the table, there is ample margin to compensate for the inactivity of the Lake shipping during the winter months.

The above figures would appear to justify the enlargement of the entire line of provincial Canals through which Lake borne freight is carried to a scale sufficiently large to admit the passage of the largest class of vessels ; but the question can not be thus summarily disposed of ; other and very important considerations must be taken into account ; every delay is of greater consequence to a vessel 1000 tons burthen, than to one of 275 tons, and the progress of the latter would be far less impeded by obstructions likely to present themselves in the canals than the former ; indeed, it is questionable whether vessels of the maximum size for the Lake trade can be advantageously employed at all in navigating the canals having numerous locks. Division of labour formed the foundation on which has been reared the commercial and manufacturing greatness of Britain, and is a no less important element of success in the carrying trade ; it is prudent therefore to enquire whether in aiming at the construction of canals suitable for the passage of vessels navigating the sea, we are not ignoring a principle essential to success ; to this part of my enquiry, however, it is necessary to bring a clear conception of the condition which regulates the cost of transport on Canals in barges of the several sizes now contemplated, and of the cost of transshipping merchandise.

The size of the Erie Canal boats is at present limited by the Locks to 95 tons burthen, the enlargement now nearly completed will increase this size to 150 tons, the cost of the former varies from \$1,500 to \$1,800, and of the latter from \$2,000 to \$2,500. Barges of a size to fill the present locks of the Welland Canal, have not yet been constructed, but reasoning from analogy and some practical knowledge of the subject, I believe that such craft could be constructed and equipped—adapted solely for use on the canal—for \$800. Unencumbered by masts, anchors, rigging, &c., and being of much lighter build than lake going vessels, they would be capable of carrying through the locks at least 750 tons of cargo. In like manner a canal lock having capacity to pass a vessel of 1000 tons, would pass a barge of much greater tonnage which would not cost a fourth of the capital.

The cost of working canal barges, will comprise crew expenses, tonnage, repairs, depreciation and value of capital. The first of these items on the Erie Canal, is usually contracted for, and for the largest class of barges, including provisions, tow-lines, &c., is covered by \$125 per month, equal to \$4.16 or 2.7-10cts. per ton per day. The towing is also contracted for at 22 cents per mile, and at an average speed of 35 miles per day, this amounts to $5\frac{1}{3}$ cts. per ton per day.

Taking the experience of those largely engaged in the business for my guide, I shall estimate the repairs at 7 per cent.

Depreciation	9	do.
Value of Capital	12½	do.
<hr style="width: 10%; margin: 0 auto;"/>		
Total	28½	do.

As with lake going vessels, the greater portion of the charges above enumerated, must be realized during about 4½ months of the season, and it is necessary therefore as in the former case, to increase the proportion of the charges, they will consequently amount, during the busiest part of the season, to .21-175 per cent per day, and being distributed over the cargo capacity of the barge, will represent a charge of $2\frac{9}{10}\%$ —3.5 cts. per ton per day, thus the total charge on this class of conveyance (exclusive of tolls,) would be as follows:

For crew expenses	-	-	2.7	cts. per ton per day.
Towing while in motion	-	-	5.13	“ “
Repairs, deprec. & value of cap.	-	-	3.5	“ “
<hr style="width: 10%; margin: 0 auto;"/>				

Total - 11.33—while in motion or while stationary in port 6.20 cts. But as in the case of lake crafts, the barge would only obtain lading in proportion to the movement of freight, hence the cost of carrying freight west would be as 71 to 29 in comparison with the cost of movement east, and therefore 26 to 29 cts. per ton per day while in motion, and 13.39 cts. while at rest may be taken as the cost of westward bound freight.

Similar calculations applied to a vessel built for canal purposes of a size to fill the Welland canal locks, will show the crew expenses to be equivalent to $2\frac{2}{10}\%$ —35 cts. per ton per day; the cost of towing $2\frac{1}{10}\%$ cts. per ton per day, and the constant charges of repairs, depreciation and value of capital, 210-175 per cent. per day, is $1\frac{8}{10}\%$ cts. per ton per day, collected as in the former case, these charges shew a total of 6.19 cts. per ton per day, while in motion and of 4.06 cts. while in port. Here again the cost of westward movement must be increased as in the previous case, and while in motion it will be raised to 15.15 cts. per ton per day, and while at rest to c.9.94.

A still further increase in the size of canal barges, would (provided there were business to employ them) produce a still further reduction of the charge per ton, but it is not necessary to pursue the comparison further, as the prin-

ciple which governs the cost of transportation on vessels of this class is sufficiently established by the above.

The cost and delay incident to Transhipment, is easily arrived at so far as grain or flour, which constitutes the great bulk of lake trade are concerned, the former is elevated, stored, and re-shipped for half a cent per bushel, and at that price affords those engaged in the business a fair profit; the actual cost of transferring grain from one vessel to another with the most efficient machinery used for that purpose, would not exceed one quarter of a cent per bushel—is $8\frac{1}{4}$ cents per ton. Flour, beef, pork and other barrel freight would be handled for a similar charge, added to the crew expenses, and would include all contingences for cooerage.

The cost of transhipping general merchandise, is not so readily ascertained, inasmuch as it would continually vary with the size and description of the packages. It is believed however that sufficient aid could be furnished to the crews of the vessels for an additional charge of 15 cts. per ton.

The time requisite to discharge cargoes of grain, has probably been reduced to a minimum. With the machinery now employed for such purposes, the largest vessels can be cleared out in from six to eight hours, and if necessary to give greater expedition, that object could be effected by elevating from two hatchways at the same time—in like manner the weighing and loading can be completed in the same time, and when grain is simply transferred from one vessel to another both operations could go on simultaneously. To receive and store a cargo of barrel freight, would occupy for the larger cargo about 36 hours, and for the smaller one about 24 hours—and a similar period would generally be sufficient to discharge in. Full cargoes of general merchandise are in no case estimated, therefore although the handling would be more tedious, the lesser quantity and consequently lesser necessity of careful stowage would reduce the time requisite to effect shipment or transhipment within the period above specified. Coaling could also be carried on during the same time, if proper convenience were provided for that purpose; all things considered, therefore it may be safely concluded that the average time in port either at the termini, or at a place of transhipment, need not exceed 48 hours, and this will afford abundant compensation for any irregularities that may arise during the voyage.

The duration of the trip of the well built propeller, may be calculated with tolerable certainty on the open lakes; the speed has previously been estimated, when calculating the consumption of fuel, at ten miles an hour, and with a view to simplifying comparisons, the speed of both classes of vessels is

assumed to be the same, though in practice it is not likely that the smaller vessel—especially if designed on lines to suit canals—would at all equal the speed of those built with sole reference to lake navigation. This difference will, however, in point of cost be balanced by the amount charged for fuel, which at reduced speed would be represented by a less daily consumption.

Many contingencies arise to delay the progress of canal barges—a damaged lock—a break in the embankments, or the over-crowded state of the canal at particular times or places, all tend to create delay; consequently their rate of speed cannot be calculated with so much certainty, as the duration of a voyage on the lakes. On ship canals there may be added to the above causes of delay, the embarrassment caused by the state of the wind which frequently prevents vessels with much top hamper from being worked with any degree of safety. From all these circumstances, I have frequently known a vessel to occupy a week in passing through the Welland canal, and though the passage is sometimes made in one day, I am of opinion that the average time will not be less than three days; and the same time may be taken for the passage of the large barges before alluded to.

I am informed by those largely engaged in the Forwarding Trade on the Erie Canal, that the average rate at which the Canal boats travel on that work does not exceed 35 miles per day. Consequently the time between Buffalo and Albany will be 10.4 days, and between Oswego and Albany 5 days, to both of which must be added the requisite time for loading and discharging, which, being estimated at one day at each end of the route, would make the duration of a “round” trip equal to 22.8 and 12 days respectively.

It has been confidently asserted that if the Erie Canal were sufficiently enlarged to admit the passage of the largest propellers from Lake Erie to New York, we should rarely witness the passage of one of them through, because this great cost, as compared with the ordinary barges, would overbalance any expense saved by avoiding transshipment. It is certain that the time would not be reduced but rather increased by the unwieldiness of the ships and want of space in the narrow channel of the Canal for working them satisfactorily. The risk of damage to the works would also be greatly enhanced by the use of such vessels, so as to negate any reduction that might be made in the season's insurance by reason of the absence of risks from storms. The navigation of ship canals will therefore be placed in a more favorable position than circumstances fully warrant if we assume the speed of vessels that throng long lengths of the canal to be the same as that of barges.

The cost of transportation on railways is a problem, the solution of which has exercised the ingenuity of both theoretical and practical writers, so far, I believe, without arriving at such a result as enables us to adopt a recognized standard. In fact, the cost varies so much with every change of grade and curvature, and still more with every fluctuation in the amount of business transacted; and finally, with the state of repair in which the road-bed and carrying stock is maintained, that it is extremely difficult to arrive at any satisfactory conclusion. One of the most costly roads in America carries freight for one cent per ton per mile, and yet pays the highest dividend that has been realized on this continent. A result undoubtedly due to the constancy and large amount of the traffic offered, and to the fact that the grades nearly uniformly favor the traffic. The cost of working in proportion to the traffic is consequently reduced to a minimum and is only equal to the expense of distributing the stock, for the great bulk of the freight descends to its destination by its own gravity. On the other hand, roads dependent on local traffic—uncertain and irregular in quantity, as well as in the distance over which it is carried, have failed, either from mismanagement or deficiency of business—while charging an average tariff of $5\frac{1}{2}$ cents per ton per mile, to realize the interest on their borrowed capital, and are sinking into hopeless bankruptcy.

Much of the obscurity that prevails on this subject is attributable to the anxiety of managers to pay good dividends and thereby enhance the value of the stock; for the great majority of the proprietors of this class of property have acquired it as a speculation—not as a permanent investment, and hence their reluctance to determine their true value by a joint declaration of the cost at which their lines are worked; hoping to maintain or even advance the market price of their property by increasing the dividends. They do not hesitate to pay them from capital, or out of funds that should go to maintain the stock and works in repair; thus postponing the day of final reckoning until after they can find an opportunity to sell out at a profit, and the new holder follows the same policy so long as it can be carried out. Managers therefore who can for the time being shew minimum working expenses are most favored, and but little care has been taken to check or verify their statements so long as a reasonable course could be assigned for charging the deficit to capital amount. Such deception could not continue beyond a certain limit, and on railways where that point has been reached, some care has been taken to arrive at more correct knowledge of the actual cost of working the line and of the conditions which influence that cost.

Avoiding the disturbing causes which are incidental to an imperfectly con-

structed line, or to an insufficiency or irregularity of traffic passing over it, I shall endeavor to arrive at an estimate of the cost of transporting freight sufficiently accurate for my present purpose.

The length of road over which freight can be carried without change of cars has, within certain limits, an important influence on the cost of transport, per ton per mile. There are certain charges that are equal whether the goods are carried ten miles or five hundred. It costs as much to receive, weigh, store, load and make out bills, and to discharge and deliver a ton of goods when it is to be carried only five miles as when it is to be carried five hundred miles. The same may be said with reference to making up trains and other station expenses, but the charge per ton for their services is also influenced in a great measure by the quantity handled. A hogshead of sugar is as easily booked and nearly as easily loaded as a barrel; and a thousand barrels of flour can be "*way-billed*" for the same cost, as twenty barrels can, and although not loaded for the same cost the increase—supposing the existence of every convenience—is not at all in proportion to the increased quantity.

Regularity of supply as well as quantity exercise an important influence; where there is a sufficiency of freight to load an entire train daily at one place, and the freight so loaded is destined to the same place. All the plant is regularly employed and the number of employees are duly proportioned to the duty to be performed. On the other hand, if cars are partially loaded at the various stations and have to be picked up during the progress of the train; and if uncertainty exists as to the quantity to be carried, then all the expenses of a full train from end to end of the line are incurred, the staff of employees must be equal to the maximum duty that offers at any time, and the proportion of *dead weight* to the *useful load* is increased, inasmuch as the train will probably not carry *through* more than one-third or one-fourth of a full load.

The description of freight must also be taken into account; with well arranged elevators, spouts, &c., grain in bulk can be more cheaply handled than any other description. Barrel freight next, while light bale goods and grain in bags are the most expensive.

In his very able report for 1855, the Superintendent of the New York and Erie Railway investigates with considerable minuteness the various elements that constitute the transportation expenses on that road, and gives the following figures as the result:

"The average useful load carried for every mile run was 60 tons. The average distance freight was transported on the road was 177 miles.

"The earnings per ton per mile were	-	-	-	-\$0 02 37-100
"The Expenses	-	-	-	0 01 15-100
				<hr/>
"Nett Returns was	-	-	-	0 01 22-100"

The above figures are apart from charge for capital, and the amount charged for expenses is composed of no less than thirty-eight items grouped under eight separate classes. The items which form a constant charge irrespective of distance, amounting to no less than $48\frac{3}{4}$ cents per ton,* namely :

For Agents, Clerks, Stationery, &c.	-	-	-	13 cents.
Loading and unloading	-	-	-	24 $\frac{1}{2}$ "
Use of Stations (i.e. interest on their cost and repairs)	-	-	-	11 $\frac{1}{4}$ "
				<hr/>
				48 $\frac{3}{4}$ "

(To be Continued)

ANNUAL REPORT OF THE TORONTO BOARD OF TRADE.

In presenting their annual Report, it would have afforded your Council much satisfaction had they been able to congratulate the Board on a restoration of business to anything like its former position, but the effects of the rude shock which the credit system of this country so suddenly sustained towards the close of last year, still continue to depress all kinds of business, and a general want of confidence has existed never equalled in all former experience.

At the close of 1857, we may affirm, that the trade of Western Canada had become so paralyzed that it was generally admitted and change must be for the better. Yet another year has passed away, and still business matters remain in nearly the same state of lifeless inaction. This continued depression may in some measure be attributed to the short crops of the last two harvests, the failure of which in an agricultural country like Canada must vitally effect its commerce, particularly so when the cultivators of the soil become imbued, as many of our farmers have been, with a restless spirit of speculation, involving them in obligations altogether beyond their usual means of liquidation. This state of things is chiefly owing to the enormous expenditure of the numerous railroads in progress during the last few years, giving an impetus to trade that soon made itself felt in the increased value of every article of consumption for domestic use, doubling family expenditure in most cases without increasing their income. The enhanced value of produce naturally communicated itself to land, the basis of production, which was eagerly

sought after as an investment by farmers and others, until in their desire for speedy wealth they overstepped the bounds of prudence, and made large investments in wild lands and other unproductive property. This spirit of speculation was, doubtless, materially aided and fostered by excessive importations of merchandise, of which large amounts were entrusted for country distribution to young men without experience in business or knowledge sufficient to guard them against the evils of excessive credit, a system then in accordance with the times, but since terminated, at least temporarily by the general crash in the fall of 1857, when credit and speculation received a check long to be remembered in Canada and the adjoining States. The importations of merchandise which of late years had been increasing in a far greater ratio than the wants of our population would seem to warrant, fell off very materially during last year. While this is significant of the severe struggle we are still passing through, it is yet one of the most healthy signs of a speedy return to our usually quiet and steady progress. The importations of last year were narrowed down to the most pressing wants of the country. Importers were thus able to work off their surplus stocks, and at the same time keep their customers supplied with an assortment amply sufficient to meet the reduced requirements of the community; doubtless importers of goods would best consult their own interests by limiting importations to the actual necessities of their trade, at least until such time as a more extended market, or the natural progress of the country would warrant an extension of business. As a consequence of short imports there has been much less demand for exchange, a circumstance which has enabled the banks to devote more of their capital to what may be termed local discounts, thereby easing the pressure of money for legitimate purposes, and here it may not be out of place to remark on the judicious course generally pursued by those institutions to their customers during the pressure of last year. It is satisfactory and gratifying to state that the banks controlled in Toronto, have afforded ample facilities to men in business, in enabling them to meet the difficulties incident to the late panic. The wisdom of this policy has been abundantly proved from the fact that they have suffered little or no loss on merchants' accounts during the year. This wise liberality has enabled business men gradually to control their over-extended credits, so that business is now being placed in a safer position and on a surer basis than for years past. The recent discovery of gold in British Columbia on the west of the Rocky Mountains and the adaptability of that country for settlement, together with an early prospect of easy access to the fertile and boundless prairies of the Red River and Saskatchewan valleys, have drawn the attention of the Imperial Government, as well as the Canadian public, to the practicability of an overland route through British territory from the Atlantic to the Pacific ocean. As our geographical position offers the most direct, and as far as known, *the only practical route* for a railroad, (the survey of which is now being promoted by the Imperial Government,) Canada must become at no distant day the great highway for intercourse, traffic and travel between the Eastern and Western hemispheres, a circumstance pregnant of the most important events to our future destiny, and more especially since recent commercial treaties have opened up the trade of China and Japan, countries which have hitherto been to the world at large, in a great measure, sealed from commercial intercourse. The importance

of our position, in this connection, can be but faintly shadowed forth at the present time. Without doubt, a magnificent future is in store for the country which has the means of connecting the trade of the eastern world with that of civilized Europe.

Pending the solution of this vast revolution in our trade and future prospects, so full of promise to the onward march of commerce and the advancement of the Province; it is satisfactory to perceive that all classes of the community seem impressed with the necessity of personal economy as one of the first and best symptoms of returning prosperity.

HUDSON'S BAY COMPANY, &C.

Petitions were presented to the Legislature against a continuance of the Hudson's Bay Company monopoly of the North-West Territory, and for the establishment of a judiciary in the Red River settlement. We note with satisfaction that the objects prayed for are in a fair way of being accomplished. The Imperial Government have already established the Colony of British Columbia, on the west of the Rocky Mountains, in a part of the Hudson's Bay Territory, while a large staff of English engineers is now engaged in surveying a line of railroad across those mountains into Canadian territory, which completed, will enable us to compete successfully with our American neighbors for a share of the world's trade by an overland route to the Pacific. As a proof that the business men of Toronto are fully aware of the important results which will accrue to trade on the development of this immense field of enterprise, a company has been incorporated by the Legislature, under the title of "The North-West Transportation Company," with ample powers for the construction of railroads, steamboats, &c., &c. This company may be said to have inaugurated its operations by the purchase of the steamer *Rescue*, for the transport of freight and passengers, and carrying the mails from Collingwood to the head of Lake Superior and Red River settlement; it is anticipated that on the opening of navigation the company will be in a position to carry into effect the objects of its charter, which has in view the development of the trade and settlement of the fertile prairies of the far West, as well as being the pioneer of a through traffic to the Pacific Ocean.

HARBOUR TRUST.

A bill passed the Legislative Council at its last session, transferring the Harbour Trust to the City Corporation, against which transfer your council petitioned Parliament, on the ground of its being alike injudicious and uncalled for, inasmuch as the revenue of the harbor is derived entirely from the mercantile body, and there being no complaints against the present trustees, two of whom are elected by the Board of Trade, two by the City Corporation, and one appointed by Government. We record with pleasure that this injudicious measure was defeated by a member of your Council in the Legislative Assembly. In connection with this subject, the Government have intimated to your council their determination to erect a fog bell on Gibraltar Point for the prevention of accidents from fogs and snow squalls at the entrance of the harbour.

GEORGIAN BAY SHIP CANAL.

It is with regret your Council have to state that the services of the engineer for surveying the route of the Georgian Bay Canal, are in part still unliquidated. This matter has been pressed on the attention of Government from time to time, but hitherto unsuccessfully. From the magnitude and importance of the work already accomplished it was reasonably assumed that Government, which has spent so many thousands of pounds in surveying the Ottawa route, would have the liberality to grant the small sum of \$2,000, being the amount remaining unpaid on the survey, more especially as liberal private subscriptions had been contributed to promote this important work. Your Council, therefore, still rely on the liberality and justice of the Government for supplying the deficiency.

NORTHERN RAILWAY.

It was with great concern that your Council learned that the Northern Railroad was about to suspend its operations, it having being condemned as dangerous for travel and traffic, by the Government Inspector of Railways, in consequence of requiring an immediate outlay for new rails.

So soon as information of the road being interdicted was received by the Council, a meeting of the Board was held, and largely attended by its most influential members, when Mr. Cumberland, the Vice-President of the road, verbally submitted a full statement of its present and prospective condition, showing that a temporary advance of \$30,000 would enable it to continue running until spring; by which time it was expected some measure of permanent relief would be submitted to Parliament for its future prosperity.

A Committee was appointed by the Board to memorialize the Government and solicit a personal interview with the Executive on the subject, as also to confer with a similar Committee of the City Corporation and Railroad Directors, for devising a measure of permanent relief by re-organizing the Company, or otherwise placing it on a new basis. The Committee waited on His Excellency the Governor General, who expressed himself fully conscious of the importance of the road to Toronto and the northern country, but declined giving any assurance of relief in money, without sufficient security for its repayment; in the meantime, however, the Railway Commissioners had set aside the order for closing the road, and agreed to permit its working at a reduced speed, during the hours of daylight only, a measure of temporary relief which does not prevent its close at any moment, as the Government Inspector has declared its condition unsafe, and there is no available means for its immediate repair.

Your Council are unwilling to believe that a road so important to the interests of the Province would be allowed to stop, it is therefore hoped that so soon as the Legislature meets, some means will be adopted by Government for placing it on a permanent footing, beneficial alike to the country and to those more immediately interested in it as a pecuniary investment.

USURY LAWS.

The attention of your Council was, at an early period, devoted to the removal of that old standing grievance, the Usury Laws. A subject which has been referred to in our Annual Reports for years past, and long regarded with much interest by the commercial public throughout the Province.

At a meeting held by the Council a resolution was passed and embodied in a petition to Parliament, which conveyed the opinion of the Council on this subject, and, notwithstanding much conflict of opinion among mercantile men, as well as in the Halls of the Legislature, the law has conformed to the letter of the resolution passed by the Council. It is therefore a matter of congratulation to be able to state, that the restrictions in dealing in money have been removed, excepting the banks, which are confined to seven per centum per annum, and it is now hoped that this measure will produce the beneficial effects contemplated by inducing the influx of foreign capital into the Province.

DEBTORS AND CREDITORS.

Frequent meetings were held, and much time spent in discussing the laws relating to debtors and creditors, more particularly in reference to a printed memorandum on that subject, issued by the Board of Trade of Montreal, which was amended by your council and returned to that body.

In connection with this important subject, a deputation waited on the Attorney General with a view of inducing him to introduce a more comprehensive measure for the regulation of insolvencies than the one he proposed, but on discussing the points at issue, it was found difficulties existed to more comprehensive legislation, unless by the substitution of a general bankrupt Act, an alternative which your Council was not prepared to recommend. The Bill of the Attorney General, intituled, "An Act for abolishing imprisonment for debt, &c.," may, however, justly be considered an improvement on former legislation, and it makes void all preferential assignments, and legalizes beyond dispute those made in good faith for the general benefit of creditors. It also provides stringent punishments for fraud, or the misapplication of trust funds, and would have been still more satisfactory to the commercial public, had it vested the appointment of an assignee in the hands of the creditors, or given them control over the assignee appointed by the insolvent, as one of the principle difficulties heretofore has been the want of control over the estate of the insolvent, by the parties most interested in its management. Fears have, however, been expressed, and much apprehension is felt in regard to the titles to real estate conveyed by parties when in a state of insolvency, as any conveyance made by a debtor to a creditor.

RECIPROCITY TREATY.

The new regulations introduced by the United States Consular Agents in Canada, requiring certificates and exacting fees on the shipment of flour, wheat, and other produce to the United States, engaged the attention of your Council, and a petition containing their views on this subject, was transmitted

to the Governor in Council, requesting that the Government would, in conjunction with the American Government, take such steps as may be necessary to abrogate the system complained of.

Of such importance to the trade of New York, is the Canadian flour business considered, that the Chamber of Commerce of that city lately unanimously memorialized the authorities at Washington, to permit American wheat to be manufactured in transitu through Canada for re-export to the United States. In reply to this memorial, the Secretary of the Treasury stated that flour ground in Canada from American wheat, could not be admitted free under the Treaty of Reciprocity, and that Congress had no power to alter that treaty. Further, in reply to frequent inquiries, whether articles manufactured in the British Provinces of materials the product of the United States, can be imported free of duty, the Secretary decided that articles so manufactured, not being imported in the same condition as exports, do not come within the exemption clause under the Tariff Act of 1856, nor within the meaning of any similar law or treaty, and must, consequently, be subject to a duty according to their classifications in said Tariff Act. In consequence of this decision, it will be necessary to look to the Imperial Government for redress of the grievance complained of, which course is respectfully submitted to our successors in office.

THE TARIFF.

Towards the close of last session of the Legislature, the Inspector General introduced a series of resolutions increasing the tariff on imports generally, raising the duty on *ad valorem* goods from 15 to 20 per cent., and from 20 to 25 per cent. The imposition of such an advance on the then existing high duties could be justified only by the most pressing necessities of the Government. Petitions were presented against the increased rates on cotton, wollens, especially, as entering largely into the consumption of the industrious classes, who could not fail to be unfavourably affected by such a measure, in a season of unusual depression like the present; but in view of a falling revenue and an increased expenditure, Parliament assented to this additional tax on commerce, which is to be regretted, as frequent changes in our tariff have a tendency to derange the regular course of trade.

RECAPITULATION.

Having glanced at the principle subjects which engaged the attention of your council during the past year, they would now direct the notice of the Board to the Report of the Committee of the Legislative Assembly on Trade and Commerce, presented at the close of the session by the Hon. W. H. Merrit, Chairman. This Committee was appointed on a petition of the Board of Trade, setting forth the depression in trade so generally felt, and requesting the House to investigate the cause; and, if possible, suggest some measures of relief or alleviation. The report is replete with much valuable information, especially that communicated by Mr. Wilkins, the British Consul at Chicago, in reference to the working of the treaty of Reciprocity, and in pointing out the difference between the laws of the United States and Canada, relating to inland shipping, &c.

Whilst we acknowledge having obtained a more extensive and better market for our wheat and flour, and other produce, by the treaty of Reciprocity, we yet have to complain of labouring under many disadvantages with respect to the navigation laws of the United States, which do not admit of foreign-built vessels to registry; and further, even when the vessel was built in America and sold to a British owner, will not allow a re-registry as an American vessel. The Report, however, has one objectionable feature, as it recommends "that the principle of Reciprocity with the United States be extended to manufactures." This extension we believe to be in direct opposition to our manufacturing interests, as well as that of Great Britain. It is, therefore, a proposition in which your Council cannot concur with the Parliamentary Committee. It is desirable, for many important reasons connected with the commerce, that a "Committee on Commerce" should become one of the established Committees of the Legislative Assembly, as it frequently happens that matters of grave importance to the trade of the Province, are overlooked for want of some constituted authority to take cognizance of them. Your council would, therefore, desire to call the attention of their successors to its importance.

STATISTICS, &c.

With a view of enabling parties at a distance to gain some knowledge of our trade, statistics, exports, and imports, together with brief remarks on trade in the principal articles of commerce, are appended to this report, also a comparative statement of the imports and exports for a series of years past.

It will be seen that a large decrease has taken place in both the imports and exports. The former, as already remarked, may be considered one of the most encouraging tokens of prosperity; for, as our foreign indebtedness lessens, our means of meeting local liabilities improve. Regarding our exports, as the means of liquidating our debts abroad, the deficiency at first sight is rather alarming; but when the inferior crops of the last two harvests [which were exceptional] are taken into consideration, together with the quantity of produce sent from Port Credit and the Humber, [both of which ports may be fairly assumed as belonging to this city, their imports being purchased in a district tributary to, and with the funds supplied by Toronto] it will be seen that no fears need be in that respect.

With a return of the confidence which has been so largely forfeited, and a systematic practice of habits of economy, we have reason to look forward to better times ere another year shall have added its records to those of the past; and, gaining wisdom by experience, our commercial prospects may again hold a promise of reward to the investment of capital for the development of our material resources, and the extension of commerce.

All of which is respectfully submitted.

THOMAS CLARKSON,
President.

CHARLES ROBERTSON,
Secretary.

On motion of Alex. Hamilton, Esq., seconded by A. K. Boomer, Esq., the Report was adopted.

The Secretary then stated that he was indebted to Mr. E. Wiman, the Commercial Reporter of the *Globe*, for the commercial statistics which follow the Report.

On motion of E. F. Whittemore, Esq., seconded by Rice Lewis, Esq., the thanks of the meeting were voted to Mr. Wiman, for the statistics and other commercial information he had procured.

The President, in tendering the vote to Mr. Wiman, complimented him upon his ability and energy as a commercial reporter.

JOURNAL OF MANUFACTURES.

THE RELATIONS OF SCIENCE TO MODERN CIVILIZATION.

Whatever will best meet the demands of comfort and refinement by increasing the productive power of labor, by diminishing the cost of raw material, by adapting it to the greatest and widest utility, by quickening circulation and facilitating exchange, must necessarily advance civilization.

Let us see if science meets this demand. It has in some way contributed to every valuable process of modern industry. Take for example the single article of cotton; chemistry selects and prepares the soil; geology points out the hidden places of iron, lead, and carbon; chemistry, by the safety lamp, prevents explosions in coal mines, and dictates the most economical process of manufacturing raw materials into machinery; mechanical philosophy directs the construction of the cotton gin, which separates the filaments from the seeds; of the jenny, which spins them into threads; and of the power-loom, which weaves them. The process of bleaching, which formerly required five thousand hours, is now as thoroughly effected in one. The mineral, vegetable, and animal kingdoms pay tribute of their richest dyes; and the arts of design, engraving, and mechanics combined, tint the new-made fabric at the rate of two thousand yards per hour. Aided by chemistry, machinery metamorphoses the rags into paper, and *stamps*, with the symbols of thought, *fifty newspapers per second*.

Thus, in six short months from the planting of the cotton seed, the paper product, covered with news of the latest discoveries, improvements, controversies, hostilities, sentiment, and song, may be vivifying, energizing and harmonizing the entire mind of the world.

We read our obligations to mathematics in the stupendous structures which span the briny flood of Menai, and the fathomless abyss of Niagara. We have not lost the lesson in the fall of the suspension-bridge of Rochester.

Of the living force which is now absorbed in productive work, nine-tenths are generated in the water-wheel and the engine. Man's puny arm is tasked but for the remaining tenth, necessary to accomplish the present triumphs of industry. Science has shown him that mind is the seat of all power—has taught him division of labor—has enabled him to command and harmonize the powers of antagonistic forces—it has elevated him from the drudge to the superintendent—has raised him from muscular toil to the evermore productive, ennobling, and refining effort of mind. The fabled spear of Holus had not so potent control of the elements, as, in the hand of man, has the lever. He touches it—a thousand spindles whirl, and shuttles fly, animated by the transmitted force of gravity. He springs the valve, and the steaming Pegasus whirls his articulated train across the landscape at the speed of fifty miles per hour.

The intelligent observer sees the potency of science in the indispensable utility and elevating influence of every appliance of modern civilization—in the gas, which drives crime from the midnight street—in the supplies of water, which flow through the iron arteries of our towns—in the window, which admits the light, and repels the tempest—in the retort, which reveals the secrets of alchemy—in the crystal edifices which in London, Paris, and New York, rear their princely domes, sacred to industry and art—in the microscope that reveals the complex and symmetrical structure of the animalculi—in the artillery of astronomy, which brings the denizens of infinite space within the sphere of human observation.

Political economy has brought to light those fundamental truths which regulate exchange—has disabused the civilized nations of the idea that individual or national wealth could result only from another's loss—has changed commerce from a source of hostility into a bond of peace.

Modern civilization is vigorous, radiant, all glow under the genial influence of a universally extended commercial intercourse. Not only are the products of the material world thus brought under the laws of supply and demand, but a commerce of ideas exists to an extent hitherto unknown, vivifying humanity to the remotest parts of the globe.

But how were obtained the stupendous agencies requisite to carry on this gigantic exchange? What has enabled man thus to extend his dominion over the inanimate forces—to give them muscles of steel, and doom them to perpetual service? Why, in the last half century, have burst forth such great revolutions in agriculture, manufactures, commerce, literature, and art? How has material and immaterial nature thus suddenly a ten-fold capacity to administer to the convenience, taste, physical and mental well being of man?

Whence the authority to appoint the goddess of the tides an omnipresent pilot of the deep—to arrest the thunderbolt in its path—to bid it mount the magic wire—dart athwart the land—plunge beneath the sea, and resume its terrene flight on foreign shores, an universal courier? What, we ask, has enabled the civilized nations of to-day thus to realize results more stupendous, magnificent, glorious, than imagination in its loftiest flights has ever before embodied? We have but to turn to the studies which have occupied

the silent thoughts of scientific minds of the last three centuries for an answer.

When man has accumulated facts, and in studying their relations, abandons those speculations which transcend the limits of his capacity ; when he places himself in harmony with the forces employed by his Creator, then his inquiries are practical—science becomes a fit handmaid of Christianity in extending civilization, in purifying and developing the human mind, and in spreading over the world the blessings of industry and peace.

DIAMOND CUTTING.

By cutting, the peculiar brilliancy of the diamond is brought out, and its value fixed. Then the jeweler adds new beauty by tasteful setting. His skilful combination of various kinds of precious stones, so that the one may impart splendor to the other, makes the starry rays of the diamond sparkle with glory in the tiara, brooch, or necklace. During the last twenty years great progress has been made in the art of setting, of which splendid exhibitions were exhibited both at the London and Paris exhibitions. Rubies, sapphires, emeralds, and diamonds, are now formed into anemones, roses, carnations, tulips, convolvuli, lilies, and other flowers. Probably, the idea originated with the glory which is seen, early on a summer morning, when the rising sun shines on the dewy flowers. The revolution in France, at the end of the last century nearly ruined the jewelers of Paris, and for a time gave a check to improvement. Under the imperial government of Napoleon I., some progress was again made, but the art only began to flourish after the restoration. At first, they worked with stones of the second class, such as topazes, amethysts, and aigue-marines, with which trinkets of more appearance than value could be made. Afterwards, it was found that by imitating flowers, the number of precious stones, in proportion to the size of the jewel, could be reduced without injuring the effect ; while diamonds of less purity, such as those of Bahia, could be more freely used. The practice of setting diamonds in silver, and rubies in gold, so as to impart an apparent increase of size to the one, and splendor of color to the other, became more general ; and the most beautiful designs have been wrought out with the greatest neatness and taste. At no period in the history of the world have so fine specimens of the jeweler's art been produced as during the present century by the artists of London and Paris.

MACHINE-MADE WATCHES.

It is not more than twenty years since clocks were exclusively furnished to us by European countries, and their manufacture here, with very few exceptions, was almost unknown. Now, however, they are daily manufactured here by thousands, through the instrumentality of machinery, which enables them to be constructed not only in a much superior and correct manner, but at one-twentieth the price originally demanded for them when manufactured by manual labor. The most ingenious machinery is now in operation for this purpose. The manufacture of watches is also now carried on upon the same principal, and by somewhat analogous machinery to that employed for the manufacture of clocks. Dies of the most exquisitely-delicate formation are employed for cutting the various wheels, as well as other intricate parts, and lathes and polishing-wheels for reducing the pivot-jewels to the proper

size, and giving them the proper finish. And while the simplicity observed in the construction of the watch lessens its liability to stop on otherwise get out of order, any cause of disarrangement is more easily detected.

STATISTICS OF AGRICULTURE.

AGRICULTURAL EXHIBITION IN FRANCE.

The Paris *Moniteur* of the 2d October has an ample report of the Minister of Agriculture on the regional agricultural exhibitions in France. The number of them this year was ten, at central places in the great territorial divisions. The report embraces the names of the exhibitors to whom the chief prizes were awarded, and the main results of the convocations and the competitive system. Formerly those divisions of the country entertained mischievous prejudices and antipathies against each other; the peasantry refused to employ new implements of tillage, or to admit any changes in their antiquated husbandry. This evil has nearly disappeared under the influence of the assemblages and the means of comparison. France, says the minister, has at length learned to know herself and her resources; the rural progress, in every particular, surpasses all expectation. Many thousands of people of different provinces have been drawn together; they have parted with mutual cordiality; their only solicitude is how to make the best figure in the shows and intercourse of the next year. The railroads afford them facilities for every purpose, of which their forefathers could have no conception. The departments and the large cities contribute sums of twenty-five and thirty-five thousand francs towards the accommodation and arrangement of the animals and machinery brought to each of the rendezvous. From year to year the numbers of the frequenters and the objects for exhibition and rivalry have signally advanced. The report adduces the statistics. In 1846 wheat was grown on not more than 5,936,908 hectares, (the hextare is two-and-a half acres;) in 1856 it occupied 6,468,236 hectares; the increase in the yield is larger in proportion. Special attention will henceforth be paid to the classification of the animals, according to localities, and breeds, and qualities, and of the farming implements in reference to origin and usefulness. From 1860 the number of agricultural regions will be ten or twelve; each will comprize seven departments or provinces, and an exhibition will be annually held by each in turns. The central government and the authorities of the several *circumscriptions* or demarkations will appoint inspectors, juries to award the premiums, surveyors of the farms in competition, and scientific and practical instructors. The emperor has created five model farms in the neighbourhood of the Camp of Chalons, on which the soldiery and corps of engineers are occasionally employed. His chief object is to fertilize for pasture the arid and nearly barren plains; and considerable sums are appropriated from the civil list to carry out his plans. Each of the new establishments has stables for a hundred cows, stables for twenty horses, and folds for twelve hundred sheep. Four hundred cows of the race of Brittany, more than three thousand sheep, rams of the English stock, and thirty choice brood mares are already collected. Five similar establishments are to be undertaken and completed next year.

BANK NOTE REPORTER.

COUNTERFEITS.

BANK OF BRITISH NORTH AMERICA.

2's altered from 1's, are in circulation.

BANK OF MONTREAL.

5's, a steamer, on upper right corner—cattle on the left end—5 in the centre and on the lower right corner—an eagle between the signatures.

5's, Toronto Branch, let. A—pay Baker—in the genuine the word "value" to the left of Toronto, is directly over the word Toronto: in the counterfeit the nose of the small dog comes very near the "T" in Toronto; in the genuine it is an eighth of an inch from the T.

5's, altered from 1's—has a V in a circle at the bottom.

5's, altered from 1's—vig. a female reclining on a figure 5, clumsily altered from the figure 1.

10's, "Parliament" on the left side of the bill is spelled without the *a*.

10's, altered from 1's—vig. Britannia with a spear and shield, and the head is placed after the signature of the cashier; the genuine 10's have a ship, and "Bank of Montreal" is in one line.

10's, perfect imitation of genuine English plate—has no water-mark, and has a somewhat blurred appearance.

BANK OF UPPER CANADA.

10's altered from 1's: vig. railroad train.

10's altered from 1's; vig. a beehive; the true 10's have for vig. a landscape view.

10's, let. C.; close imitation; Nov. 1st, 1839; general appearance darker than the genuine, particularly in the foreground of the vig. and the figure X at the bottom

CITY BANK MONTREAL.

10's, vig. British coat of arms; male bust on left end; "Parliament" is spelt "Parliament;" has a bluish look.

COMMERCIAL BANK OF CANADA.

5's, horse and rider on lower right and left corners.

5's, spurious—vig. a female leaning on a wheel.

10's, vig. flying Mercury in clouds, with 10 and scrolls each side; marine view on lower right corner; X., roses and thistles on the left; imitation of genuine, but of a little dark color. This is a dangerous counterfeit.

20's, altered from 4's, vignette railway cars.

GORE BANK.

20's & 50's—This Bank has no 20s. or 50s.

NIAGARA DISTRICT BANK.

5's, altered from 1s.—vig. lion and unicorn—milkmaid on left. 10's altered from genuine 1s—bank has no 10s.

QUEBEC BANK.

2's, altered from 1's. Well done.

10's, vig. man and woman—female on each end.

10's, altered from 1's. The altered bill has the letter X substituted for the figure 1 on the upper corners. The genuine tens have the figures 10 on the corners.

20's altered from 1's. The words twenty dollars, partly encroaches on the first of the word currency.

ZIMMERMAN BANK.

5s, 10's & 20's, altered from 1's—vig. suspension Bridge—female, anvil, and hammer on right—Clifton house on left. In the genuine 20's the name of the bank is on the Top of the bill; in the altered bills the name of the bank is below the Suspension Bridge.

BANK OF BRITISH NORTH AMERICA

HEAD OFFICE—London, England. Charles McTab, *Secretary*.
 Head Office in the Colonies—Montreal. T. Paton, *Gen. Manager*.

		DISCOUNT IN	
		Montreal.	Toronto.
BRANCH at	Montreal.	Robert Cassels, Manager	par par
"	"	Brantford. James C. Geddes, Mang'r	$\frac{1}{2}$ par
"	"	Halifax, N. S. S. N. Binney, Mang'r	5 5
"	"	Hamilton. Geo. Taylor, Mang'r	$\frac{1}{2}$ par
"	"	Kingston. Samuel Taylor, Mang'r	$\frac{1}{2}$ par
"	"	London, C.W. Walter Watson.....	$\frac{1}{2}$ par
"	"	Quebec. F. W. Wood, Mang'r	par par
"	"	St. John, N. B. Thomas Christian.....	5 5
"	"	Toronto. W. G. Cassels, Mang'r	$\frac{1}{2}$ par
Agency at	Dundas.	W. Lash, Agent	$\frac{1}{2}$ par
"	"	Ottawa. A. C. Kelly, Ag't	$\frac{1}{2}$ par
Agents in	New York.	R. C. Ferguson, F. H. Grain.	
"	"	Scotland. National Bank of Scotland, and Branches.	
"	"	Ireland. Provincial Bank of Ireland, and Branches.	
"	"	West Indies. Colonial Bank.	
"	"	Australia. Union Bank, and Branches.	
"	"	Vancouver. Bank B. N. A.	

BANK OF THE COUNTY OF ELGIN.

(Notes secured by deposit of Government Securities.)

Head Office—St. Thomas, C.W. Edward Ermatinger, *Mang'r*..... $\frac{1}{2}$
 All Foreign business transacted through the Commercial Bank of Canada.

BANK OF MONTREAL.

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—	Montreal.	Hon. P. McGill, <i>President</i> .	
		D. Davidson, <i>Cashier</i>	par par
Branch at	Montreal.	E. H. King,	par par
Branch at	Quebec.	J. Stevenson, Manager	par par
"	"	Toronto. R. Milroy, Mang'r	$\frac{1}{2}$ par
"	"	Hamilton. A. Milroy, Mang'r	$\frac{1}{2}$ par
"	"	London, C.W. Wm. Dunn,	$\frac{1}{2}$ par
"	"	Brockville. F. M. Holmes, Mang'r	$\frac{1}{2}$ par
"	"	Kingston. A. Drummond, Mang'r	$\frac{1}{2}$ par
"	"	Cobourg. C. H. Morgan, Mang'r	$\frac{1}{2}$ par
"	"	Belleville. Q. Macnider, Mang'r	$\frac{1}{2}$ par
"	"	Bowmanville. G. Dyett, Mang'r	$\frac{1}{2}$ par
"	"	Brantford. A. Greer, Mang'r	$\frac{1}{2}$ par
"	"	St. Thomas. E. M. Yarwood, Mang'r.....	$\frac{1}{2}$ par
"	"	Ottawa (late Bytown). P. P. Harris, Mang'r	$\frac{1}{2}$ par
Agency at	Woodstock	W. J. Buchanan, Agent.....	$\frac{1}{2}$ par
"	"	Cornwall. W. Mattice, Agent.	$\frac{1}{2}$ par
"	"	Whitby. Thos. Dow, Ag't	$\frac{1}{2}$ par
"	"	Peterboro. Jackson Rae, Ag't	$\frac{1}{2}$ par
"	"	Goderich. H. McCutcheon,	$\frac{1}{2}$ par
"	"	Simcoe. S. Read, Ag't	$\frac{1}{2}$ par
"	"	Port Hope. R. Richardson, Ag't	$\frac{1}{2}$ par
"	"	Pictou. J. Gray, Ag't	$\frac{1}{2}$ par

BANK OF MONTREAL (CONTINUED.)

				DISCOUNT IN	
				Montreal.	Toronto.
Agency at	Guelph.	R. M. Moore,	.....	$\frac{1}{2}$	par
" "	Lindsay.	Hartley Dunsford,	.....	$\frac{1}{2}$	par
" "	Perth.		.....	$\frac{1}{2}$	par
" "	Windsor.	A. Macnider	.....	$\frac{1}{2}$	par
Agents in	London—The Union Bank of London.				
" "	Liverpool—The Bank of Liverpool.				
" "	Edinburgh—The British Linen Company, and Branches.				
" "	Glasgow—	Do. do. do.	do.		
" "	New York—The Bank of Commerce.				
" "	Boston—The Merchants' Bank.				

BANK DU PEUPLE.

				DISCOUNT IN	
				Montreal.	Toronto.
Head Office—	Montreal.	J. DeWitt, <i>President.</i>			
		B. H. Lemone, <i>Cashier.</i>		par	par
Agents at	Toronto,	E. F. Whittemore & Co.			
" "	Quebec,	Quebec Bank.			
" "	Bowmanville,	John Simpson.			
" "	London, Eng.,	Glyn, Mills & Co.			
" "	New York,	Bank of the Republic.			
This Bank issues no Notes at its Agencies.					

BANK OF UPPER CANADA.

				DISCOUNT IN	
				Montreal.	Toronto.
Head Office—	Toronto, C. W.	Wm. Proudfoot, <i>President.</i>			
		T. G. Ridout, <i>Cashier</i>		$\frac{1}{2}$	par
Branch at	Brockville ...	R. F. Church, <i>Cas'r</i>		$\frac{1}{2}$	par
" "	Hamilton ...	Alfred Stow, "		$\frac{1}{2}$	par
" "	Chatham ...	C. P. Isson, "		$\frac{1}{2}$	par
" "	Kingston ...	W. G. Hinds, "		$\frac{1}{2}$	par
" "	London ...	Jas. Hamilton, "		$\frac{1}{2}$	par
" "	St. Catharines,	H. C. Barwick "		$\frac{1}{2}$	par
" "	Montreal ...	E. T. Taylor, <i>Manager</i>		par	par
" "	Quebec	R. S. Cassels, "		par	par
Agency at	Barrie ...	E. Lally, <i>Agent</i>			
" "	Belleville ...	E. Holden, "		$\frac{1}{2}$	par
" "	Clifton ...	James Macklam, "			
Agency at	Goderich ...	John McDonald, "			
" "	Lindsay ...	J. H. Hopkins, "			
" "	Niagara ...	T. McCormick, "			
" "	Ottawa ...				
" "	Port Hope ...	J. Smart. "			
" "	Sarnia ...	Alex. Vidal "			
" "	Stratford ...	J. C. W. Daly "			
" "	Three Rivers, C.E.	P. D. Dumoulin, "			
" "	Windsor, C.W.	Thos. E. Trew, "			

BANK OF UPPER CANADA (CONTINUED.)

			DISCOUNT IN	
			Montreal. Toronto	
Agents at	Albany, N. Y...	Bank of the Interior.		
" "	Boston ...	Blake Howe & Co.		
" "	Edinburgh ...	British Linen Company.		
" "	London, Eng...	Glyn, Mills & Co.		
" "	" "	Coutts & Co.		
" "	" "	Barclay, Bevan, Tritton & Co.		
" "	" "	Bank of London.		

BANK OF TORONTO.

			DISCOUNT IN	
			Montreal. Toronto.	
Head Office—Toronto	...	J. G. Chewett, <i>President.</i>		
		Angus Cameron, <i>Cashier</i>	$\frac{1}{2}$	par
Agency at	Barrie ...	Angus Russell, <i>Agent</i>		
" "	Cobourg ...	J. S. Wallace, "		
" "	Newcastle ...	Alexander Smith, "		
" "	Peterboro ...	Alexander Monro "		
" "	Oakville ...	John T. M. Burnside "		
Agents at	London, Eng...	City Bank.		
" "	New York, U.S.	Bank of Commerce.		

CITY BANK, MONTREAL.

			DISCOUNT IN	
			Montreal. Toronto.	
Head Office—Montreal.		Wm. Workman, <i>President.</i>		
		F. Macculloch, <i>Cashier</i>	par	par
Branch at	Toronto ...	Thomas Woodside, <i>Manager</i>	$\frac{1}{2}$	par
" "	Quebec ...	Daniel McGee, "	par	par
" "	Sherbrooke ...	W. Ritchie, "		no issues
Agent at	Dublin ...	National Bank of Ireland.		
" "	London, Eng...	Glyn, Mills & Co.		
" "	New York ...	Bank of the Republic.		

INTERNATIONAL BANK.

Capital, \$1,000,000.

Head Office—Toronto. Wm. Fitch, *President.* J. H. Markell, *Cashier*..... $\frac{1}{2}$ par
 Agents at New York, Metropolitan Bank.

COLONIAL BANK OF CANADA.

Authorized Capital, \$2,000,000.

Head Office—Toronto. A. M. Clark, *President.* _____, *Cashier.*
 This Bank is not yet in operation.

COMMERCIAL BANK OF CANADA.

(Formerly Commercial Bank of the Midland District.)

			DISCOUNT IN	
			Montreal. Toronto.	
Head Office—Kingston.		Hon. John Hamilton, <i>President.</i> C. S.		
		Ross, <i>Cashier</i>	$\frac{1}{2}$	par
Branch at	Belleville ...	Andrew Thompson, <i>Manager</i>	$\frac{1}{2}$	par
" "	Brookville ...	James Bancroft "	$\frac{1}{2}$	par
" "	Galt ...	William Cooke, "	$\frac{1}{2}$	par
" "	Hamilton ...	W. H. Park, "	$\frac{1}{2}$	par
" "	London ...	J. G. Harper, "	$\frac{1}{2}$	par

		DISCOUNT IN	
		Montreal.	Toronto.
Branch at	Montreal, Thomas Kirby,.....	par	par
"	" Port Hope, W. F. Harper.....	$\frac{1}{2}$	par
"	" Toronto, C. J. Campbell.....	$\frac{1}{2}$	par
Agency	Chatham, Thomas McCrae.....		
"	" Ingersoll, W. Sage.....		
"	" Perth, James Bell.....		
"	" Peterboro, Wm. Cluxton.....		
"	" Port Stanley, E. C. Warren.....		
"	" Prescott, John Patton.....		
"	" Stratford, George C. Small.....		
Agents	Albany, New York State Bank.....		
"	" Boston, Merchants Bank.....		
"	" Dublin—Ireland; Boyle, Low, Pim & Co.....		
"	" Edinburgh—Scotland; Commercial Bank of Scotland.		
"	" Glasgow " Clydesdale Banking Company.		
"	" London—England; London Joint Stock Bank.		
"	" New York, Merchants Bank.		
"	" Oswego, N. Y.		

GORE BANK.

		DISCOUNT IN	
		Montreal.	Toronto.
Head office,	Hamilton, A. Stevens, <i>President</i> . W. G. Crawford, <i>Cashier</i> .	$\frac{1}{2}$	par
Agency at	Chatham, C. Warteriss, <i>Agent</i>		
"	" Galt, " John Davidson.....		
"	" Guelph, " T. Sandilands.....		
"	" London, ".....		
"	" Paris, " James Nimmo.....		
"	" Simcoe, " D. Campbell.....		
"	" Woodstock, " James Ingersoll.....		
Agents	Albany, N. Y.; New York State Bank.....		
"	" Edinburgh, Scotland,—Union Bank and Branches.		
"	" London, England,—Glyn, Mills & Co.....		
"	" New York, Ward & Co., and Merchants Bank.....		

MOLSON'S BANK.

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—	Montreal, Wm. Molson, <i>President</i> ; W. Sache, <i>Cashier</i> .	par	par
Agency at	Toronto, John Glass, <i>Agent</i>	$\frac{1}{2}$	par
Agents at	Boston, U. S.; J. E. Thayer & Brother.		
"	" New York, Mechanics Bank.		
"	" London, England; Glyn, Mills & Co.		

NIAGARA DISTRICT BANK.

Head office—	St. Catharines. Hon. W. H. Merritt, <i>President</i> .	C. M. Arnold
	<i>Cashier</i> .	
Agency at	Ingersoll, C. E. Chadwick, <i>Agent</i> .	
Agents.—	London, England,.....	Bosanquet, Franks & Co.,
	New York.....	Bank of the Manhattan Co.

This Bank was established under the Free Banking Law of Canada, in 1854, but was incorporated by Act of Parliament in 1855, and is now one of the chartered Institutions of the country.

ONTARIO BANK.

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—Bowmanville ...	Hon. John Simpson, <i>President</i> .		
	D. Fisher, <i>Cashier</i>	$\frac{1}{2}$	par
Agent at New York ...	Bank of the Republic.		
“ “ London, Eng. ...	Glyn, Mill & Co.		

PROVINCIAL BANK—STANSTEAD.

(Notes secured by deposit of Provincial Securities.)

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—Stanstead, C. E.—W. Stevens, <i>President</i> ,.....	J. W. Peterson <i>Cashier</i>	$\frac{1}{2}$	5
Agents in Montreal.....	J. D. Nutter & Co.		
“ New York.....			
“ Boston.....			

The notes of the Provincial Bank are not taken in deposit by any of the other Banks or Branches—the Brokers in Montreal redeem them at one-half per cent. discount. In Toronto and other western cities they are bought in large sums at two and one-half, and, in smaller amounts, at five per cent. discount.

QUEBEC BANK.

		DISCOUNT IN	
		Montreal.	Toronto.
Head Office—Quebec, James Gibb, <i>President</i> —C. Gethings, <i>Cashier</i>		par	par
Branch at Toronto, W. W. Ransom, <i>Manager</i>		$\frac{1}{2}$	par
Agency at Montreal, Banque du Peuple, Agents			
“ Ottawa, H. V. Noel, “			
“ Three Rivers, John McDougall, “			
Agents at Fredericton, N.B. ; Central Bank, “			
“ London, England ; Glyn, Mills, & Co., “			
“ New York, U. S. ; Maitland, Phelps, & Co.			
“ St. John, N. B. ; Commercial Bank, New Brunswick ...			

ZIMMERMAN BANK.

Head Office—Clifton, C. W.—Jos. A. Woodruff, <i>President</i> .		
J. W. Dunklee, <i>Cashier</i> .	$\frac{1}{2}$	
Agents in New York, Atlantic Bank.		

PRIVATE BANKERS AND EXCHANGE BROKERS.

MONTREAL.—C. Dorwin & Co., St. Francois Xavier Street.	
“ J. D. Nutter & Co., Place D'Armes, Publishers of C. M's Bank Note Reporter.	
“ Geo. W. Warner, St. Francois Xavier street.	
“ D. Fisher & Co.,	
“ J. E. Malhiot.	

COMMERCIAL SUMMARY AND REVIEW.

REVIEW OF THE TORONTO MARKETS.

Toronto, Wednesday, Jan. 26th, 1858.

The business of the Month has been perhaps more than usually dull, in consequence of the absence of sleighing, and the uncertain state of the weather. In this latter respect, the present winters remarkable, and we never before have had so many variations of climate, in so short a time as during the past month. The absence of sleighing depresses business, and prevents supplies of produce coming out from the back townships; which indeed comprises the only surplus now on hand, and on which the consumption of the frontier has solely to depend. It would seem that in any event, prices must remain as high as at present, if not go up higher, for the demand for wheat in the Eastern States will be as active as usual, and if it is to be supplied from the small surplus from this quarter, high rates will have to be paid. Prices during the Month have not varied materially, for all seasonable products closes with an active demand, and firm prices. The following Market Report we abridge from the *Globe*.

WHEAT—In active demand. Supplies limited, in consequence of the want of good sleighing. Prices continue to exhibit an upward tendency. For good merchantable wheat 7s. to 7s. 6d. is freely paid, while medium and low grades are bought at 6s 6d to 6s 9d per bushel.

Spring wheat is also in very active request. Prices have also advanced, and recently 5s to 5s 3d has been the range, the outside figure being only paid in one or two instances for the purest samples.

FLOUR—There is said to be a considerably improved enquiry for flour; but owing to the absence of stock, the present week has been without transactions. Prices unsettled with a decided upward tendency, and \$5 50 is spoken of as the nominal quotation for superfine, although we are not cognizant of offers at this rate. For Fancy we hear of no quotation. Extra is named at \$6 to \$6 50, and some favorite brands of double extra are as high as \$7 per barrel.

BARLEY.—Quotes at 4s to 4s 3d per bushel.

RYE.—Nothing of consequence doing. It is named at 3s 6d to 3s 9d per bushel.

OATS have continued scarce and in very active request both for immediate

consumption and for accumulation either for shipment or speculation, in the event of higher prices. The rates are 2s 7d to 2s 10½d per bushel by weight.

PEAS.—There exists a very active enquiry for Peas, but the supplies are light and no transactions are reported. Nominal quotations are 3s 9d to 4s per bushel.

POTATOES have come in more freely, and by the load have sold at 2s 7d per bushel, and by smaller quantities at 2s 9d.

SOUND APPELS, of common variety, have brought from 4s to 4s 6d per beshel, and \$3¾ to \$4 per barrel.

PORK.—A good business continues to be done in dressed hogs, for which is still active, both for export and for local purposes. For heavy hogs say over 200lbs, \$6 has been the current rate, with occasionally a prime lot, at \$6 12½ and \$6 25. For light and medium weights \$4 25 to \$5 50 is the quotation.

BEEF.—Slaughtered from farmers sells by the hind quarter at \$5 to \$5¼ per 100lbs. Fore-quarters find slow sales at \$3½ to \$4 per 100lbs. On foot first-class cattle bring \$5 to \$5½; medium; \$4½ to \$5, and inferior from \$3¼ to \$4½ per 100lbs, deducting one-third for shrinkage.

SHEEP scarce at \$4 to \$4¼ each. Lambs—none in the market.

CALVES are becoming plentiful at \$4 to \$5 each.

TALLOW finds ready sale at 6½d per lb.

BUTTER.—Fresh butter is in moderate supply at 1s to 1s 2d per lb. Tub No. 1 quality has brought at wholesale 16c. per lb.

CHEESE is very firm at \$9 to \$10 per 100 lbs for good American.

EGGS are in better supply, and 1s 3d to 1s 5d per dozen.

POULTRY has become scarce, and chickens yesterday brought from 2s to 2s 6d per pair for the best. Geese plucked, 2s 3d to 2s 8d each. Turkeys. 3s 6d to 4s each.

WOOL—1s 3d per lb. Sheep skins, 5s to 6s 3d each for fresh slaughtered Beef hides, \$6 to \$6½ per 100lbs. Calf skins 6d per lb.

Wood in moderate supply at \$3¼ to \$4 per load of a full cord.

TORONTO STOCK MARKET.

(CORRECTED BY F. P. STOW.)

Toronto, Jan. 29th, 1859.

DESCRIPTION.	SHARES.	PAID UP.	DIVIDEND LAST SIX MONTHS.	RATE.
Bank of Upper Canada.....	s. d. 12 10 0		4 per cent.	Books closed.
Bank of Montreal.....	50 0 0		4 per cent.	None.
Commercial Bank.....	25 0 0		3 per cent. & bonus	
Bank of British North America.....	50 0 0 Sterling.	All.	3½ per cent.	
Gore Bank.....	10 0 0 Currency.		3½ per cent.	
City Bank, Montreal.....	20 0 0		5 per cent.	
Toronto Gas Company.....	12 10 0		5 per cent.	
Hamilton Gas Company.....	10 0 0	5 per cent.	None.	Nominal.
Western Assurance Company.....	12 10 0	15 per cent.	None.	
do.....	20 0 0	45 per cent.	None.	
British America do.....	25 0 0 Currency.	20 per cent.	None.	
Provincial do.....	20 10 0 Sterling.	All.	44 per cent.	None offering
Great Western R. R.....	.....	.....	{ 6 per cent. inter't	None
Government Debentures.....	.....	.....	{ per annum.	8 per ct. dis.
Municipal Loan do.....	.....	.....	Do.	1 to 3 per cent. dis. per an.
County & Town do.....	.....	.....	Do.	

MONTREAL STOCK MARKET—PREPARED BY THE BOARD OF BROKERS,

BOARD ROOM, EXCHANGE, MONTREAL, JAN. 29th, 1899.

DESCRIPTION.	Shares.	Paid Up.	Dividend Last Six Months.	Buyers.	Sellers.
Bank of Montreal	200 00	50 whole.	4 per cent.	116½ ex div	116½ ex. div.
Bank of Montreal, New Stock	200 00	whole.	3 per cent.	116½ ex div	None.
Bank of British North America	100 00	do	4 per cent.	120	None.
Commercial Bank of Canada	80 00	do	4 per cent.	111½	111½
City Bank	80 00	do	3½ per cent.	107½ ex div	108 ex div
City Bank, New Stock	80 00	whole.	4 per cent.	92	92½
Bank of Upper Canada	50 00	do	4 per cent.	109	109
People's Bank	50 00	do	4 per cent.	109½	110
Molson's Bank	29 00	40 per cent.	None.	\$3 35	\$3 50
Montreal Mining Company's Consols	8 00	\$15 10	.....	None.	None.
Quebec and Lake Superior Mining Company	5 00	4 10	.....	None.	None.
Lake Huron Silver and Copper Mining Company	5 00	0 75	.....	None.	None.
Canada Mining Company	4 00	0 90	.....	None.	None.
Huron Copper Bay Mining Company	200 00	0 25	.....	0 15	0 25
Champlain and St. Lawrence Railroad Company	100 00	whole.	6 per cent. per annum.	10	15
Grand Trunk Railroad Company	100 00	whole.	6 per cent. per annum.	35	37½
Great Western of Canada	100 00	whole.	5½ per cent. per annum.	80	82½
Montreal Telegraph Company	40 00	whole.	4 per cent. 6 mos.	115	117
Montreal City Gas Company	40 00	whole.	3 per cent. 6 mos.	85	90
Government Debentures, 20 years	.....	.....	6 per cent. per annum.	103	None.
Con. M. L. F. Debentures	.....	.....	6 per cent. per annum.	95	95½
Champlain and St. Lawrence Railroad Bonds	.....	.....	7 per cent. per annum.	70	80
Montreal Exchange	400 00	whole.	8 per cent. per annum.	70	75
Montreal Harbour Bonds	.....	.....	6 per cent. per annum.	106	117
do Water Works Bonds	.....	.....	6 per cent. per annum.	94	95

STOCKS.

MOLSON'S BANK—Is generally held at 110; the latest sales were at 109½ & 107½.

MONTREAL MINING CO. CONSOLS—Sales reported during the week at \$3 50, at which they are now offered.

CHAMPLAIN & ST. LAWRENCE RAILROAD—No sales to report of either stock or bonds.

GRAND TRUNK RAILROAD—Nothing to report. No stock on the market.

GREAT WESTERN OF CANADA—Nothing to report.

MONTREAL TELEGRAPH COMPANY STOCK—Is offered at 117. No sales.

MONTREAL CITY GAS COMPANY—Is asked for at 95. Government Debentures—None offering; quotation unchanged.

CONSOLIDATED MUNICIPAL LOAN FUND DEBENTURES—Sales are reported at 95½, at which they are now dull.

MONTREAL HARBOUR BONDS—The 8 per cent's are saleable at 106.

EXCHANGE:

Bank, 60 days on London.....109½ a 110½
Private, 60 " ".....109 a 109½
Bank, on demand, N. Y.100½ a 100½

MONTREAL MARKETS.

MONTREAL, January 29, 1859.

ASHES—The advance in Pots noted in last report continued till within the last two days, best bills in some instances reaching \$6 17. The advance has now been checked, and they close quiet at \$6 10; receipts large. Pearls are unchanged, but in limited demand at outside quotation.

FLOUR—The market has exhibited more excitement during the past week than it has done within the same space of time for some years past. As anticipated in last report, a further advance was established early in the week. All good brands of U. C. Superfine being eagerly taken at \$5 50, and Fancy at \$6. No extra offering. The demand has increased within the last three days and resulted in sales to the extent of 15,000 barrels Superfine at \$6. Some choice brands being reported at \$6 25. Fancy is now held at \$6 75. It is difficult, however, to give quotations, as holders are reserved.

OATMEAL—Holders are asking \$6, which is above views of buyers.

GRAIN—No Wheat offering. Oats have again advanced, holders now asking 62½c. Peas have slightly advanced; small sales reported at 90. Barley—small lots from farmers are now taken at 80c a 85c, which is an advance on last quotation.

PROVISIONS—Beef unchanged; no sales. Pork is unchanged and nominal; no sales worth reporting; holders firm. Butter—good lots are asked for at quotations; ordinary is neglected. Lard unchanged and firm.

NEW YORK MARKETS.

NEW YORK, January 22, 1869

FLOUR—Market is better. Sales 900 barrels at \$3 85 a \$4 40 for unsound, \$5 a 5 20 for Superfine State, \$4 50 a 5 90 for Extra State, \$5 90 a 6 00 for common to good Western, \$6 00 a 6 20 for round hoop Ohio. Rye Flour firm at \$3 50 a 4 25. Canadian also firm; sales 400 bbls at \$6 20 a 6 90 for extra.

GRAIN—Buckwheat is dull. Wheat also firmer, but quiet; sales 600 bushels at 85c for damaged Milwaukee Club, \$1 20 for unsound Red Winter Western. Corn firmer; sales small at 85c a 86c for mixed Western. Oats better; sales at 57c a 66c for State, Western and Canadian. Rye m at 85c a 95c.

PROVISIONS—Pork continues firm at \$18 25 for new mess. \$15 70 for old, \$13 35 a 13 50 for Prime. Bacon quiet. Lard firm and active; sales 100 bbls at 12½c.

STOCKS—Dull and rather lower. Money continues plentiful. Sterling Exchange nominal at 105.

PRICES OF PRODUCE.

MONTREAL, January 24, 1859.

ASHES—Pot.....	7½ cwt...	\$6 05	@	6 10
Pearl.....		6 40	@	6 50
FLOUR—Canada Fine.....	7½ bl. 196lbs...	0 00	@	4 75
Superfine No. 2.....		0 00	@	0 00
Superfine.....		6 00	@	0 00
Fancy.....		0 00	@	6 50
Extra.....		0 00	@	7 25
OATMEAL.....	7½ 200lbs...	5 50	@	5 75
INDIAN MEAL.....	7½ 196lbs...	3 25	@	3 50
WHEAT—U. C. White.....	7½ 60 lbs...	0 00	@	0 00
do Mixed.....		0 00	@	0 00
do Red.....		0 00	@	0 00
L. C. Red.....	7½ minot...	0 60	@	0 00
OATS.....		0 85	@	0 00
PEAS.....		0 80	@	0 85
BARLEY.....		0 75	@	0 00
INDIAN CORN.....	7½ 56 lbs...	0 80	@	0 90
PROVISIONS—Beef, Prime Mess.....	7½ bl...	10 00	@	0 00
Prime.....		00 00	@	0 00
PORK—Mess.....	7½ bbl...	18 50	@	18 00
Prime Mess.....		00 00	@	14 00
Prime.....		12 00	@	12 50
BUTTER—Choice.....	7½ lb...	15	@	
Ordinary.....		14	@	
LARD.....	7½ lb...	10	@	12½