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HUNT'S
MERCHANTS' MAGAZINE

AND
COMMERCIAL REVIEW.

MARCH, 1861.

Art. I.—REVIEW, HISTORICAL AND CRITICAL, OF THE DIFFERENT SYSTEMS
OF SOCIAL PHILOSOPHY,*

OR, INTRODUCTION TO A MORE COMPREHENSIVE SYSTEM.

PART XI.

THE THIRD CLASS OF THE POLITICAL SCHOOL—A CRITICAL COMPARISON OF IT WITH THE FIRST AND SECOND CLASSES—THE TWO GRAND DIVISIONS OF THE CLASS STATED AND DEFINED—THE FIRST DIVISION SHOWN TO EMBRACE ALL THE VARIETIES OF COMMUNISM—THE THREE GRAND OBJECTIONS WHICH DEMONSTRATE THE FALLACY OF COMMUNISM AS A BASIS OF HUMAN SOCIETY—VARIOUS ADVOCATES OF SOCIAL REFORM BRIEFLY ALLUDED TO—OWEN AND FOURIER PARTICULARLY NOTICED AND CRITICALLY EXAMINED.

THE third class of the political school of sociological ideas, upon the consideration of which it is proposed now to enter, is, by far, the most erroneous of the whole school, and, at the same time, by far, the most bold in its aims at social improvement, the most diversified in its views, and the most suggestive of deep and searching reflections upon the vast and complex problem of human society. This class has been already defined as embracing *those which aim at improving the social condition to an extent totally impracticable, and utterly chimerical to calculate on, and which either propose, (as one division of the class do,) to use government, or the political authority of the community, as a means for attaining this impracticable end, or, (as another division of the class do,) in their frantic ravings against all government, as the great paramount cause of social ills, propose a total abolition of all government, prospectively, if not immediately, as an indispensable prerequisite to the realization of their delusive dreams.*

It is in this class that the distinctive peculiarities and fundamental errors of the whole school are most distinctly and conspicuously illus-

* Entered according to an act of Congress, in the year 1859, by GEO. W. & JNO. A. WOOD, in the Clerk's Office of the District Court of the United States, for the southern district of New York.

trated. For the first and second classes, as already remarked,* illustrate these errors *negatively*, rather than *positively*. They may be regarded as attributing the social grievances of mankind to *political* causes, because they do not aim at any other than *political* instrumentalities for the improvement of the social condition, although they do not, like the third class, *positively assert* that those grievances are to be attributed to political causes, as their sole, or principal, essential causes. The social philosophers of the first and second classes have, indeed, omitted to attempt any *diagnosis* of the social diseases which they have attempted, very imperfectly, or erroneously, to treat. They seem to have been completely engrossed with questions as to *what political expedients are most conducive to the welfare of society, or the body politic*, and have not given any particular attention to the *pathology* of the body politic, or the nature and causes of those social ills which demand remedial appliances. They seem to have followed merely their *instincts*, which, wisely enough, taught them, that there was much to be done for human society by political institutions, without consulting their *reasons*, as to how far such influences tended to benefit humanity. In this they have been much more at fault than those of the third class, who have, far more judiciously, inquired into the nature and causes of the social grievances which they have sought to remedy; for assuredly nothing can conduce so much to the discovery of the proper mode of treating any disease, whether bodily or social, as a just and clear appreciation of its nature and causes. But the great error of these social doctors of the third class has been that, in inquiring after the real nature or essential cause of the social ills which they have aspired to remedy, they have palpably mistaken it. They have mistaken the *symptoms* of the disease for its cause, the mere *branches* of the tree for its *roots*, and have been, in consequence, led not only into very serious errors of practice, but such as are positively injurious in their tendency and effects.

The three different classes of the Political School of Sociology may be briefly characterized as follows:—The great fault of the *first* class has been, that they have not carried their investigations into the philosophy of society far enough to discover, that after political institutions have exhausted all their legitimate expedients for the improvement of society, there is still an outlying region of social evil, altogether beyond the reach of their remedial appliances; that of the *second* class has been, that, in endeavoring to improve society, to a far greater and more comprehensive extent than the philosophers of the first class have aimed at, they have mistaken the proper methods for attempting this improvement, and have endangered the permanent welfare of society by striving for a political organism which transcends the legitimate and proper function of State government; that of the *third* class has been, that they have mistaken the real nature and fundamental causes of the ills they have sought to remedy. In short, the error of the *first* class has been rather an error of *omission* merely, in the work they have undertaken, that of the *second* class has been one of *method*, while that of the *third* class has been an error as to the *real nature of the work to be performed*.

The *first* class may be assimilated to those physicians who prescribe for their patients a very judicious regimen and course of medicine, and

* See number ix, of this review, in October number of Magazine for 1860.

there end their course of treatment. The *second* class may be assimilated to those physicians who, in addition to specific regimen and medicine, recommend, for their patients, general attention to diet, clothing, and exercise, but should deliver them over for these purposes to venal and corrupt hospitals, interested in neglecting and misusing their invalids. The *third* class may be assimilated to those physicians, or rather quacks and mountebanks in medical science, who pretend to have discovered the cause and cure of all diseases, when in fact they do not understand the real nature of any, and who prescribe, as a *cure all* for every disease, some wretched *nostrum*, which is really a cure for none, but tends, on the contrary, in a multitude of cases, seriously to impair the general health and constitution of the invalid.

What the philosophers of the first class have aimed to do at all, however partial it may have been, they have, in the main, aimed at well. What those of the second class have aimed to do, though more comprehensive and extensively useful, they have adopted an improper method for striving to accomplish. But those of the third class have not aimed at anything of real or substantial utility. Setting out, from the start, with a fundamental error as to the real cause of the ills they have combated, they have proceeded throughout upon erroneous ideas as to the work to be performed.

In so far, indeed, as the first and second classes have adopted the error, that the *social grievances of mankind are referable, mainly and fundamentally, to political causes*, it has been merely a *quasi* adoption on their part—a qualified, partial, and *negative* adoption, (if it be proper so to speak,) which has not so far pervaded the general scope or *animus* of their speculations as to vitiate materially their ideas. But the third class have been so thoroughly pervaded and imbued with the error, that all their ideas have been vitiated thereby. They have been betrayed into all the greater errors, because they have erred systematically, and with a distinct recognition and deliberate adoption of the fundamental error upon which they have proceeded—just as a methodical and scientific system of error is more serious than an informal one, which may perchance occasionally stumble on the truth, not having any formally inaugurated error or fixed idea to exclude it, and as a fool, *secundem artem*, is of all fools the greatest. For Bacon has justly said that “the *apotheosis* of error is the greatest error of all, and when folly is worshiped it is, as it were, a plague spot upon the understanding.”* And, in like manner, it may be said, that the most deliberate and emphatic adoption of an error, is the worst error of all, and when a fundamental mistake in science is formally inaugurated, it is the most conclusive bar to the entrance of any just opinions, and most completely vitiates scientific endeavor.

Nay, moreover, and what is more important than all, the philosophers of the first and second classes, if they had failed to conduct mankind any great way towards a complete system of Social Philosophy, have failed also to do them any actual harm. But those of the third class have inflicted positive mischief on mankind, by their erroneous searchings. They have urged mankind to positively injurious courses of conduct, by the mistaken ideas which they have inculcated as to the real causes of human suffering, in the social state, as by inciting them, unnecessarily, to revolu-

* See *Novum Organum*, book i., aphorism 65.

tions and civil commotions, which, in the greater number of cases, do vast mischief without any good.

But that which most clearly distinguishes this third class of the Political School from the other two, as the very terms of our definition of the three classes indicate, is that it aims at *impossibilities*, *chimeras*—that it seeks to improve the social condition to an extent utterly impracticable—that it proceeds upon the idea of the PERFECTIBILITY OF MAN, as an attainable end.

It is difficult, (if at all possible,) to detect any logical connection between the two ideas, that government is the essential cause of the social grievances of mankind, and that man is a being of capabilities for perfection; and yet it is a singular and noteworthy fact, that they have generally, if not invariably, co-existed. The former of the two ideas may, indeed, not unfrequently be found unconnected with the latter; but the latter is rarely, if ever, to be met with, except in connection with the former. Wherever we meet with the idea, that man is endowed with capabilities for perfection, we are almost sure to meet with the idea, in intimate association therewith, that political institutions* are, either the sole or most important essential causes, which prevent those capabilities from being developed. Wherever we find an advocate of this delusive and insane idea of human perfectibility, there we are almost sure to find the loudest and most insane declaimer against governments, and the existing order of society. Both of these ideas are united in the class of sociological doctrines now under particular consideration.

The fundamental idea of this whole class, in all its manifold varieties and shades of opinion, as to the cause of those social grievances which all must admit it would be desirable to remove, were it possible, and in so far as it is possible, is succinctly expressed by a late writer, who seems to aspire to the honors of *quackery* in social science—Mr. Stephen Pearl Andrews, an American contributor to the cause of *delusion* in this important field of scientific inquiry. In a late publication, entitled "Cost the Limit of Price, a Scientific measure of Honesty in trade, as one of the fundamental principles in the Solution of the Social Problem," this writer says, "There are few persons who do not recognize the fact that there is some subtle and undiscovered cause of manifold evils lying hid down in the very foundations of our existing social fabric, and which it is extremely desirable should be eradicated, by some means, however much they may differ with reference to the instrumentalities through which the amelioration is to be sought for."†

This is the superficial idea which pervades and characterizes the whole class. They look merely to the foundations of *the existing social fabric and the framework of society*, in the causes of social ills. They do not think of looking to the foundations of human character, the fundamental principles of human nature, and the *eternal constitution and framework of the universe*, in which those causes are to be found deeply and ineradicably fixed—those principles of human nature, and that eternal constitution of things, on which every existing social fabric rests, as the mere spire of some grand temple rests upon the walls of the temple, or rather

* The term "political institutions" is here used in its broadest sense, and as comprehending whatever in the customs or principles of society takes the form of law or carries with it the force of law.

† See the work referred to, in the text, chap. i., sec. iv., page 16.

as the temple itself rests upon the solid earth. They do not consider that the fabric of human society must every where, like the spire of the temple, and the temple itself, be subject, not only to the imperfections of the human architect, but to the defects inherent in the materials on which he has to work, and the insufficiency of the foundation, as the sandy, miry, or sideling ground, on which he may have to build; and that it must be, moreover, exposed to all the vicissitudes, the alternations of heat and cold, of sunshine and storm, to which the moral, not less than the material, atmosphere is subject, and to all the deteriorating and destructive agencies to which the moral, not less than the material, universe is exposed, in both of which, alike, the ANGELS OF DEATH as well of LIFE are constantly on the wing. They do not consider that *hurricanes*, which infest the moral not less than the material world, may hopelessly damage the social edifice, however skillfully it may be constructed, and that *earthquakes* may disfigure it, shatter its walls, or utterly demolish it. Such a *hurricane* is that which is now sweeping over the great American confederacy. Such an *earthquake* is that which is now convulsing American society, the effects of which, on the social fabric of the American people no one can fully estimate.

This controlling idea of the class under consideration, is also manifest in the writings of the late Robert Owen, a somewhat prominent, and in some respects highly meritorious, member of the class. In his work entitled "Book of the New Moral World, containing the National System of Society," this writer says, "Thus it was that in the days of Washington, Adams, Jefferson, &c., not one of them ever imagined that the countless evils suffered by humanity emanated from a few fundamental errors upon which society had ever alone been based."*

Here the weak and superficial idea, on which this whole class is founded, crops out into the most glaring prominence. Robert Owen, in common with many others of his class, would have us to believe that *all the countless evils suffered by humanity* are owing merely to a few fundamental errors in the organism of society, and which, if he were permitted to have the regulation of human affairs, for a score or two of years, he could entirely remove, and thus utterly eradicate human ills. He had not the sagacity to discern that "the countless evils suffered by humanity" are, in reality, owing, fundamentally, and for the most part, incurably, to fundamental evils or defects in the *very nature or organism of humanity*—nay, still more fundamentally, to evils or defects in the *whole organism of the universe*, with which humanity is inseparably connected, and of which it is as inseparably a part as the twigs of a tree are of the branches to which they belong, and of the common trunk whence both twigs and branches proceed, and that, as the defects, the germs of disease and decay, which are inherent in the tree, run through all its parts, and equally affect its trunk, its branches, its twigs, its foliage, and its fruit, so the defects or evils, which are inherent in all organic being, in the great tree of universal life, run through all its thousand-fold ramifications, and manifest themselves in man, and in all the works of his hand, and the devices of his head. He had not the penetration to see that "the countless evils suffered by humanity," which have been the endless theme of superficial declamation, in all ages, are but the widely-scattered leaves

* See work referred to in text, part v., chap. I., page 150.

of the great TREE OF EVIL, which overshadows the universe—that they are the natural offspring of that all-pervading SPIRIT OF EVIL which so completely invests the universe, and infuses itself into all created things, that the farseeing and godlike Plato doubted whether God himself was able completely to subdue it, but which the short-sighted Robert Owen vainly imagined he could entirely conquer, and banish from the realms of humanity, by his peculiar, and, in some respects, highly meritorious, plan for educating boys.*

This class of speculators in Sociology have a ready explanation for whatever grievances may be observed in the social state. Like the quacks in medicine, who attribute all the ailments of the human body to some impurities of the blood, these quacks in Sociology attribute all the ailments of society, or the body politic, to some defects or imperfections in the organism of society, either in respect to purely political arrangements, or somewhat more fundamental matters.

Do they observe a vast disparity in individual fortunes, some few of exorbitant wealth, many of straitened circumstances, and not a few in extreme destitution? If it is in a State where inequality of fortunes is positively encouraged, or upheld, by the political institutions, as in Britain, it is owing, they say, very obviously, to those positive encouragements—to the *primogeniture* and *entail* laws. If it is in a State where inequality of fortunes is not positively encouraged, but barely tolerated by the political institutions, as in Belgium and France, where property descends, by act of law, equally to all the children, where the *entailment* of estates is expressly forbidden, and where, as in France, parents are not allowed, (except to a very limited extent,) to dispose of their estates by will, so as to defeat their children's right to an equal distribution of them, they say it is owing, in some way or other, to the unjust principles on which the government is framed and administered, to its anti-republican character, to the enormous expensiveness of the public administration, and the large proportion of the means of the people that are appropriated by the public treasury to maintain extravagant State officials. If it is in a State where, not only is inequality of fortunes not at all encouraged by the political institutions, but where the government is framed and administered upon the most just and equitable principles that have yet been found practicable, on any large scale, where the expenses of the government are light, where the officials of government obtain only a very meagre and parsimonious allowance from the public treasury, and where a republican simplicity prevails in all the departments of the public administration, as in the United States of America—if, even in a State like this, a vast disparity of individual fortunes is still found to exist, and a vast deal of social privation to be experienced, it is owing, say these Solons in Social Philosophy, to "some subtle and undiscovered cause of manifold evils, lying hid down in the very foundations of our existing social fabric," or, as others might prefer to express it, and in the

* The most prominent essential idea of Robert Owen's plan for social reform, as before incidentally noticed, in this review, is the necessity for reforming mankind, which he proposed to do, mainly, through the instrumentality of an improved system of education, based upon the idea that men's characters are not of their own creation, but the creation of the circumstances by which they are surrounded from infancy to old age. He had the timidity and weakness to suppose that he could so fundamentally and extensively change the circumstances by which men are surrounded, and thereby so fundamentally and completely change their characters, as to make all men good, perfectly good, so that there should be no evil among men, either morally or physically. This is the whole substance of Robert Owen's reform project summed up in a few words.

phraseology of Mr. Robert Owen, it is owing to "a few fundamental errors upon which society *has* ever alone been based."

Is the business of a country deranged from any of the natural revolutions of trade, or inevitable oscillations in the course of nature; these superficial reasoners lay the blame on government. Are the laborers in any branch of business out of employment in consequence of some unavoidable derangement in the economy of the State, or from the partial or general redundancy of the laboring population; the government must, in their estimation, bear the blame, for it is the duty of government, they say, to *furnish employment for its citizens**—as if it could possibly be in the power of human governments to create an indefinite and unlimited demand for labor, and to furnish it with employment, when all the departments of the national industry are overstocked with laborers. Nay, is a man oppressed by the number of his children, in consequence of his own folly and crime in bringing offspring into the world, when he is too poor to maintain even himself, alone, in proper comfort; the fault must, in the estimation of these *savans*, even in this case, be laid to the account of government.

The most palpable and barefaced expression of this controlling idea of the class of sociological opinions under consideration, has been lately afforded by Mr. Elihu Burritt, the celebrated American linguist, commonly known as "the learned blacksmith." This erudite disciple of Vulcan, traveling through England, in the summer of 1846, and meeting with a brother disciple of the same trade, at his anvil, who was sorely oppressed with poverty, having to support a family of *five* persons, on *seven* shillings a week, and being compelled, in order to earn that small pittance, to put his son, a boy of only *nine* years, to hard smithy work, who was thereby stunted, dwarfed, and prematurely "case-hardened into all the induration of toiling manhood," instead of addressing himself to the boy's father, and reproving him for his folly and crime, in begetting the boy, when he could not earn but seven shillings a week, and therefore could not possibly maintain even himself, much less a family, in proper comfort and decency, he breaks out into senseless and ridiculous exclamations against Lord John Russell, then Prime Minister of Britain. "Oh! Lord John Russell," he exclaims, "think of it. Of this Englishman's son, placed by his mother, scarce weaned, on a high cold stone, barefooted, before the anvil; there to harden, scar, and blister its young hands by beating and hammering ragged nail rods for the sustenance her breast can no longer supply. Lord John, look at those nails, as they lie hissing on the block. Know you their meaning, use, and language? Please your worship, let me tell you, I have made nails before—they are *iron exclamation points*, which this unlettered, dwarfish boy is unconsciously arraying against you, against the British Government, and the misery of British literature, for cutting him off without a letter of the English alphabet, when printing is done by steam—for incarcerating him, for no sin on his or his parents' side but poverty, into a six by eight prison of hard labor, a youthless being."†

* This monstrous idea, the offspring of the most pitiful ignorance of the laws of Sociology and mere Political Economy, was put forth by the Red Republicans of France during the revolutionary crisis of 1848 and 1849, in that country.

† See Elihu Burritt's letter in 4th page of Richmond (Va.) *Christian Advocate*, of February 25th, 1847, and in West Jersey *Telegraph*, of prior date, whence it was copied by the *Advocate*.

It may be worth while to remark, that, in so far as Lord John Russell may be justly chargeable with neglect of popular education, with having so neglected the education of the boy's father in

This pestiferous error in Social Philosophy, that political institutions, (or the framework of society,) are, in some way or other, the essential and really efficient causes of those social ills which it is the proper aim of social science to remedy, or to mitigate, presents itself in so many different forms, in all ages and countries, that it is quite impossible to assign to it any local habitation or chronological epoch. We may discern it in the shouts of the Roman rabble that stood around Tiberius Gracchus, when he advocated his famous project for the revival of the old Licinian law, restricting landed possessions to 500 acres, a law good enough in its intentions, but futile in its operations, and waging vain war with the unutterable laws of nature. We may discern it in the frantic excesses of the French Jacobins during the ever-memorable epoch of the first French revolution. We may discern it in the monstrous doctrine put forth by the Red Republicans of France, during the last French revolution of 1848, that *it is the duty of government to find employment for its citizens*, and that, consequently, the government is to be held responsible if any of its citizens are out of employment. We may discern it in the revolutionary schemes of the English chartists. We may discern it in the discontent of the lower orders, and their proneness to revolution, in all countries in which the political institutions are not framed upon such principles as appear just and equitable to the obvious and common view, however well adapted to the actual condition of the community. We may discern it in the innumerable projects for revolution or social reform, by which this age, beyond all others, is infested—in the projects of the "Anti-Renters," "Land Reformers," and the like of the Owenites, Fourierites, St. Simonites, and Shakerites. For although the error in question is not confined to any local habitation or chronological epoch, yet it has been much more prevalent, or at least more prominently developed, in the present than in former times—an observation, indeed, which may be applied generally to the class of sociological opinions under consideration, and of which this error is the most *essentially* distinguishing idea.*

And here it may be proper to remark, that it should not appear strange, or irreconcilably contradictory, that, while the *second* class of the school of sociological opinions under consideration, was more prevalent in ancient than in modern times, and conformably with what might be reasonably expected, as being more essentially erroneous than the first class, the third class, which is still more erroneous than the second, should be more prevalent, or, at least, more prominently developed, in modern than in ancient times. This, too, will be found, on a thorough examination, to be consistent with the suggestions of reason. It will be found to be in ac-

this case, that he did not realize the necessity for abstaining from marriage, until he could better his fortunes, his lordship is justly amenable to the censure which Mr. Burritt seeks to fasten upon him. But this matter again of popular education is a far more difficult one than is commonly imagined. It is one thing to discern what ought to be done, or is needed, and quite another, and far more difficult, to discern *how it is to be effected*. How to get education or knowledge into the brains of a population who are so much pressed by the necessities of bare life that they can scarcely spare time for sleep, much less for mental culture, from the dreddery of hard, brutifying labor, is a question demanding the consideration of far deeper thinkers than Mr. Elihu Burritt has proved himself to be. The British Parliament have repeatedly striven, but in vain, against the giant difficulties which oppose the efforts of philanthropy in this direction, by their futile laws for restricting the hours of labor among children.

* It has been already clearly remarked, that the most *clearly* distinguishing idea of the class, is its belief in the perfectibility of man. (See page 278 of this article.) But the error in question is the most *essentially* distinguishing one, though less patent to the common view.

cordance with the general law, that, *the higher the organism, the greater the adaptability to both good and evil, truth and error.*

It is not at all inconsistent with this general law, that, in the ruder stages of organic development, whether in social or zoological life, or rather, in scientific, or intellectual, as well as in animal life, in opinion, as well as in actual formation, imperfections and rude formations should be more prevalent, more general, than in the highest stages of development, and yet that, in these higher stages of development, extraordinary imperfections or malformations should be also more prevalent. In the one case, rude formation, or manifestation, is the *rule*, in the other it is the *exception*. Nor is it at all extraordinary that the *malformation*, where rude formation is the *exception*, should be greater than where such formation is the *rule*.

The law that the *higher the organism the greater the adaptability, and consequently liability, to both good and evil*, is not inconsistent with the other equally well established law or fact, which, at first view, might appear contradictory, that, *in the lower stages of all organic development, the general and prevalent formation is inferior to what we find in the higher stages.* It is entirely consistent with this last stated law, that, in the higher stages of organic development, we should find the greatest and most strongly marked malformations—that where the highest forms of excellence are found, there also the highest forms of deformity should be found, and that the ancient proverb should find substantial verification, “where truth most abounds, there also does error most abound.”

These fundamental principles are plainly enough illustrated in the realm of zoological life. For while among the lower orders of animals, as among those of the *reptilian* class, for example, the prevalent formation is far inferior to what prevails among the higher, as the *mammalian*, and among the lower orders of the mammalian class it is inferior to what prevails among the highest, or the human race, yet *monstrosities* and utter *abortions* of nature are more frequent among the latter than the former—as calves with four heads and seven legs, children deformed in all their limbs, or blind, deaf and dumb, idiotic, or insane.

Nor do we find these principles less clearly and forcibly illustrated in functional than in mere anatomical organism, or, rather in cerebral, than in more animated life. For while among the lower order of animals the brute passions are much more prevalent than among the higher, or the human race, yet among the latter we sometimes find those passions carried to a far greater and more deplorable excess than among the brutes. For example, among tigers ferocity is far more prevalent than among men; yet some men are more ferocious than tigers. Again, among swine libidinousness is far more prevalent than among men; yet some men are more libidinous than swine. The brute tiger is content to destroy his victim—it is the human tiger alone that delights in *torturing* him. The brute libertine craves only the natural gratification of his lust, and with that is satisfied. It is reserved for the human libertine, to cherish unnatural passions—to refine upon his lust, until it can only be gratified by an indulgence *highly seasoned with iniquity*, an indulgence whose incense is the agony of immolated virtue.

And as it is in zoology, in these respects, so we find it also in sociology. While in earlier times the ideas in sociology which generally prevailed were inferior, decidedly, to what they are in modern times, and were rude

in comparison with them, yet we nowhere find, among the sociological speculations of antiquity, any such monstrosities as have been put forth in modern times by Rousseau, Condorcet, Godwin, Owen, and Fourier, not to name a host of others, less known to unenviable fame.

The class of sociological opinions, or doctrines, now passing under particular review, the Third Class of the Political School, (as we have designated it,) presents, as already intimated, two essentially different *phases*, and separates into two widely diverging *divisions*—the one seeking to employ government, or the general force of society, to a far greater extent than it has hitherto been employed among human societies, but upon essentially different principles from those on which it has hitherto been employed, and the other aiming at the total abolition of all government, or control by the general force of society—the one, in short, seeking to *merge the individual completely in the society*, and the other seeking to *effect the complete triumph of the individual over society*. Widely divergent, however, as are these two divisions of the class, they unite on this—their common standing ground—that mankind are endowed with capabilities for moral and physical perfection, and that government, or political authority, as it has hitherto been employed in human society, has been the main cause or obstacle which has prevented these capabilities from being developed and manifested.

To the FIRST of these two divisions belong Owen, Fourier, and the communists in general; to the SECOND, Rousseau,* Condorcet, and Godwin, with a long catalogue of kindred spirits, whose essential ideas will be sufficiently illustrated and commented on, in what it is proposed to say of these three, and more particularly of the last named.

The first division of the class, and all those various projects for social reform which take the form of Communism, as all of this division do, are liable to these three grand and insuperable objections;—1st, That they must either so value the springs of *industry* as to diminish seriously the production of wealth, or they must be sustained by governments of far more rigid, intermeddlesome, and offensive powers than have ever yet been deemed tolerable by civilized communities. 2d, That they must unavoidably so impair *economy* in the preservation and distribution of wealth, or the aggregate earnings of the national industry, as to occasion great misapplication and waste of those aggregate earnings. 3d, That they must, unavoidably and under any circumstances, tend to lower, incalculably, the level of civilization and human attainments in arts and science.

The practical refutation of all schemes for a society founded upon the the principle of *communism* is, in fact, afforded by the familiar proverb that "what is everybody's business is nobody's business," an argument which, as we have before had occasion to remark, was urged against that system of society, some two thousand years ago, by Aristotle, in his reply to the vagaries of Plato in relation to community of property, wives, and children.†

* Having already noticed Rousseau as belonging to the first class of the Political School, it may be necessary to explain how it is that he is referred to here as belonging to the third class. The explanation is this: By his "Social Contract" Rousseau is affiliated with the first class—by his "Inequality of Mankind" with the third, and to this third class indeed he essentially belonged, although his work on the "Social Contract" deserves to be differently classed.

† See No. iv. of this review in January No., 1860, of *Merchants' Magazine*, vol. 42, p. 31.

In short, the philosophy of the whole matter may be summed up in this one sentence: Wealth can only be produced, or human subsistence earned, by severe, untiring labor, persevered in under many discouragements, and nothing less than the quickening, intense stimulus of *individual acquisitiveness* is adequate, in the long run, and with the vast majority of mankind, to insure the exertion of this indispensable labor. Where this stimulus to labor is destroyed, as it is in all communities in which the principle of communism is carried into full effect, its place can only be supplied by the principle of *coercion*, which, according to the essential idea and life-sustaining principle of communism, must be applied by the *common force* of the community, which common force must be lodged in its general government, or political authority, whatever that may be. In other words, communist societies must be sustained by governments (whether monarchical, aristocratical, or democratical,) of the most vigilant, prying, and intermeddlesome character—governments which shall extend a system of *espionage* throughout the whole community, and play the *overseer* to every man, with a view to compelling every one to do his duty—governments, in short, which shall exercise very much the same strict control over their subjects that the *overseer* of a Georgia or Mississippi cotton field exercises over the slaves entrusted to his authority. Accordingly we find that the only societies, of any noteworthy magnitude, in which the *communist* principle has been even partially carried into effect, that of the Incas of Peru and of the Slave States of the American Union, have been those in which a very large proportion of the society, all, in short, to whom the *communist* principle has been actually applied, were veritable slaves. It should hardly be necessary here to remark, in addition to what has been before said on this point,* that society in the slaveholding States of the American Union, in so far as the slave population is concerned, is founded, substantially, and in the main, on the principle of *communism*, the earnings of the slaves in every separate *commune*, family, or plantation, going into the common coffers, granaries, and storehouses of the establishment, to be distributed thence according to the wants of the slaves and the pleasure of the master.

In regard to those very small societies, like those of the Shaker sect, in which the principles of *communism* is fully carried out, and in respect to every member of the society, it is to be observed that the fact of their not exhibiting in any marked manner any very offensive feature of government, or interferences with personal liberty, is no valid argument whatever against the view here presented, as to the necessarily *slavish* character of all societies in which the principle of communism is rendered actually operative, on any large scale. These Shaker societies owe their exemption from any such palpable manifestations of rigorous government, partly to the excellent character of the individuals composing them, and their eminent fitness to do their duty without the stimulus either of individual acquisitiveness or coercion, (in which respects they are much superior to the generality of mankind, and constitute a really select and superior class of men) and partly, if not mainly, to their insignificance—to the limited range of their operations, resulting from the smallness of their numbers, and the fewness and simplicity of their wants.

* See No. iii. of this review, in December No. for 1859 of *Merchants' Magazine*, vol. 41, p. 666.

It is with these Shaker societies, in this respect, as we have had occasion to remark, it was with the ancient nations in respect to the great fallacy in social science, that, *it is the duty of government, or the general force of society, to supervise and control the religious conduct and opinions of the citizen.** So long as mankind had no religious opinions to which they attached any great value, no religious opinions which penetrated very deeply into their moral sentiment, or influenced materially either their private or public conduct, this erroneous principle did not manifest itself in any very injurious consequences. But when they came at last to embrace a religion to which they did attach great value, which penetrated very deeply into their moral sentiments and emotional nature, and which exerted an important influence in their public as well as private actions, then it was quickly discerned with what tremendous power of mischief this hitherto harmless principle was fraught—then it was discovered that it was the *embryo* of formidable evil—the *egg of the unhatched crocodile*.

In like manner, so long as the Shaker societies are restricted to *villages of some three or four thousand persons*, and embrace only those few individuals who are by nature peculiarly adapted to such a form of society, no very objectionable manifestations of political authority are likely to be needed or exhibited by them. But let these Shaker societies be expanded into *empires of three or four millions*, not to say of *thirty or forty millions of people*, and let them come to embrace men of all descriptions of character, the indolent as well as the industrious, the turbulent as well as the orderly, the vicious as well as the virtuous, then it would be found that they would need the most rigorous and arbitrary government—nay, then it would be found that the government which they now have, and which, apparently, is so mild and gentle, is in reality an *embryo* despotism of the most unlimited sway—then it would be found that the venerated and beloved “chief elder” of the village, whose sovereign will is the supreme law of the society, and whose authority, absolute as it is, is now regarded with as little repugnance as parental authority in the domestic household, would expand into the dimensions of a potentate of really more sweeping prerogatives than the Sultan of Turkey or the Great Mogul. In order to make all members of the community do their duty, to which in a communist society men cannot have any motive except a vague sense of self-interest, the still more feeble sense of duty, or the fear of punishment, from the common force or political authority of the society—in order to make all the members of the Shaker community do their duty when it should have expanded into an empire of thirty millions, embracing all descriptions of human character, the monarch of the society, or “chief elder,” as he is now modestly styled, would have to be entrusted with a vast police force and large standing armies to enforce his imperial authority. Thus clothed with legal and actual powers of such vast proportions, wherein would he differ from other of the most absolute potentates of the earth? What guaranty would there be that he would not vastly abuse his extraordinary powers—unless indeed he should chance to be one of those rare and extraordinary characters that occasionally loom up like *oases in the desert* of human character, an Antonine, Alfred, or Washington?

* See No. x. of this review, in December No., 1860, of *Merchants' Magazine*, vol. 43, p. 666.

But the most important and overwhelming objection to a system of society founded upon the principle of *communism* is the great difficulty which such societies must experience whenever they attain any noteworthy magnitude and embrace all descriptions of mankind, *in preserving the joint earnings, or aggregate revenue of the society, from misapplication and waste.* It would be impossible for the ingenuity of man to devise a better method for economizing wealth, or preserving it from misapplication and waste, than that of leaving it to the watchfulness and frugality of its individual possessor, reckless as individuals sometimes are in squandering their own possessions. NO MAN IS SO WATCHFUL AND CONSIDERATE OF THE COMMON INTERESTS OF MANKIND AS HE IS OF HIS OWN INDIVIDUAL INTERESTS. This is the great fact, or law, which, independently of other sufficient objections, conclusively demonstrates the fallaciousness and futility of the principle of *communism* as the basis of human society. We find this great fundamental law clearly enough illustrated in the notorious fact that all enterprises undertaken on the public account are far more expensive and less economically managed than those prosecuted on individual responsibility.

How then is the aggregate annual revenue of your communist society to be preserved from misapplication and waste, when it shall have expanded into an empire embracing thirty millions of people? The total earnings of the whole society are the common property, and must go into the common coffers of the whole society. How is so vast a revenue to be guarded and protected from embezzlement and roguery? The most approved and rigid system of financial administration that the accumulated experience and wisdom of ages have established for human society would strive in vain adequately to protect it. With all the safeguards that modern legislation has thrown around the treasury department of state governments, it has been found impossible to protect it from peculation and fraud. Gigantic frauds and peculations upon the public treasury are of frequent occurrence in the most enlightened and civilized communities of Christendom. How much greater would be these frauds and peculations if the whole joint revenues or earnings of these communities were collected into the common coffers of the State, instead of the small proportion of those revenues that are collected, in the shape of taxes, for State uses?

Great complaint is often made by mankind, and by none more loudly than by these advocates of *communism*, the Owenites, Fourierites, and the like, against the oppressive and injurious nature of State taxes; and they consider a *tithe*, or a tax amounting to a tenth part only of every one's individual revenue, as very burdensome, although the real effect of the tax is nothing more than to make the government of the State the distributor of a tenth part of the aggregate revenue of the society, which tenth part, in such case, goes to maintain the functionaries of government. And yet these very Owenites and Fourierites advocate a plan whereby *the whole revenue of society* must pass into the hands of the State government, and be subjected to the control of its speculating officials.

Aristotle mentions, as an extraordinary instance of the unjust and tyrannical exercise of political authority, that Dyonisius of Syracuse had so multiplied taxes that, within the space of five years, the property of every individual in the State had passed into the royal treasury.* Yet

* See Aristotle's Politics, book v., ch. 2.

these Owenites and Fourierites, in their extreme horror of such governments as that of Dyonisius, propose a form of society whereby the property of every individual in the society shall pass, *every year*, into the State treasury, or rather shall be permanently vested in the State treasury and be subject to its control.

But it may be urged, there is no danger that the property, or joint revenue, of a society will be misapplied, to any great extent, where, by the very theory and constitution of the society, all are equal owners of the property and equal sharers of its profits, and are therefore equally interested in their preservation. Very little danger, perhaps, so long as your society is no larger than a common debating club, or a Shaker community, where the emoluments of office are not sufficient to tempt avarice, nor its circle of operations comprehensive enough to elude common observation. But try your Fourierite society on the great British Empire, with its 30,000,000 of people, a net land rental of 45,000,000 pounds sterling, and an agricultural product, alone, of 670,000,000 pounds. Let all these rents, or, (rents being abolished under this joint stock system of society,) let all this agricultural production, whether in actual produce, or partly in that and partly in money, pass into the hands of government officials to be kept under the locks and keys of government, and to be distributed, *either in equal or rateable shares*, to all the inhabitants, by heads of families. Who will undertake to estimate the amount of corruption, swindling, and abuse of the common interests that would be experienced under such circumstances?

It is notorious that in the city of New York it is almost impossible to get even a street graded without outrageous fraud and imposition on property holders, by the plundering officials of the city government. How much greater would be such frauds and impositions in a state of society in which all the great interests of the society and the total joint revenue of its industry have to be entrusted to the management of government officials?

In the single county of Hamilton, in the State of Ohio, in the single operation of building a court-house and jail, at an estimated cost of \$250,000, an ample allowance for the undertaking, if conducted with the proper economy and prudence, the public have already had to pay upwards of \$750,000, and the work is not now completed, after a lapse of nearly ten years from its commencement in 1851. Where has all the squandered public money, in this case, gone? Into the pockets of dishonest and reckless public officials, and their colluding favorites, to be partitioned "for the common defence and general welfare," among political sharks and official vampires! How then would your Fourierite society work in Hamilton County, with its provincial Cincinnati? Nay, how would it work in the great British Empire, with its metropolitan London?

But the advocates of communism will probably tell us that the rulers and officials of a communist society are expected to be strictly honest men. Most indubitably! And where are we to find these strictly honest men? In Plato's ideal Republic, assuredly, in More's Utopia, Godwin's Political Justice, and other like phantom castles, built high up in the air, like the castle of Jack the Giant-killer, so famed in nursery legends.

The difficulty of obtaining strictly honest men, in other words, good

and true men, has been the grand difficulty that has ever blocked the way of efforts for reform and a permanent amelioration of the condition of humanity. If we could only get these strictly honest men, then any form of society would be good enough; and without these no form will avail much, since human society must ever be a mere production or reproduction of the individuals composing it, into whose character its own must ever be resolvable. It is the fact that strictly honest men—good and true men—are so few, which renders it necessary, on the one hand, that we should have government at all, and, on the other, renders it advisable that we should have as little as we can possibly do with—both facts of great and almost equal value in social science, yet neither of which seems to be known, or, at least, duly estimated, by many who venture to speculate on “social reform.”

The third grand objection, already stated, to a system of society founded upon the principle of communism, *that it must inevitably tend to lower incalculably the level of civilization and human attainment in art and science*, results from the two already considered, but principally the first, or rather from the principles on which those two objections, and principally the first, are founded. For although rigid government or constraint by the general force of the community, when aided by other influences which the principle of communism is able to enlist, may be a tolerably efficient substitute for the stimulus of individual acquisitiveness and ambition, it can never be a sufficient substitute, or full equivalent therefor. *Constraint cannot engender such powerful impulse to activity as allurements or spontaneous desire.* The fear of punishment, as a stimulus to exertion, can never be a full equivalent for the hope of reward; nor can a vague, general sense of interest, such as a communist society inspires in its members, (and no other,) compensate for the loss of the direct and specific sense of interest which inspires men in a state of nature, and in a natural state of society. The incentives which actuate the slave can never adequately compare with those of the freeman, nor can the love of our neighbor, or mankind in general, be any other than a feeble sentiment in comparison with self-love.

With all the appliances, therefore, which the communist system of society can bring to bear upon mankind to stimulate them to exertion, that system must fail to actualize so large a *momentum of effort or labor* as the individualized and independent system, which is undoubtedly the normal and natural one, as is proved, clearly enough, by the fact that human society, everywhere, and almost invariably, takes that form spontaneously. Yet it is upon this *momentum* that civilization, with its thousand-fold developments, absolutely depends. With its diminution must come diminution of production, both in respect to material products and intellectual ideas, and a consequent lowering of the general condition of humanity; for labor is undoubtedly the great parent of wealth, both physical and intellectual, and the *quantum* of wealth must ever be proportionate to the *quantum* of effort employed in its production.

Under the community-of-property, or community-of-labor-and-profit, system, in which the specific and immediate sense of self-interest is supplanted by a vague, general, and remote sense of personal advantage, and in which the individual is, in short, completely merged in the society, there may be, indeed, sufficient effort calculated on to produce the common necessities of life in abundance, that is, provided mankind in gen-

eral are willing to submit to such an arbitrary and meddlesome government as that of the Shaker sect. But there must inevitably be a failing, under that system, of society, as to those extraordinary efforts to which, after all, we are indebted for nearly all the great contributions to art and science, which are the main promoters and supporters, both of the material and spiritual interests of mankind.

Of all kinds of effort, intellectual effort is the most laborious, irksome, and painful. Yet it is precisely this kind of effort to which mankind are indebted for their most valuable improvements—to their inventions in art and discoveries in science. How few comparatively would be stimulated to put forth those efforts, and this too, with that extraordinary degree of zeal necessary to successful achievements, under a system of society in which those efforts would redound only to the general good of mankind, without any special and particular advantage to themselves? Is there any proposition of moral science more mathematically certain, and indisputable, than this, that *extraordinary effort requires extraordinary stimulus, and is entitled to extraordinary compensation?* Yet in this unnatural and subversive system of society, it is expected, by its advocates, that extraordinary efforts are to be obtained from merely ordinary stimulants and hopes of reward.

It may indeed be contended, that the higher orders of genius are sufficiently stimulated to exertion by the pure love of truth, and desire for achievements—that the Platos and Humboldts of humanity rise superior to considerations of merely personal advantage and motives of merely personal ambition, in their efforts to advance the cause of science. Undoubtedly this is true, to some extent, and to a far greater extent with the higher orders of men of genius than with the lower. But it is not true to a sufficient extent to break the force, materially, of the consideration against which it is urged. For men of the very highest order of genius are undoubtedly influenced, to a considerable degree, by motives of personal ambition, the hope of personal advantage, and the like,* while with the vast majority of mankind such influences are paramount, and almost exclusive in their sway.

Can any one doubt, then, that under the *communist* system of society there would be an incalculably lower standard of attainment, and general proficiency, in art and science, than under the *individualized* system, under which mankind have hitherto almost invariably lived? Where would be found the inventors and discoverers of this state of society? Who would be the Watts, the Arkwrights, the Jacquards, the Whitneys, the Fitches, the Fultons and the Gutenbergs, of such a system of society, to say nothing of the Newtons, the Humboldts, and Platos? Can it be believed, that, if mankind had always lived under such a social system, they would now possess the magnetic telegraph, locomotion by steam, either on land or water, the steam engine itself, even as a stationary motor, or even the printing press?

In this connection, also, it may be important to remark, that those insignificant societies, like the Shaker communities, which have demonstrated the *communist* system to be at all possible, are indebted largely

* The embittered controversy between Newton and Leibnitz as to their mutual claims of priority in discovery as to some of their great mathematical ideas, may be cited in illustration on this point.

for the limited blessings which they enjoy to that very system of society which they have renounced, and whose many advantages they live in the very midst of, and enjoy, while they denounce it. They are mere *parasites* in the body of that system which they avowedly abhor, and flourish by the sustenance and support which they derive therefrom, like the *mistletoe* on the boughs of the oak.

There is not one of these Shaker societies that does not avail itself of the shovel, the hoe, and the spade, the plow, the anvil, and the loom, the chair, the churn, and the cart-wheel, every one of which they have borrowed from that system of society which they affect to have wholly abjured, and not one of which it is at all certain that they would ever have enjoyed, had mankind always lived in that state which they claim to regard as the true ideal of human society. And should it be objected to this view, by superficial reasoning, that we not unfrequently find useful inventors among these Shakers, it may very obviously be replied, that many of them have obtained their education in that highly advanced state of civilization which their sect claim to have renounced, and that, moreover, living in the midst of this high state of civilization, they cannot wholly escape its beneficial influences, in stimulating and inspiring them to thought and activity, just as the man who lives low down in the valley, but, surrounded by towering heights and Alpine grandeur, catches inspiration therefrom, which he would never experience if he lived in a monotonous, far-reaching, dead level plain—emblematical of the state to which the communist system of society, if fully carried out, would reduce the whole human race.

Before ending this general view of communism, it may be proper to remark, that there is undoubtedly much that is valuable in the principle, though difficult to be realized, without encountering other principles which more than countervail its utility, and that it is altogether probable that the principle might be advantageously introduced into human society, to a somewhat greater extent than it has hitherto been, on any large scale. But this further introduction of the communist principle, as we have already had occasion incidentally to remark, concerning *the relaxation of the political authority of states*,* and as we shall presently have occasion more particularly to notice, must come, if it come at all, with a gradual and general improvement of humanity. How far, or in what particular respects, the introduction of this principle would be advisable, though a highly important and difficult question, it would be scarcely consistent with the character of this review to consider. Nor will its consideration be entered upon here.

With these general observations, we might conclude our review of the principle of communism, as a basis of human Society, and of the first division of the class under consideration, all of whom advocate the principle, or some form or other. But some particular notice of some of the more prominent and notable exponents of the principle cannot well be omitted. Among the most prominent and notable of those exponents have undoubtedly been Robert Owen and Charles Fourier—the former of whom may be regarded as a characteristic exponent of the Anglo Saxon, and the latter of the Gallican, or French, style of thought.

* See No. x. of this Review in December No. of *Merchants' Magazine*, for 1860, vol. 43, pp. 670-71.

Robert Owen has been so often referred to, already, in the course of this review, and his most prominent and distinguishing ideas so clearly pointed out, that little need here be said concerning him, and that little is but little more than a repetition of what has been already said, although incidentally, rather than with any particular reference to the part he has played in the history of social philosophy, or the particular place he occupies as a representative of any particular class of sociological ideas.* In common with all of his class, (which is the class now under particular consideration, or the Third Class of the Political School, according to the classification which we have ventured to adopt of the multitudinous forms of sociological opinion,) Robert Owen evidently supposed that the social ills of mankind, or, rather, those natural ills of mankind which are observable under every form of human society, are referable, mainly, if not exclusively, to some faulty or erroneous organism of society, which it is possible radically to change. He imagined that an organization of society was possible, in which those ills would entirely disappear, and that he had discovered that organization. What that organization was, as well as the general scope of Owen's theory of society, cannot well be more briefly expressed than by himself, in the recapitulation of his work, entitled *Book of the New Moral World*. "To effect these changes," he says, "there must be not only a new organization of society, on the principle of *attractive union*, instead of *repulsive individualism*, but there must be, also, an entirely new 'classification of society,' according to age, and not according to the birth or wealth of individuals."† Thus it appears that this superficial and undiscerning reasoner, in his allusion to the different principles of classification that may be adopted for human society, and while making special reference to those of age, birth, and wealth, overlooks the most important of all, though, like all the most important principles, to be sure, the most difficult to be actualized, *the principle of classification according to talent, capacity, or merit*—which was the principle adopted by St. Simon, though, like all simple or single principles, utterly delusive, as a panacea for social ills, were it possible to enforce it, since human society is, and must ever be, when in a high state of civilization, an arrangement of vast and bewildering complexity, extending far beyond the scope of such visionaries as Owen and St. Simon, and the ken of their philosophy.

Having the sagacity to discern, and fully recognizing the great truth in social science, *that in order to reform society, it is necessary to reform men*, Robert Owen had the weakness to suppose that the reformation of men was no very difficult task, that a system of education was possible which would invest all men with exalted characters, and that he had discovered that system. On this point his own words briefly express his extravagant delusion. Thus he says in one place: "By this simple, easy, straightforward mode of proceeding, measures, the most effectual, will be adopted to prevent one human being from acquiring a single inferior quality, either of body or mind, and it is believed that the concentrated wisdom of society in this rational state of existence will be competent to

* See *ante* article No. viii., of this review, in July No., 1860, of *Merchants' Magazine*, or vol. 43, pp. 29, 30 and 31, of *Magazine*. See also pp. 279 and 280, of present article, and note to page last named.

† See "Owen's *Book of the New Moral World*, containing the Rational System of Society"—general recapitulation, p. 263 of work. First American edition, 1845.

effect this all-important purpose.”* Thus it plainly appears, that this deluded visionary deemed it an easy matter to prevent any one human being from acquiring a single inferior quality, either of body or mind, whereas, on the contrary, all true philosophers must, by this time, have discovered, and come clearly to know, that the faults, imperfections, or inferiorities of men, not less than their opposite qualities—nay, that the vices of men not less than their virtues, are as fixed and immutable facts in nature as any other—that the sixty-two or more elementary substances, which chemical science recognizes, as existing in the material world, are not more indisputable and indestructible, than are all the known varieties of human character, bad as well as good—that it would be as idle, vain, and preposterous, to attempt, by any possible system of education, or training, of whatever sort, to reduce all these varieties of mankind to any one character, or standard of character, as to reduce all the elementary substances of the material world to one kind of substance, as gold—nay, moreover, what it seems never to have entered into the philosophy of such superficialists to imagine, that if they should succeed in making all men of one common character, if they should succeed in making all men merely wise and virtuous, they would be found to have worked incalculable mischief instead of good, to have subverted the real plan of creation, and to have achieved as barren a triumph as those chemists were aiming at, who wasted their time, through long ages, in foolish endeavors to turn inferior metals into gold—that in short vice and virtue, or, in larger terms, evil and good, are, in all probability, as inseparable, necessary, and vital parts of the great plan of creation, so little comprehended by human intelligence, as pain and pleasure, falsehood and truth, darkness and light, repulsion and attraction, disease and health, decay and regeneration, death and life.

Robert Owen was inspired with the more extraordinary confidence in the practicability of greatly reforming men, or as he more peculiarly expressed it, of rendering them “rational,” by the system of education which he recommended, from the fact that that system was based upon a radically and fundamentally different theory of Ethics from that which has hitherto prevailed in the world, because it was based upon what he termed “true first principles,” or, as he has in one place expressed himself, upon “the ALL-GLORIOUS SCIENCE of the influence of circumstances over human character.”† In this Owen has shown himself, like many other enthusiasts, to have greatly exaggerated the importance of his cherished idea, and to have anticipated from it results which it is altogether unreasonable and chimerical to calculate on.

The doctrine on which Owen desired to have education and the whole system of ethics and society founded, the doctrine of “circumstances,” as many, in common with himself, have styled it, or the doctrine of “moral necessity,” as others have commonly designated it,—the doctrine which asserts that the moral world is governed by fixed and inevitable laws, not less than the physical, that the laws of mind are as uniform and invariable as those of matter; that the idea of the absolute *free agency* of man, in respect to *moral*, any more than to merely physical action, is a *delusion*, similar, though of a directly *converse nature*, to that which causes men,

* See Book of the New Moral World, part i., ch. x., p. 42.

† See Book of the New Moral World, part vi., ch. 5, p. 219, of first American edition.

in the absence of higher astronomical knowledge, to imagine their world the center of the universe, with the sun and stars all revolving round it—the doctrine which asserts that men are no more *responsible* for their *moral*, than for their intellectual and physical natures, that they are no more *culpable* for the complexion of their *characters*, than for the complexion of their skins, that, in short, all crime, all vice, is *disease*, moral disease, disease of the soul, correspondent to the thousandfold varieties of disease of the body, and ought to be treated as such—sometimes, indeed, with the sharp *surgical* practice of the executioner's *scalpel*, the *guillotine*, or the *gallows*, but always with kindness, and in sorrow, with Christian forbearance, gentleness, and love—this great doctrine, utterly subversive, as it is, of much that has been hitherto, generally, and almost universally, received among mankind, or at least the commonalty, or slightly informed part of mankind, is undoubtedly *TRUE*; and it is high time that the theological codes, the ethical codes, and the criminal jurisprudence codes of the world, and the whole system of the world's training, and of mutual intercourse among mankind, had been reformed, and conformed to *THIS GREAT TRUTH*. Nor can there be any reasonable doubt that important advantages would result to mankind from the general recognition of this truth—since truth must ever be supposed, in the long run, to conduce to human good, however opposite may appear its tendencies to the first and common view. But to suppose, as Owen did, that the introduction of this doctrine, as the basis of education, would completely reform mankind, render them superior to both moral and physical disease, place them beyond the reach of mental as well as bodily ills, and, in short, perfect the condition of humanity, is visionary, weak, *peurile*. It is to be carried away by delusion, infatuation with an idea. It is as if a man should be so carried away by his admiration for some new discovery in science, or invention in art, or some recently introduced fertilizing agent in agriculture, as *guano*, or the like, as to anticipate from it the complete perfection of the state of man, or the realization of that delusive dream of “a golden age” for the human race, which seems still to float vaguely in many minds. Many have been the discoveries, inventions, and improvements, which mankind have experienced, and yet they are far from having realized that golden age which the poets sing of, but which it is utterly unworthy of philosophers to calculate on, or to anticipate. The Copernican theory of the solar system has been promulgated and adopted, the religious reformation inaugurated by Luther has been successfully established, America has been discovered by Columbus, the *Arcana Scelestia* of Swedenborg has been published, the printing press has been invented, the steam-engine has been fabricated, and applied to locomotion by land and water, as well as to stationary machinery, the magnetic telegraph has been put in operation, and *guano* has been extensively imported from the Peruvian coast—but “the Millenium” has not yet come, the reign of perfect bliss has not yet been inaugurated on earth—sickness and sorrow, poverty and suffering, vice and degradation, injustice, oppression, and falsehood, still flourish in the world, as well as health and happiness, wealth and pleasure, virtue and nobility, justice, mercy, and truth, and will continue to flourish “unto the last syllable of recorded time,” and in despite of “all that saint, sage, or sophist ever write” to the contrary. Yet the amiable Robert Owen was weak enough to imagine that all these ills would vanish, so soon as mankind had adopted the form of society which he recommended, and had come to

be generally educated and trained according to "the ALL-GLORIOUS SCIENCE of the influence of circumstances over human character."

What visionary and extravagant ideas he entertained as to the results which might be anticipated from his system of education, it is best that we should let Mr. Owen declare in his own language. They will be manifest from the following passage of his work, already often referred to, and which will serve, at the same time, to illustrate the remark before made in this review, that the delusive idea of the perfectibility of man is generally to be found associated with the idea, that the social ills of mankind are referable mainly to political causes;* for it plainly enough marks Mr. Owen as a believer in the former of these ideas, while we have repeatedly noticed before that he was the upholder of the latter. Here is the passage, in which this amiable philanthropist, but evidently deluded enthusiast, says enough for himself to relieve us from any necessity for saying more about him: "Hail, friends of man, the approaching day, when the knowledge of the science of the formation of the character of man shall be universally known and practiced, when it it shall be so well known and practiced that not an inferior human being shall be formed, at maturity, to walk the earth, or disturb the universal happiness of man, or his progeny, in whatever country or clime he may be found!"†

Of all the advocates of the communistic system of society, and of all the advocates of social reform who have aimed at impracticable results, in any form, Charles Fourier, who, as his biographers inform us, entered into life at Besancon, in France, on the 7th of April, 1772, and departed, at Paris, on the 10th of October, 1837, was the most illustrious, alike for the transcendent order of his genius, the grandeur of his general conceptions in science, and the plausibility, attractiveness, and real conformity to nature, in many respects, of that *fictitious* system of society which he advocated, as a substitute for the *natural* system, or for that actual system of society which, whatever phase it may present in any age or country, must have been, everywhere, the slow and gradual formation of the *womb* of surrounding circumstances, and is, everywhere, to be regarded as the *legitimate offspring* of natural development. While the views of Fourier coincided, in the main, with those of Owen, as, for example, in respect to the substitution of *communism* or *association*, as he termed it, for *individualism*, as to the vast influence of the *organism* of society in determining its destiny, and as to the possibility of *perfecting human society* under a proper organism, they were predicated upon a far larger range of ideas and far grander general conceptions, and were, at one and the same time, both more extravagant and yet more conformable to truly philosophical principles. If, indeed, the views of Owen, respecting the principles of society and the possibility of human attainment, appear to us extravagant, those of Fourier must appear in a high degree transcendental. If one astonish, the other must astound, us. In passing from a survey of the views of Owen, as a social reformer, to those of Fourier, we are apt to experience similar sensations to those which we might be expected to experience, if, after beholding a man on lofty stilts, stalking across hayricks, and performing gymnastic evolutions of an extraordinary nature,

* See ante page 278 of the present article.

† See Book of the New Moral World, part II., ch. 4, p. 59, of edition before cited.

we should turn to behold one on "seven league boots," bestriding Alps, and gyrating among the clouds.

In Owen and Fourier the respective traits of Anglo-Saxon and Gallican intellects are indeed strongly and strikingly illustrated. Regarding Owen as an exponent of Anglo-Saxon *transcendentalism* in sociology, and Fourier, as he indisputably was, as an exponent of Gallican, the former appears very tame in comparison with the latter. And this is entirely in accordance with what might be anticipated. For the *fort* of the Anglo-Saxon is his sturdy common-sense, and application of well tried principles to practical uses, while that of the Gallican is his transcendental genius, and endeavor to compass impossibilities. In taking leave, therefore, of common-sense, of which indeed he seems to have possessed but a very small share, Owen parted from that which is the most distinctive merit of his race; and, in attempting to deal with transcendental ideas, he undertook a task for which neither he, nor, probably, any of his race, was, by any means, peculiarly well fitted. In fact, French transcendentalism, and genius for bold original conception, as far transcend the Anglo-Saxon, as transcendentalism in general transcends the ordinary habits of thought. In no less proportion do the speculations of Fourier transcend and excel those of Owen, in transcendental sociology; for of this character, undoubtedly, were the speculations of both in social philosophy.

While the views of Fourier far transcend those of Owen, in boldness, extravagance, and impracticability, they are, nevertheless, at the same time, more rational, more philosophical, and more conformable to admitted principles of science, at least in their fundamental and vital relations. In respect to these, their more important relations, they are much less liable to criticism, however much more impracticable and wildly extravagant, as they undoubtedly are, in many of their details. The different views of these two reformers, on one important point, will illustrate this observation. Thus, Owen, rightfully acknowledging *the grand necessity of reforming or improving men in order to reform or improve human society*,* weakly imagined, as we have heretofore shown, that this could be done without any great difficulty, and that he had discovered the grand secret whereby the total reformation of mankind, in their individual as well as collective characters, was to be effected. Fourier, on the contrary, while equally recognizing the necessity of either *reforming* men, or, at least, of *neutralizing their vices and follies*, which, were it practicable, would be virtually equivalent to a *reformation*, was altogether too much of a philosopher to imagine that the vices or follies of men could be really cured, to any great or general extent, or that their characters could be radically changed from what is commonly called *bad* to *good*. Far from it. On the contrary, throughout his voluminous and vast effusions, he constantly sets his face against this unphilosophical idea, and distinctly sets forth the opposite one, *that all the varieties of human character, bad as well as good, are immutable, and are to be accepted as indestructible elementary principles*—a great fact, indeed, worthy of a sounder reasoner than Fourier, and a fact which has been, hitherto, altogether too little known

* As elsewhere before observed, Owen does not expressly recognize or assert this great truth, in social science, which the author of this Review, here, as elsewhere, asserts in his own language, from his anxiety to make a truth of so much importance, and yet so little generally understood, or considered, as prominent as possible. Yet Owen, though he does not expressly assert or recognize the truth, tacitly and impliedly does so, plainly enough.

and considered in ethics, theology, and sociology. All that Fourier aimed at, therefore, with a view to perfecting human society, was to place mankind under such a social system, or organization—the state of harmony he termed it—as would, in his imagination, *harmonize all the vices of men*, and make them conduce to the general good, as well as to the particular happiness of their individual possessors. Thus he tells us, in a passage that will, presently, be more critically examined, for it is a pregnant one, “Tiberius, in harmony, will be just as noble, and more valuable, than Fenelon.”* Wherein he most probably displayed a lack of discernment in this remark, we shall presently have occasion to notice.

It seems to be the general opinion in regard to Fourier, that he was merely one of the many deluded visionaries, in regard to the reformation of human society, by whom the present age has been so signally infested. But such is a very inadequate estimate to form of this extraordinary, though undoubtedly deluded, man. Charles Fourier was, indisputably, one of the boldest, most original, most profound, and grandly suggestive thinkers (though altogether too dogmatical) in the dominions of fundamental philosophy and universal science, that ever lived. The controlling and paramount idea, the grand aim of all his speculations was, indeed, the realization of a perfect system of society, or, as he regarded it, a *harmonized system of society—the system of society designed by Providence*, as he supposed. But to this grand aim he endeavored, like a true philosopher, to bring the batteries of universal science, though not with the most distinguished success, by any means, nor conformably to the *tactics* of the most approved philosophical method. One of his biographers has justly said, “The writings of Fourier embrace a vast variety of subjects, cosmogony, psychology, social and political economy, historical and metaphysical philosophy, commerce, politics, and morals; in a word, all the questions which come under the head of universal philosophy have been treated by Fourier, in his peculiar style and method. It is difficult to say which of these subjects was the most important in Fourier’s own estimation. He has evidently treated them as parts of one general system of nature, united by one principle and governed by one universal law, which he names the law of movement. His system of association is, however, the work he dwelt upon with most persistency, through life, subordinating all his other studies to that science.”†

It is very difficult to determine how such a man as Fourier deserves really to be estimated. Such a combination of grandeur with littleness, of sagacity with folly, of rationality with insanity, of solid sense with wild extravagance, of undoubted love and veneration for truth with intolerable egotism and arrogance, of sound principles of philosophy with unwarrantable dogmatism, and an eminently unphilosophical spirit of valuable intuitions with imperfect conceptions for their realization, of correct general ideas with eminently faulty details, and, in short, of profound and rarely valuable fundamental principles of general science with a wretchedly fallacious and delusive system of practical conclusions deduced from them, and especially in respect to their applications to the particular science which

* See Fourier’s *Passions of the Soul*, as translated by Morell, part iv., section ii., ch. 6, or Epimædiate chapter, as he styles it, or vol. ii., page 397 of work, as published in London edition of 1851.

† See Introduction to Morell’s translation of Fourier’s *Passions of the Soul*, by Hugh Dougherty, p. v. of London edition of 1851.

was the grand controlling aim of all his speculations, the science of sociology—such a combination of discordant traits forms a character which it might well puzzle the most profound critic and analyst of character, a Macaulay and Plutarch combined, accurately to delineate, or justly to estimate.

As already more than once remarked, in the course of this review,* Fourier bears a strong resemblance, on many important points, to two illustrious characters of preceding times, Swedenborg and Plato. In this comparison, however, it is important to remark that Swedenborg was undoubtedly the superior of Fourier, as was Plato, though not so indisputably the superior of both, despite the inferiority of his age in knowledge; for Plato always bore the part of the philosopher, even in his errors, and his transcendent reason never toppled on its lofty throne, as did that of Swedenborg, to say nothing, in this connection, of poor, egotistical, deluded, half-demented Fourier. The most important points (in addition to those before stated) on which these extraordinary characters so strongly resembled each other, were the grandeur of their general ideas with the unworthiness or fallaciousness of their practical applications of them, their boldness, their originality, their dogmatical spirit, their contempt of ordinary conventionalities, either in conduct or opinion, their profundity, their obscurity of thought, the facility with which they passed, at a single step, from the simplest to the grandest themes, as if all things were alike commonplaces in the capacious abodes of their thought, and the sublime indifference with which they discoursed about the profoundest mysteries of creation, as if they held converse alike with men and gods. On all these points the resemblance between Fourier and Swedenborg, however, is far stronger than between either of them and Plato. There is, moreover, a special resemblance between the fundamental ideas of these two, so strong as to justify the following remark of a late writer, "The revelations of Swedenborg, by which I mean his grand cosmogonic and psychological generalizations, all point to that social order which Fourier has described as the true social code pre-established for humanity by its Maker."[†]

Fourier and Swedenborg are indeed *enigmas* difficult to be solved. When we wander through the vast *platitudes* of Fourier's transcendentalism, in relation to the subversions and restorations to harmony of the universe, about "the universal language spoken in all the harmonized worlds," of which ours is not yet one, but soon to become so, under the influence of his grand revelations concerning the laws of "passional attraction," and by our "initiation into the theories of universal analogy,"

* See No. iv. of this review in Jan. No., 1860, of *Merchants' Magazine*, or vol. 42, p. 25; also No. viii. of review in September No., 1860, of *Magazine*, or vol. 43, pp. 294-5.

† See the anonymous work entitled "The True Organization of the New Church, as indicated in the writings of Emanuel Swedenborg and demonstrated by Charles Fourier," introduction to work p. 22—New York edition of 1848. It may be worthy of mention, that, when the author of this review was writing in December, 1859, the article on Grecian Sociology, in which he first assimilated Fourier to Swedenborg and Plato, he was not aware that any one had ever done so before, and felt some hesitancy as to the advisability of making the comparison. He subsequently met with the work just quoted from, in which the parallel between Fourier and Swedenborg is far more closely drawn than by himself. Similar observations to this, as the reader may have observed, the author has before had occasion to make in the course of this publication, and they seem to illustrate very correctly the habits of thought of the author under the influence of which his views have been conceived and thus far published. He has not considered, to any great extent, the opinions of others with a view to forming his own, but has, on the contrary, drawn his opinions, at first hand, from nature, in the original fountains of his own brain, and has subsequently sought to test their correctness by consulting the opinions of others. In doing this he has been gratified to find, in a multitude of instances, that his own views have been signally sanctioned by those of other and highly approved thinkers.

about the "sidereal telegraph,"* which is shortly to be established between our globe and the other planets, by means of this universal language about "dead worlds," like our moon, "dismantled worlds," like our earth, and the fully "harmonized moon-bearing worlds," with a full *cortège* of satellites, like Jupiter, Saturn, and Herschel, and the respective characters of their inhabitants, we are apt to exclaim this is the veriest grandiloquence of deluded enthusiasm or the merest rhapsody of madness; and yet, in the next moment, we may find ourselves looking forth from the transcendental heights to which we have been translated by the genius of Fourier, upon a prospect which, however transporting, wears so much the hues and lineaments of the unmistakable realities of creation, that we may be prompted to exclaim—are these, in truth, the mere ravings of insanity, or are they the grand utterances of a prophetic genius inspired far beyond the ordinary capacities of men? The like perplexity of judgment we are apt to experience in following Swedenborg through the vast transcendental platitudes of his *Arcana Scelestia*—the greater in the case of Swedenborg, because the reliability of his transcendental revelations might seem to be attested by the many undoubted proofs he gave of miraculous or marvellous powers.

And yet, if the deductions of sober and enlightened reason may be relied upon, we need have no hesitation in pronouncing that the oracular announcements of both Swedenborg and Fourier are unreliable and delusive; that, though they may have been prophets and poet-philosophers, they were, like other prophets, by no means *infallibly inspired*; that they were highly commissioned geniuses, like many others, sent upon errands which they did not fully comprehend, but greatly misinterpreted; that, in short, they were men of extraordinary intellectual powers, which, not being well balanced, swerved greatly, at times, from the *plumb line* of reason, and fell into the devious wanderings of irrationality and insanity.

But what then? Shall we say that the utterances of such men as Swedenborg and Fourier are to be neglected because they were, on some points, deluded—insane? This would be a judgment unworthy of *idiotcy*, or, in the mildest language, of *infancy*. Wisely has it been said, in every sense, that "a wise man will learn something even from a fool, while a fool will not learn anything even from a wise man." If something may be learned even from fools, may not something also be learned from madmen? Or can it be doubted that really wise men, truly discerning, calm-thinking philosophers, may learn much, and derive many valuable suggestions, from such inspired madmen as Emanuel Swedenborg and Charles Fourier?†

* Let those to whom this idea of Fourier's, as to a *sidereal telegraph*, appears particularly wild and chimerical, be pleased to remember, that, when Fourier uttered it, some twenty-five or thirty years ago, the *mundane telegraph* by electricity, now fully inaugurated, would have appeared almost, if not quite, as wild and chimerical, as does, now, that of a *sidereal telegraph*. If, indeed, there are *aromal columns*, as others beside Fourier have supposed, of electricity, for example, extending from planet to planet, and sun to sun, if it be true that all the planets and all the worlds are bound together by great *swaths of electricity*, if there are, indeed, great *gulf-streams* of electricity coursing through the vast oceans of space, and washing against the shores of every world, who shall be so bold as to say that the time may not come when men shall be so advanced in science as to transmit to distant world, and receive back, in reply, telegraphic dispatches, along these columns, bands, or gulf-streams of electric fluid?

† It is proper to mention that in what is here said of Swedenborg as a deluded enthusiast, and nearly affinitized with Fourier, reference is intended only to Swedenborg as the *psychologist*, and not to Swedenborg as the *physiologist* or naturalist. Swedenborg, in his great work on "The Animal Kingdom," proved himself, in every respect, a true philosopher. It was only when he undertook to soar into the psychological kingdom, or his "*Arcana Scelestia*," that he seemed to have got beside himself. Fourier, on the other hand, in all his writings, betrays the man of free ideas spun out into the most extravagant and insane extremes. The rather small proportion of really valuable truth which seems to have been committed to him, in his insane application of it, he has torn to "rags and very tatters."

That which most eminently and worthily distinguished Fourier, in common indeed with Swedenborg, was his thorough conception of the idea of universal Unity and universal analogy, or, as Swedenborg styled it, correspondence, and his constant endeavor to conform all his scientific speculations to this idea.*

"All is linked together in the system of nature," he tells us. In the same connection, and in accordance with this great fact, he asserts "that astronomy, which is the interpreter of material harmonies for the stars, is also the interpreter of social harmonies for their creatures."† Accordingly, and in conformity with this grand conception, we find him, throughout his voluminous discourses, drawing illustrations indifferently from the grandest and most insignificant objects—from the sidereal vault or a Parisian ball-room. It would be difficult to give, in so few words, a more correct idea of this distinguished characteristic of Fourier than by quoting the words of one his biographers, Pellarin, in regard to his great work on "The Theory of Universal Unity," which was first published under the title of "Treatise on Domestic Agricultural Association," in 1822—"How can we give, in a few lines, an idea of this colossal work? It is there that Fourier, taking the passional organization of man as the archetype of the universe, according to that thought of Schelling often quoted by him, 'the universe is made upon the model of the human soul,' assigns the order of the distribution of worlds with the same assurance as if he had been present at the councils of God himself. It is there that, applying everywhere his law of the *SERIES*, he establishes the connection of the destinies of all beings, traveses the whole scale of creation, sometimes clearing, at a single bound, the interval which separates the two extremes, the infinitely great and infinitely small, never, however, losing sight of either in his speculations, whether the most grand or, apparently, the meanest and most trivial. In the midst of these flights through spaces where no one can follow him without dizziness, he never forgets the first immediate object of his work, *ASSOCIATION*."‡

These general remarks on the character of Fourier and his speculations in general, will prepare us the better, in some measure, to comprehend and appreciate his complex and impracticable views of society. Some tolerably correct general notion of those views may be obtained from the following outline. Fourier conceived that there was *some particular and special form* best fitted for human society, under all circumstances—a true, divinely-intended organization for associated humanity—a fully harmonized condition, possible for men, which had never yet been realized, or its principles known, on this globe, though long known and realized by the more favored inhabitants of many other worlds—"the fully harmonized planets," as he styled them; that this true organization for society was, however, discoverable by the inhabitants of this globe; that he had made the important and grand discovery, deducing it from the laws of universal analogy, more especially as manifested in the "passions of the human soul;" that this discovery ought to have been made at least two thousand years ago, in the age of Pericles, and would have been made, probably, had not the human mind about that time fallen into a

* See *Passions of the Soul*, vol. i., p. 133, London ed., 1851.

† See *Passions of the Soul*, vol. i., p. 134, London ed., 1851.

‡ See Pellarin's *Life of Fourier*, as translated by Shaw, p. 42, New York ed., 1848.

languor and feebleness from which it has been slow in recovering; and that, moreover, that the discovery would have been made much earlier than that, and indeed, that mankind would, long before that time, have been brought into the true social style, or state of social harmony, instinctively or naturally, and without the aid of scientific discovery, by the *improved material condition of our globe*, if it had not been for the great catastrophe which it experienced in the deluge, which was occasioned, as he informs us with the most serious audacity, "by the death throes of the moon," which occurred about that time, and which so vitiated the "aromas" of our planet as to swell the race of serpents up to one hundred and thirty tribes, and that of bugs to forty-three varieties, and to produce other deplorable results upon the animal, as well as vegetable, kingdom, and greatly to retard the progress of mankind towards *harmony*; that in consequence of this great catastrophe suffered by our globe, it would have been at least two centuries yet before mankind could have attained the state of harmony, had it not been for the grand scientific discovery of himself, Fourier, which has opened the way for them to enter, at once, into a state of social harmony and terrestrial bliss.

Fourier imagined that in order to ascertain what this true form of society was, it was only necessary to look into the human soul, and ascertain how that was organized, what were its essential and elementary passions or impulses, (substantially the idea before expressed by Plato,* but much more elaborately, and at the same time less *scientifically*, carried out by Fourier;) that, inasmuch as all things are linked together in nature by the chain of universal analogy, the real structure of the soul might be discovered and illustrated by an analysis of the gamut of the musical notes; that as every complete musical octave has *seven* active and essential notes, and *five* neuter or accessory ones, making in all *twelve* distinct notes, so the human soul has *twelve elementary notes*, passions, or impulses, five of *sense*, four of *affection*, and three of *order* or *system*, all of which require full development; that these twelve elementary passions, however, by their various combinations, in different individuals, are capable of producing a far greater number of distinct individual characters; that in order to form a perfect social organism, or complete "social man," or, in other words, one "entire human soul," it is necessary to bring together all these distinct varieties of individual characters or soul in "symmetrical distribution," to harmonize them, and give full play to all their different leading traits; and that there are, as he has discovered, (though by what process, either of *induction* or *deduction*, he has made the discovery, he does not deign to inform us,) in the human race, eight hundred and ten different species of individual souls or characters, male and female, the males exceeding the females about as twenty-one to twenty.

Upon this meagre induction of speculations, or dogmatical assumptions, almost wholly unsustained by any practical observations or experiments, Fourier concluded that the perfect and complete human society or social unit, which he termed phalanx, (*la Phalange*) comprised just eight hundred and ten persons, each one of which should represent some one of the individual varieties of mankind, so long, that is, as they should all be in health and of an age fit to perform industrial duty; but that, inasmuch as this could not be depended upon, and eight hundred and ten per-

* See article on Grecian Sociology, vol. xlii., p. 22-3-4, of *Merchants' Magazine*.

manently active persons could maintain at least twice their own number, about twice that number, or sixteen hundred and twenty persons, of all ages and sexes, were necessary to form a complete "industrial hive," social unity, or phalanx. Fourier imagined, in the plenitude of his childish simplicity and dogmatical arrogance, that mankind thus brought together in distinct self-sustaining communities of sixteen hundred and twenty persons, according to their proper affinities and harmonies, and being called upon to perform those offices for which they had both a peculiar taste and talent, would find labor attractive, *travail attrayant*, and would need no extraneous stimulants to industry. He was, moreover, weak enough to imagine that full play being thus given to all the natural passions of men, and that too in what he called "harmonious development," instead of the present "subversive development," as he termed it, so far from experiencing any injury, from this unrestrained license of human passions, *duly harmonized*, would realize extraordinary prosperity and happiness, and find, in this life, enjoyments not unworthy of a terrestrial paradise.

Surely, views so wild and impracticable, however plausible and captivating in some of their aspects, need but little comment. They will be dismissed from further consideration here, with the remark that, in entertaining them, Fourier committed two grand errors, which it may be worth while briefly to notice, the more especially as they are errors that are entertained, either in whole or in part, by a multitude of false reasoners, beside Fourier, in social science, and other sciences intimately related to mankind.

I. It was a grand error in Fourier to suppose that *because there may be, and doubtless is, a natural, true, and proper system of society for mankind, this system is some other than that which we see, and to which men have taken spontaneously, under the various circumstances by which they have been surrounded*. How else do we or can we ascertain the *natural, true, and proper* habits of any plant or animal, than by observing what are its *actual* habits? And why does not this rule apply to man, as well as to all other animals and vegetables? Why is *instinct*, which is admitted to be an infallible guide for all other animals to their true destination in life, unreliable only in man? It is a very great and serious error in philosophy to suppose so. The instincts of man, though more indistinct than those of the lower animals, are, after all, the most reliable indications to him of his true direction and destiny; and it is altogether probable that much more serious errors are committed by men from defects of *reason* than of *instinct*. Indeed, no one was ever a more strenuous advocate of this idea, in the main, than Fourier himself, though he loses sight of it entirely when it fails to chime with his fanciful and eminently contracted theory. Thus we find that the main point, in the existing order of civilized society everywhere, against which he directs the batteries of his indignation, is its systematic endeavor to repress the natural passions of the soul, to which he aims to give full play, confidently asserting their divinity of origin and destiny, from the simple fact that they exist.

The real secret or fundamental source of Fourier's error on this point, was the mistake, so common with *half-way* philosophers, and especially French philosophers, of presumptuously undertaking to pass final judgment on nature from his own low stand-point, and audaciously assuming

that this and that are wrong, because to his contracted view it appears so. Thus we find him, with the most astounding audacity and most imaginable assurance, asserting "that man has been exceedingly ill used by nature," because he cannot see so well as the eagle and the cock, the owl and the cat,* and that this ill usage of man ought to be rectified, and will be, so soon as our planet gets *fully harmonized*, which it will do in two centuries more at the latest, when man will attain a power of vision far exceeding that of all the lower animals, as he ought certainly to have.

Thus, again, we find him, with less audacity and transparent folly, asserting, in the passage already quoted in part, "Tiberius, in harmony, will be just as noble, and more valuable, than Fenelon; you must then accuse, not Tiberius, but civilization, which knows not how to make use of this rich character, which is an ambiguous trimixth."† It seems never to have occurred to Fourier, that perhaps Tiberius was already in harmony, and did not need his ridiculous harmonic principles to render him so. Fourier, with all his vast romancings through space, did not have comprehensiveness enough of apprehension to comprehend the idea of a *grand concord of discords*, nor to discern that, most probably, to an all-seeing eye, and an all-discerning mind, the universe is already *in harmony* with all its lights and shadows, pains and pleasures, goods and ill, truths and falsehoods. He was not really a profound enough reasoner to comprehend that if, indeed, he could exterpate all lying, all falsehood, from men, as he aimed at doing, he would perhaps have dried up one of the grand fountains of human happiness, and left to human life too much of the *sweets* without the requisite *acidities* of creation. His was not the soul to comprehend the profound language of Bacon, a true master of the human soul, "A mixture of lies doth ever add pleasure. Doth any man doubt that, if there were taken from men's minds vain opinions, flattering hopes, false valuations, imaginations as one would, and the like *vinum Daemonium*, (as a father calls poetry,) that it would leave the minds of a number of men poor shrunken things, full of melancholy and indisposition, and unpleasing to themselves?"‡ Fourier does not seem to have been at all conversant either with the grand sentiment of Pope—

"All nature is but art unknown to thee;
All chance, direction which thou canst not see;
All discord, harmony not understood;
All partial evil, universal good;
And spite of pride—in erring reason's spite,
This much is clear—*whatever is is right.*"§

It is true that Fourier has presented this unphilosophical idea, that *there is something essentially wrong in the existing order of things*, whether in Sociology or in Physiology, in a very plausible form, and such as may serve to stagger criticism for a moment. He maintains that mankind are

* See *Passions of the Soul*, as translated by Morell, part i., ch. 2, or vol. i., p. 23, London edition of 1851.

† See same work, part iv., sec. ii., ch. 6, styled Epimædiate Chapter, or vol. ii., p. 397.

‡ The author is not able to refer to the work in which this language is used by Bacon, though it bears the unmistakable impress of his genius. It was met with in a note to an English translation of Goethe's *Faust*.

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not as yet in their *true natural* state, or state of full normal development. He maintains, as a part of his general system of cosmogony and fundamental philosophy, that both the material and humanitarian or moral systems of the universe are subject to alternate periods of *subversion* and *harmony*, the former of which he also calls *transitions* and states of *limbo* in some places, while in other places he attempts to draw important distinctions between subversion and transition—that in these periods of subversions, the springs of universal movement, in the passional and material world alike, operate in subversive play, and in direct contradiction to their natural course, producing, for example, night instead of day, winter instead of summer, caterpillar instead of butterfly, comet instead of planet. He maintains, further, that our planet, and all its inhabitants, are, as yet, in the *subversive* state, or state of *limbo*, and have not yet attained to their true normal development. He vouchsafes, however, to inform us, that this state will not continue much longer—that the human race is destined to remain 80,000 years on this globe, about 6,000 years in a state of *anterior* subversion, 4,000 in *posterior* subversion, and 70,000 in *twenty-four different phases of harmony*, or true humanitarian life—that this period of anterior subversion is now near its close, and mankind are nearly approximated to the period of full and blissful harmonic development.

In reply to these grandly romantic speculations, it is sufficient to say that they are wholly unsustainable by any data sufficient for scientific conclusion, and that they are rendered only a little plausible by a few strained analogies, while far more numerous and important ones, of a contradictory bearing, have been wholly overlooked. One only of those contradictory analogies, and one which is far more germane to the point in issue than those cited by Fourier, will be noticed here. According to Fourier's favorite idea of universal analogy, and indeed by his own express assertions in various places, *the life of the individual man is the type of every other*, and of course, more especially, of the life of the race of mankind. Now let us inquire how does the analogy drawn from this individual life of man testify as to Fourier's fanciful and delusive idea about 70,000 years of harmonized bliss in the lifetime of the race. Is there any essential difference between the functional life of the individual man in the different ages of his existence? Is it not the same in the boy of *five* years, the man of *twenty-five*, and the veteran of *seventy*? Is not man in the prime of life, the vigor of manhood, still liable to pain and penury, and "all the countless ills that flesh is heir to," as well as in youth and old age? Where, then, is the probability or rationality of the idea that the *race of mankind*, during the 70,000 years of their middle age, are destined to enjoy a state of harmonic development directly the reverse of that which they have experienced during the earlier period of their existence already past? It is a peurile imagination, utterly unsustainable by scientific testimony, and unworthy of a philosopher.

II. It was a second grand error in Fourier, and greater than the first, to suppose that, if indeed there is any other right state of society than that which we find actually existing in its different phases among mankind, either he or any other man can construct it artificially, or by the aid of merely scientific principles. This is about as wise as to imagine that an individual man, a living human soul, can be made artificially, and by means of a scientific calculation of the exact quantity of carbon, hydro-

gen, nitrogen, and other ingredients it takes to form a man. We know that human ingenuity is adequate to do much, but it can never actually create life, either vegetable or animal, individual or social, by any artificial means or scientific appliances, however skillful. It may make a steam-engine and an automaton, but it can never make a man, or a society of men. All it can do, towards either of these last named results, is to perform certain acts which will set in motion, or bring into play, certain occult and profoundly unknown forces of nature. It can never accomplish anything in this line, except by drawing on the vast resources of nature, her boundless skill as exhibited in her eternal workshops, and the result of her agency in such cases can never be calculated, with any certainty, by human intelligence.

No human society was ever yet the creation of human ingenuity solely, nor to any other extent so, than to a very limited one. There is, in all human societies a great deal more that lies beyond the reach of human creation and control, than within them, and the really most important part of a nation's laws will, accordingly, be found to be those that are not written. A nation or society cannot be created *de novo* or *ab origine*, conformably to the views of any human designer. Nor can it ever be ushered into existence, except after a long and elaborate process of anterior formation, which must forever defy the utmost human ingenuity or wisdom to calculate the results of.

In short, *incubation is indispensable to the creation of national or social life, as well as of individual*—nay, moreover, *incubation, gestation, and parturition*. There is no other way of creating men than the natural one—by begetting babies; and the way of creating or begetting empires, nations, or societies, is like unto it. In either case, the little that human ingenuity can do towards controlling the result aimed at is as nothing compared with what it cannot do. By strict attention to the laws of *genealogy* in the case of individual life, and of *ethnology* in the case of national, and to the *influence of circumstances* in both cases, something may be effected. If, for example, you wish to create a certain style of man, all you can do is to unite in wedlock a certain style of man to a certain style of woman, and attend strictly to the health and habits, mental and bodily, of the woman, during the period of her gestation. If you wish to create a certain style of society, or nation, all you can do is to unite a certain style of men to a certain style of *local circumstances*, having regard to soil, climate, geographical feature, and general adaptability as to occupation, and then attend to the habits of your society, as far as possible, during its *embryo* state, or the period of its *gestation*. This is all that the most renowned founders of States have ever done, or been able to do. What did Alexander and Peter the Great, in founding their renowned cities of Alexandria and Petersburg? The one merely united the Egyptians and Grecians to the *local circumstances* surrounding the mouth of the Nile, on the Mediterranean Sea; and the other united the Russians to the *local circumstances* concentrated at the mouth of the Neva, on the Baltic. In short, all they did was, *they married the RACE to the CIRCUMSTANCES*. Nature did all the rest. Had Peter colonized his city with Egyptians and Greeks, or had he located his Russians at the mouth of the Nile, the result would have been very different from that which has followed his work; and all that Fourier and other presumptu-

ous aspirers to the power of dictating the destiny of humanity may have striven for, to the contrary, would have been vain and futile.

What, again, could the utmost human sagacity and ingenuity have done, towards designedly controlling the destiny, or forming the character, of one of the latest born and most distinguished of existing nations, now threatened, apparently, with premature death—the Americans? It could have done nothing more than look to the character of those who sailed in the *May Flower*, and those who settled at Jamestown and other points, attend to the local circumstances of their places of settlement, and the various political, as well as local influences, by which they were surrounded during their long period of *gestation*, extending through nearly two centuries, until the nation was actually *delivered* on the 4th of July, 1776.

Fourier needed council from the great mind of Bacon, and the idea with which he seemed to be thoroughly animated, in all his philosophical discourses—that *the subtlety of nature greatly exceeds that of man*—and that, consequently, however skillfully man may contrive, he must ever fall behind the skill, the subtlety, and intricacy of nature. And yet it should seem that Fourier, of all men, ought to have been one of the very last to need council on this point, in respect to the organization of human society; for this much must be accorded to him, that he seemed to appreciate well its *vast complexity*, at the same time that he wretchedly failed to appreciate the vast difficulty and utter impracticability of its being mastered or controlled by human ingenuity. While most analysts of society have been content to reduce it to three main elements, as the *good*, *bad*, and *indifferent*, the *rich*, *poor*, and *middle conditioned*, or the like, Fourier had reduced the composite structure, of what he calls truly harmonized human society, to not less than 810 different elements, each one of which, he maintains, must be present, in its proper proportion, and without any other element, in order to constitute such a society. And yet he maintains that human ingenuity is adequate to the stupendous work of organizing such a system of society, that his sagacity and skill could easily compass it, and that mankind and civilization, and all its philosophy, were despicably stupid, because they would not commit themselves to his directions. Was there ever a doctrine more completely suicidal? Was ever delusion more evidently manifested? Assuredly, Fourier, like many of his brother reformers of society, belonged to that class, of whom it has been written, “Esteeming themselves wise, they became fools.”*

* The foregoing outline of Fourier's views of society have been condensed almost entirely from his work on “*The Passions of the Human Soul*,” through which they lie scattered in desultory and vast confusion. Of this work, Mr. Hugh Dougherty, one of the expounders and biographers of Fourier, has said, “In a purely scientific view, the analyses of the passions may be deemed the most important of his works, since he builds his whole social theory, and all his scientific synthesis, on this analysis.” See Dougherty's Introduction to Morell's translation of *The Passions of the Soul*, page 5, of *London* edition of 1851.

Art. II.—CONSTRUCTION OF STEAMERS.*

CONSTRUCTION OF STEAMERS—SIDE WHEELS AND SCREWS—WHEEL SHAFTS—SCREW SHAFT—ELEMENTS OF THE SCREW—STEERAGE—CONCLUSION.

A PROMINENT consideration in constructing steamers is to obtain in them the least resistance proportional to the displacement, consistent with the strength and stability requisite for the service to be performed. If this service regards only speed under steam alone, and is to be performed in smooth water, the resistance may be reduced very much by giving great length as compared with the beam or breadth. In this manner the displacement may be doubled without an increase, but on the contrary a reduction, of resistance, by rendering the water lines "easier;" that is, by reducing the angles with which the vessel enters and leaves the water. For smooth water, there is scarcely a limit to the application of this principle, except steering in crooked channels and turning in comparatively narrow places, also that imposed by the friction arising from length.

But these excessively long vessels are objectionable as steamers on the ocean for several reasons. Of these, one is the enormous weight of the engines and boilers concentrated within a small space near the center of the vessel, which, when the two extremities are sustained by the tops of two waves, being partially forsaken by the trough of the sea, will settle, and occasion leaks, unless the vessel is constructed with an extraordinary degree of strength proportioned to the length.

Again; if a very long vessel, heading a heavy sea, is raised at the bow by a wave, and that wave passes under her to the center, sustaining that part, the bow will overhang the wave and drop, opening the butts of the planks, and occasioning there also strain and leak.

The kind and degree of strength necessary to prevent the extremities and the center of a long steamer alternately settling in the manner described, are given chiefly by the side planks. If the sides are deep, so that this planking has great breadth, the vessel will be correspondingly strong—otherwise weak. Several long river boats, with no great depth of sides, have broken at sea and foundered.†

A limit to the strength produced by depth of sides is prescribed by the practicable height and depth of the vessel, which must bear a certain relation, and both may be too great; one for stability and as affording an object for opposing winds, and the other for draft of water and passage of bars found at the entrance of most harbors.

A second objection to these excessively long vessels is, that if in a gale steam fails, they fall into the trough of the sea, and there remain in spite of every effort hitherto tried, sails or drags, and wallow until their decks are swept, and they founder. The San Francisco and Central America are memorable instances.

A third objection is urged in certain cases, as men-of-war to compose

* Steam for the Million: a Popular Treatise on Steam, and its Application to the useful Arts, especially Navigation. By J. H. WARD, Commander, U. S. Navy. New York: D. Van Nostrand.

† The "hog frame" is an expedient to compensate for want of depth of sides, but at sea is not reliable. The bow and stern, too, not being "water borne," are hung by braces, and other expedients, which also, although well enough in smooth water alone, and well enough as auxiliary to deep sides at sea, are not there a good sole dependence.

the body of a fleet, which it is desirable to compact and maneuver quickly, and within a reasonable space.*

In regard to size of vessels, their capacity to carry fuel, power, &c., is as the displacement. The resistance, to which the power must be proportioned, is as the area of the greatest immersed section. But as vessels increase in dimensions, their forms being similar, the capacity increases as the cube of any given dimension; whilst the area of the immersed section, consequently the resistance, increases only as the square of that dimension.† Hence, increasing the size of a vessel so as to double her resistance, and double the cost of running her by doubling the quantity of fuel consumed in a given time, more than doubles her capacity to carry freight, fuel, &c.; which explains why large vessels of any kind are found most profitable where there is employment enough for them, and why large steamers can keep the sea longer, and accomplish longer voyages with the fuel they are capable of carrying, than smaller steamers.

Let there be taken, for example, two vessels, one 30 feet wide, 150 feet long, and drawing 10 feet water; and another 40 feet wide, 200 long, and also drawing 10 feet. The displacement (or capacity to carry) of one is represented by 45,000, the product of the three measurements; and the displacement of the other by 96,000. The relative resistances are represented by 300 and 400; that is, the capacity of the larger vessel is more than 100 per cent greater than the smaller, and her resistance, and consequently her power and expense, are greater by only 33 per cent.

But, by art. 3, the depth must grow with the length, at sea, for strength. It must also increase in order to give lateral hold in the water to correspond with the lateral exposure to the force of both wind and sea, for otherwise the drift is such that, however the ship may head, no one can know the actual position on the sailing chart, owing to this great and uncertain drift as a cause of deviation. Hence the gain of speed by length, although always great, is in practice reduced below the figures of the preceding paragraph.

In proportioning engines to vessels intended for steaming only, it is customary to allow a horse power for every one, two, or three tons—giving the highest proportion to smallest vessels, for reasons noted in art. 5. There is a growing partiality for high proportional power, especially for vessels engaged in the transportation of passengers, yet there is much argument as to what the limit of this proportion should be. A correct solution depends on the purpose of the ship, whether for man-of-war or

* Long sailing ships have relatively an advantage in speed, pitch less, and are much more weatherly, because the lateral resistance is greater proportionally to the longitudinal, and because they brace the yards sharper; but they won't stay so surely unless the head yards are checked in, because they lose headway before the yards braced extra sharp catch aback. They cannot either be got off the wind in a squall, therefore need more careful watching. They require an inconvenient space staying, and more for wearing—an inconvenience especially felt in fleets.

The English complain bitterly of the unmanageable character of their new long steam frigates, copied after ours, which is attributed to length. Their long rows of battery on a single deck, are ridiculed as "streets of guns." In truth, they would, in line, fare badly against the concentrated fire of a two or three decker; and will, if so be it turns out by actual war experience that the line system is to continue. This, however, by the best opinions, will not prove the case. If it does not, and the méele system prevails, then ships fighting under steam, will as often be engaged on both sides as on one, obliging them to fight both batteries, each with half a crew, as rapidly as one battery can be fought with a whole crew. As guns are now mounted, this would be impossible. The author is prepared with a means of meeting this new necessity, and he will propose it in due time.

† Solid measures increase with the cubes, and superficial as the square of a linear measurement. Hence, while the space in the ship increases as the cubes, the surface, on which the carpenter works, increases only as the square, which accounts for the reduced proportional cost of large ships; and it would be less than it is, except for the scaffolding and hoisting on the stocks.

not. If it be speed, dispatch, packet service alone, sacrifice largely everything to speed; otherwise not. And so with such men-of-war as are built for speed, to run, or principally for that. Or if they are built principally to claw off a lee-shore, as some strangely contend, then give them a power adapted to this main object of their construction, otherwise not. And if they are to perform service about home exclusively, they need one construction and proportion of steam power to tonnage; that it should be primary, not secondary or auxiliary to sails; otherwise the reverse. For fighting and for distant service, ships undoubtedly require battery, spars, and subsistence, which are opposed to excessive proportional steam power, or the weight and space it occupies.

The law of power in its relation to speed is, that power increases or decreases with the cube of the speed; and calculating, the statement is, as the cube of a given speed, is to the power which by experiment produces that speed, so is the cube of any other required speed, greater or less than the given one, to the power which will produce that required speed.

Thus, if it is known that in a given case 500 horses power will produce a speed of 8 knots, and it is desired to know what the increase of power must be to increase the speed $\frac{1}{4}$, or to 10 knots, the statement will be, as $8^3 = 512$, is to 500 (H. P.), so is $10^3 = 1000$, to 976 (H. P.) or nearly double the power. So that doubling the power produces only $\frac{1}{4}$ increase of speed. By trying other cases it will be found, uniformly, that doubling the power gives about $\frac{1}{4}$ increase of speed. Hence a moderate increase of speed involves an enormous increase of weight, and demands room correspondingly for engines and boilers, and more yet for coals.*

In regard to the water lines of vessels, experiments long ago determined, that the form of least resistance had its sharpest end forward. But short sailing vessels so built, buried, and have even run under and foundered. Long vessels are in no such danger. Nevertheless, it is but recently that constructors have boldly conformed practice to theory, and brought the dead flat amidships. Mr. Steers led in this step, and hence mainly his success. Steamers, which are such exclusively, are often much fullest aft.†

Ships, of course, freight around the weight of their hulls,‡ and it is

* It is truly desirable that the public, which properly regards speed as the chief merit in packet and passage steamers, should regard men-of-war with more reasonable and charitable criticism, remembering they are designed for distant, long-continued cruising, away from supplies of fuel; and besides engines, must carry heavy batteries, heavy masts and spars, subsistence and water for large crews for many months—a lading wholly incompatible with the lean water lines, and the heavy boilers and engines, which conduce to mere speed.

The proportions of horse power are given in the books as relating to tonnage, sometimes to displacement, and sometimes to area of immersed section; and in reading intelligently, it is necessary to know which is meant, neither being expressed.

So also there is, beside the calculated and the indicated horse power already explained, another one spoken of in English books, termed the "nominal horse power," and in reading intelligently, it is necessary to know also which of them is meant, when neither is expressed.

Nominal horse power, as used in English publications, expresses the relative capacities of cylinders, and the work the engine will do with some certain effective pressure upon the piston per square inch, the books say 7 lbs., (Bourne, p. 50,) but is no measure absolutely of the work an engine does.

† Large ships with short floors invariably fail at sea, though fit for smooth water.

‡ On this principle, of the impossibility of freighting all around the globe any number of vessels loaded with their hulls, the "coat-of-mail ships," now bugbearing the world, will prove wholly impracticable as cruisers, although for special service against a neighboring belligerent power, they may no doubt prove effective, more particularly if ever it turns out that they are made impervious to heavy shot.

So also the "steam ram," which must be of enormous weight and strength, although of some service about home, (yet even then far short of what its cost should render it,) may very likely turn out a "sheepish" affair. Certainly it should be permitted to sink but one vessel, and that one

desirable that so far as possible each part of the ship should carry its own weight. This the bows and sterns of very long sharp ships do not; in other words, those parts are not water borne, but are as much hung to the body, as a horse's neck and head, and are to be held up by a heavy and expensive constant support. This very difficulty imposes another check upon length, and still more upon sharpness; for art must yield to nature—planks and bolts to gravity.*

It is useless to complain of the expense of a steam navy, for there is no avoiding the greater first cost of ships, the more frequent repairs arising from the shake of the engines and the rapid decay caused by heat, or the larger amount required for pay. The Wabash, after but two years' service, shows in her wales, midway of the ship, only a shell one inch thick of sound wood, although at and towards the extremities, away from the heat, the planks are good the whole thickness. This may in part be due to unseasoned stuff used in the hurry of building, for undoubtedly steamers require the very best of seasoned material—at least in the middle, or waist.

The side wheel, is to the screw under steam power, what the paddle—more properly a pair of paddles, or banks of oars, are to the scull under hand power. And the parallel only fails, because so much hand power cannot be brought to bear on the scull as on oars, whereas an equal steam power can be brought to the screw as to side wheels.

Even if the parallel did not fail for the reason mentioned in the case of hand power, and so much hand power *could* be brought on the scull as on oars, relying alone on the "ash breese," a figurative term for the oar, they would be voted preferable to the scull in smooth water; although in rough water, or co-operating with sails, all experience demonstrates the imperfect, awkward action of oars.

Throughout nature, where motion alone is the object, the rotatory is that which is always witnessed; and in art, where motion alone is the purpose, nature is imitated with analogous benefit. Under such circumstances, then, there is an advantage in bringing the rotation of the crank shaft to act directly as propulsion by the paddle boards or buckets, rather than indirectly and obliquely by the screw.

The screw, therefore, like all intermediaries, like for example the gearing article 17, page 62, may be regarded as a necessity, introduced to avoid some difficulty otherwise unavoidable, or to gain some advantage otherwise unattainable; the particular difficulty in this case to be avoided being the unequal action of side wheels in rough water; and the particular advantage sought being a union of the elastic force of steam produced by artificial means, with the natural force of the winds on sails, which is a result of gravity. Article 1, page 9.

None would think of any other appliance for speed on a railroad, than the driving wheel acting directly by traction. Only where traction is

should take the ram down "by the horns," head foremost. In war, defence always keeps pace with the attack, and following the ram's introduction, will be appliances for grappling it on the instant, if not before all the fatal damage is effected, yet before the victim can sink, so that when the ram takes that projected "turn back," it will find "its horns caught in a thicket"—that it is easier to get into a scrape than out of it. Will the rams carry their extremities in a heavy sea, or will the steel-plated ships carry theirs as cruisers?

* The mania for increasing length will hardly be cured, until after more disaster. But unfortunately the victims will be a simple public which knows no better, intent only on going ahead, and not the capitalist and architect who don't go to sea in the vessels, only order and construct them, under the united impulse of cupidity and vanity.

insufficient, is has been proposed to overcome inclined planes by a screw. So afloat, on smooth rivers, where an even keel and even action of the paddles is always possible, the case is very near akin to that of railroads. Hence on rivers, side wheels are usually seen—screws never. True, a lack of depth or draft of water to submerge a screw, is an additional reason for its absence from rivers; but without that reason, it yet wouldn't be there.

Early experimenters in this country, those coeval with Evans, Fitch, Stevens, and Fulton, essayed with the screw, and developed its advantages in deep water with a sufficient draft. But in shoal water, it could not be used even if desirable; and in smooth water it was not desirable. Hence the side wheel got the ascendancy in America, where shoal, smooth rivers and bays were the field; an ascendancy which doubtless the screw would have got instead, in England, where the boisterous channels and their deep water were the field demanding steam power to navigate them. Naturally, in copying from us who led in steam navigation, the English took the side wheel, which was also best adapted to the Boulton and Watt's form and style of engine, then universal; and although the screw proves now to be best adapted for channel service, it is not wonderful that time alone could break the hold which possession gave upon prejudice for the side wheel, as it has now done there, and also begotten a new form of engine, the screw engine, adapted to the work required. Nor is it wonderful that we are behind England in screw propulsion, and even for ocean navigation reluctantly abandon the side wheel, originating with, and handed down to us by an ancestry whose memory we venerate, and whose genius and perseverance merit our own, and challenge the world's admiration.

Side wheels, to operate with only small loss of power consequent on the buckets or paddle boards (when fixed to the arms of the wheel) entering and leaving the water at an angle with its surface, have very great diameter; an evil of which is, that it causes lofty wheel houses, and great retardation from head winds, as well as injury to the stability of a vessel.

The English very generally escape this evil of retardation and instability, by smaller side wheels, with swiveled buckets or paddle boards, so turned, by a "feathering wheel" on the shaft, as to preserve them always in a vertical position. Hence they enter and leave the water vertically, however great the dip of the wheel; whereas, the fixed buckets ("floats,") even of a larger wheel, increase or decrease their angle of entrance, to some extent, as the dip increases or decreases; which dip is, of course, at the beginning of a long passage, very great, and at the end very light.

So also when the lee wheel of a side wheel sea steamer under sail is buried greatly, a similar action takes place; that is, a great loss of power, by the fixed buckets entering and leaving the water with an action which, to the extent it is vertical, is not propulsive, therefore lost; and which, if a wheel were buried to the shaft, would be *wholly* vertical. With the swiveled (the English call it the "feathering," as distinguished from the fixed, which they call the "radical") paddle, what force that paddle does exert, even in the extreme case supposed, is horizontal, and in no degree vertical.

Under canvas, the weather wheel dips lightly in proportion as the other dips deeply, and it is then of little account whether the paddles of the

weather wheel are "radial" or "feathered." Under great heel, therefore, with side wheels there is great loss of power; and under any heel, the loss is proportional.

But there is another evil with side wheels, viz.:—Back water action of all the paddles, whether "feathered" or "radial," attached to paddle arms which enter or leave the water at any considerable angles of obliquity. And this evil is greatest with small wheels. In fact, but for "slip of the wheel," which is the difference between speed of wheel and speed of vessel, and usually about 20 per cent or $\frac{1}{5}$, every paddle except that on the vertical arm would be inoperative, or else back water. Any one arm entering or leaving the water at 45° or more, may be reckoned surely to carry a back water paddle; and probably those entering with a less angle. When a vessel by rolling, or heeling under sail, immerses a wheel more or less, but to a varying extent, there is constantly a loss of power in accommodating speed to this back water.*

Therefore, whilst in one respect the large side wheel with fixed or radial paddles is best, and in another respect the small wheel with swiveled or feathered paddles, it may unhesitatingly be declared, that neither of them is, in any respect, proper or fit for use as a means of propulsion in a sea way, or in conjunction with sails, or for a voyage—the draft of water in the beginning and in the end of which must be greatly different; in short, for ocean navigation.

The screw is altogether free from influence by the more or less deeply laden state of a vessel, by heeling under canvas, or by rough seas, especially when in vessels of 15 feet draft and upwards. With less draft, sometimes the pitching motion is such as to throw a two-bladed screw wholly or in great part out of water, and occasion not only some loss of steam, but a dangerous and irregular speed of the engine. Devices for the spontaneous correction of this difficulty, peculiar to a screw vessel of light draft, are proposed. All of them act on the principle of the "governor." See note, page 76.

In shafting, several precautions are necessarily observed, as important; and that most so, is against damage from working of the upper frame of the vessel, and unequal settling of parts, particularly the wheel guards.

Each one of the side wheels has its separate shaft, with a main bearing at each end; the outer one on a heavy timber which spans from the extremities of the two guard beams, and the inner one on a crank frame erected from the floor of the vessel; or when there is but one engine, this crank frame is built up from the keelson. Both these bearings, by which the vessel is at last driven, are well braced forward and aft.† The shafts being of wrought iron, (forged under steam trip hammers,) each has a crank arm "shrunk on" to its inner extremity, and the connecting rod of the engine is strapped to a short "crank pin" between them, reaching from one crank arm to the other. But this crank pin, which is a firm

* There is an analogy between this back water action of a paddle, and the cycloidal motion of any given point on a wheel rolling over the ground; and an explanation on that principle is often given. But there is a simpler one, and it is useless ever to go deeper in the well of science, than is necessary to find all the explanation a case requires.

Resolve the oblique motion of a paddle where it strikes the water, into its vertical and horizontal components, and if the horizontal is less than the speed of the ship through the water, there would be a back water action but for the slip.

† Each wheel shaft has also a spring bearing at the vessel's side, but it is not arranged to support the middle of the shaft when the extremity settles. It has though, firm braces both forward and abaft it.

fixture to one of the crank arms, is neither keyed nor in any way immovably secured to the other; because, if opposite guards settle, it will occasion the two crank arms to spread apart, which they must be free to do without occasioning strain or fracture. This necessary play is given, by what is called a "drag link," which any person ought by inspection readily to comprehend the use of.

When there are two engines, an intermediate shaft is put in between the starboard and port crank frames; and each extremity of this intermediate shaft carries a crank arm, which is provided with the drag link.

The screw is either attached, or fixed to a longitudinal shaft, extending from just abaft the engine, (placed usually in men-of-war just abaft the mainmast, which steps between the engine and boiler*,) along the shaft alley, over the keelson, to the stern, where it passes out by an orifice bored through the dead wood, and in case of a lifting screw, through the main stern post. The shaft has a principal main bearing in the stern, and another principal main bearing at the other extremity near the engine; where it has also a circular clutch piece, corresponding with and fitting loosely to another clutch piece on the after extremity of a crank shaft, to which the engines connect. When the crank shaft revolves, it communicates motion to the screw shaft by means of the clutch.

The crank shaft is usually forged all in one piece, having two cranks set at right angles to each other, so that when one engine is on the center or dead point, the other is at the half stroke; the effect of which relative disposition of the two cranks is, that one engine assists the other over the dead point, and evenness of motion throughout a revolution is maintained. These cranks, like all others, are carefully counterbalanced.

The clutch, by its two pieces not fitting closely, allows for the "hogging" of the ship, that is settling of the stern and with it the after end of the shaft, without a strain; in which respect it accomplishes the purpose of a drag link to the side wheel crank. The screw shaft, being very long, is forged in several pieces, never exceeding 15 feet, and there is a main bearing where the lengths join, also an adjustable spring bearing under the middle of each length.

In case of the side wheel shafts, there are four main bearings to sustain the weight, besides the two spring bearings on the sides, and the force of the paddles results horizontally upon these several bearings, to drive the ship. But this force on the shaft being divided among the whole six bearings, that exerted on any one of them is not great. But with the screw shaft it is different. The whole propelling force of the screw, by which it acts on the ship to drive her, which force is termed the "thrust," must be exerted either against the stern post or frame, where lubrication would be impossible, and the parts soon wear out; or endwise on the shaft to drive it in, either against the clutch, or against some

* Nothing in the economy of a steam man-of-war's arrangements, has been more considered, or given rise to a greater variety of practice, than to step the mainmast so as to bring the step, where it belongs, down on the keelson, and not on the berth deck, or on a gallows frame over the engine, or the screw shaft, or to straddle them; to permit the center of gravity of the boilers and engines as a whole to lie near the center of gravity of the ship, and at the same time to have no considerable loss of space between the boilers and engines, and give likewise no unnecessary length to the main steam pipe, which by length is more exposed to damage by shot, and to condensation of steam passing through it from the engine to the boiler; to throw the smoke pipe so far forward that it will not interfere with boarding the main tack on a wind, and yet leave the usual place for stowing the launch free for that purpose. These are the considerations to be reconciled, and it is a capital field for an officer's study and the exercise of his ingenuity, as well as a point for observation in the inspection of men-of-war, as they are met with, belonging to various nations.

other obstruction placed expressly to receive the "thrust." Accordingly, every screw shaft has what is called a "thrust bearing," which is a collar arrangement on the shaft, crowding horizontally forward or back against a heavy timber framed into the ship. This also is easiest understood by inspection, and the aid of such oral explanation as may generally be obtained. The thrust bearing is away aft in the shaft alley, near the stern.

But the most important feature in connection with the screw shaft, that which has been found most difficult to perfect, and until perfected was the great want standing in the way of success to the screw as a certain and safe means of propulsion in heavy ships, is the stern bearing for the screw shaft, in the orifice through which it protrudes to couple with the screw. Whilst this was an ordinary metal bearing, it could never be made to stand, because of the enormous weight of the screw and shaft resting on it, the great rapidity of the revolutions, and its inaccessibility for lubrication. In some instances on board heavy ships, the bearings have worn away and settled, not only to produce obstruction, but to admit water, so as to endanger ships, and make it necessary to beach them to prevent foundering. An effectual remedy has been found, strange as it may appear, in wooden, *lignum vitæ* bearings, or metal cases lined with that wood. This, and a small flow of water in channels left between the wooden lining pieces, to keep down the heat arising from friction, now answers the purpose, as nothing else does; and almost every case of an attempt to dispense with this wooden appliance, has resulted in at least an impaired efficiency.*

The first screw brought into use at sea was Ericsson's, and the "Princeton" its first grand exemplification. Her performances were very creditable and successful, she having proved herself a most efficient man-of-war, especially by her promptness as a blockading ship at Vera Cruz. The British Admiralty tried it in the "Amphion," and the French marine in the "Pomone" frigate. For some reason, none of these experiments were repeated; Ericsson's screw went out of use at sea, and another one has taken its place—the inventor being an English farmer, Mr. F. P. Smith.†

Ericsson's screw hung by the shaft, and the enormous weight was sustained solely by the rigidity of the shaft, which needed to be correspondingly strong. When Fulton first applied side wheels to river boats, his wheel was hung in the same manner, by the shaft, with no outer or guard support. His greatest and long-continued difficulty, arose from inability to hang the wheel in this way securely. A workman is said to have suggested the guard support. Fulton's genius seized and adopted the suggestion, and success was immediate. Fulton's error, therefore, was Ericsson's. The distinctive characteristics, then, of Smith's screw, as compared with Ericsson's is, that the former has an outer support, or is at least steadied by an outer spring bearing, on the outer or after stern post to which the rudder is hung. And in searching for the reasons why Smith has been successful whilst Ericsson was not, it is probably to be found in the fact of this outer support. The only heavy screw-ship now performing service at sea without an outer bearing, either as a main bear-

* When working hawsers from the stern of a screw ship, be ever vigilant against their fouling the screw.

† See an able article on screw propulsion in the *Atlantic Monthly*, from the pen of Commander Walker, U. S. N.

ing for support, or a spring bearing to steady the screw, is the "San Jacinto"—and she has never been a reliable vessel *with her screw* on foreign service—although *with her battery*, gallantly commanded in China, she has performed most excellent and effective service.*

When the outer stern bearing is a main bearing, the outer stern post to which the rudder is hung needs to be strong and large, which renders it a heavy drag, retarding in its effects, and causing considerable loss of power. But when the outer bearing is only a spring bearing to steady the shaft, the outer stern post needs less strength, is a less drag, may be and often is of metal, and thus occasions a very diminished or inconsiderable loss of power or speed.

In passage vessels or mail packets, in which steam is the principal power, sails merely auxiliary; which never uncouple to run under sail alone, and can afford neither the loss of power nor of speed produced by the heavy stern post; the outer bearing is invariably a spring bearing to steady the shaft, and the post is of metal, producing very small resistance or drag. And when for reasons extraordinary, such as accident to the machinery, it becomes necessary for these mail packets to uncouple, so that the screw may revolve freely, the uncoupling gear is found forward of the "collar bearing" provided to receive "the thrust," (article 28;) by which the outer bearing still remains only a spring bearing, and the support of the screw continues to depend in part on the rigidity of the shaft, (article 31.)

But a man-of-war, on foreign service, relies on sails principally, carrying steam as an auxiliary, and must cruise a large portion of the time wholly or in part under sail, using steam only in emergencies, which may or may not be frequent. Her screw bearings are accordingly adapted to this peculiar necessity. Thus far, this adaptation seems to require, that the outer bearing should be, equally with the inner one, a main bearing; the outer or rudder post consequently a heavy one; and the drag and loss it occasions be submitted to as an unavoidable necessity, and when both stern post bearings *are* main bearings, the "screw axle" is made no part of the shaft, but rests with its two axle arms, one in each stern post, and may revolve independently of the shaft, or any part of the shaft, as it does when disconnected or uncoupled.

For a screw thus capable of a revolution on its axle independently of the shaft, the coupling arrangement is effected by protruding an arm, (from within the after end of the shaft as from a sleeve,) which enters the screw axle, that being a hollow cylinder fitted to receive the protruding arm, and in a manner, by means of a slot, to cause the screw to revolve when the shaft is turned by the engine. Such is the plan in use on board the English ships first equipped with Mr. Smith's screw, and adapted to the peculiar requirements of military service, as cruisers abroad.

A more recent improvement, universally applied to ships-of-war lately constructed, is "the well," in which, when under sail alone, the screw is hoisted entirely out of water, in lieu of coupling by means of the arm protruding from the shaft as a sleeve, described in article 36; and the screw axle is solid instead of hollow. The details of the mode in which the screw is thus alternately hoisted and lowered again into coupling

* Allusion is here made to an unacknowledged and unrequited service, performed chiefly by commanders Foote and Bell, U. S. N., in capturing and destroying the "Barrier Forts," China, in 1856, and by it preparing the way for a most successful diplomacy.

By great care, and unusual skill, the ship was got through her China cruise; but her antecedents had not been, nor is her subsequent history, calculated to engender confidence.

with the shaft, so as to revolve with it, are best learned from observation, inspection, and inquiry. It is a most ingenious arrangement, due, it is said, to a French officer, and obviates a difficulty, viz.:—That although when, with high speed of the ship under sail, an uncoupled screw left in the water free for revolution, will so revolve and produce very little retardation, with a speed of only 4 or 5 knots the screw does not turn but is wholly a drag. So when with high velocity it does turn, the jar, noise, and wear produced, are worth obviating, and *are* obviated by lifting the screw out of water.

Another reason of governing force, yet not always considered, why the outer stern post for the bearing of a screw axle which may revolve independently of the shaft or any portion of the shaft, must be heavy and strong, when the stern post for a screw which is fixed to the shaft need not be, is, that if the former screw is turned back strong by the engine, the entire backward thrust results on the stern post, which, if light, would give way; whereas in the latter case, the uncoupling being effected forward of the thrust bearing, article 34, so that the after part of the shaft revolves with the screw, a "collar thrust" bearing on the shaft is so contrived (article 28,) that it receives the backward as well as the forward thrust, and entirely relieves the stern post from that necessity for strength.

The elements of efficiency in a screw, to be considered in comparing one with another, relate to revolutions, to pitch, to diameter, and to the number, shape, and surface of the blades.

With side wheels, the revolutions being alike, speed of vessel is as the diameter of wheel. With screws, revolutions being alike, speed is as the pitch of the screw, and has no relation to diameter, except that it gives surface; and if the diameter be less than is adapted to a vessel of 13 feet draft, the screw has not sufficient submersion to give it a proper hold in the water, and prevent an inordinate "slip"—slip being, in case of a screw, the difference between speed per log, and that due to pitch multiplied by revolutions. It varies from 10 per cent under the most favorable circumstances in smooth water, to 20 ordinarily; and when a vessel can only stem a gale, the slip is 100 per cent.

By "pitch" is understood, such an inclination of the blades to the water, as will, in an entire revolution (the slip not considered) give any certain progress to a vessel—screw her ahead, and is reckoned in feet. Thus the Princeton's screw had a pitch, the highest recorded, of 35 feet. With a turn, then, slip not considered, her progression should have been 35 feet; with 20 per cent off for usual slip, 28 feet. Her revolutions were 36 per minute. Therefore, $28 \times 36 \times 60 = 60,480$ feet per hour, or less than 10 knots (there are $6,086\frac{7}{10}$ feet in a sea mile) per hour, should have been her speed. *At sea* in rough water, she never, however, did hardly 9 knots, which shows the slip there to have been greater. In all cases, it increases with the resistance of wind and sea, until, as remarked in the preceding article, when a vessel can barely stem the weather, the slip becomes 100 per cent, like when fast to a wharf.

The usual pitch is 18 or 20 feet. Sometimes it is uniform—a "true screw;" at others, the pitch is increasing towards the extremity of the blade; which increase of pitch is with the same object as the "wave bow" (concave bow water line) of a ship, viz., more quickly to follow up the receding water. "Bourne," page 107, says, "the uniform pitch is as good as any," and "that no advantage has been found to result from an increas-

ing pitch." He further recommends, "as large a diameter as possible, a quick turn, and a fine pitch."*

A steeper pitch is best for carrying sail, because a fine pitch increases the revolutions more under high velocities from winds and sails, and is most likely to occasion drag of the screw. Drag is easily detected, by multiplying pitch into revolutions per minute, and again by 60, then dividing the product by 6,086, (the feet in a sea mile or "knot.") If this quotient is less than the speed per log, the drag is sure.†

As regards the number of blades, Bourne says, "a screw of two arms, or a portion of a double threaded screw, has been found as effectual a propeller as any other; but a screw of three blades, or a portion of a three threaded screw, has been found to act with a more equable and regular motion." In light draft vessels it is most important to have three, because in pitching, two blades may both be out of water at the same time, causing the engine to act with no resistance, and with dangerous rapidity. Three blades are, however, incompatible with the "well."

The area of screw surface is as the number, width, and length of the blades. And as the slip of a wheel decreases with the increase of the bucket, float, or paddle board surface, so ought slip to decrease with the increase in area of the screw—the screw being supposed constantly submerged.

Bourne says, "the length of screw that is found most beneficial, is about one-sixth of a convolution;" by which he is supposed to mean, that the screw surface should be that produced by such width of blade—the width increasing, from the hub out, with the length of blade; which increase of width also preserves the relation of one-sixth at all points with the "convolution."

But the best shape of blade is undetermined, for some are seen broadest in the middle, (as Griffith's for easier "clearance,") others near the screw center, others again enlarge uniformly to the extremities.

Sir Howard Douglas in his "Naval Warfare with Steam," page 61, proposes, with a view to reduce the "shake," to curve the leading edge of a blade, so that it shall not enter or leave the water all at once, but gradually; and moreover, that these leading edges should, for men-of-war, be made sharp, to cut or saw obstructions threatening to choke or impede the screw. In battle, the screws of those vessels are peculiarly exposed to disability, by spars, shot away and floating about, and the rigging hanging beneath the surface from them. Sir Howard's plan of

* To a seaman's eye, the blade of a screw appears to have constantly a decreasing pitch towards the extremities of the blades, when in reality, and to a mechanic's eye, the pitch is not decreasing, but uniform.

A screw, in scientific mechanics, is but a form of inclined plane. Erect a perpendicular equal to half the pitch of a screw in feet; establish points on the base, at distances from the perpendicular successively equal to twice the distances of any assumed points on the blades from the center of the screw axle; draw hypothenuses successively to the several points so established on the base; and these hypothenuses, by their decreasing angle at the base, whilst the perpendicular or half pitch which it represents remains constant, will indicate the decreasing inclination of the blades to the water towards their extremities; in other words, that which appears in the screw, is a decreasing angle of inclination, but not a decreasing pitch.

† A screw, known as Griffith's, has been used, one characteristic of which is, that the pitch is adjustable, and can be increased—rendered steeper, which avoids an increase of revolutions when under canvas with good winds. But considering the immense force—a pair of engines, acting on only two arms of one propeller, it must be doubtful if they do not need the strength which belongs to permanence.

Side wheel engines divide their force between the two wheels, and again amongst several floats of each wheel; and because they admit of feathering, (article 19, p. 103,) it by no means follows that screw blades will.

a curved blade edge, has great apparent merit, and is said to have accomplished the very important purposes intended.*

Sir Howard justly remarks, (*ibid*, page 72,) that the steering of a screw ship-of-war, particularly when maneuvering under steam alone, "should be as if instinct with life, intuitive, quick as volition!"

These screw vessels do steer better, quicker, and turn in much less space under steam, than side wheel ships; and for the reason, that the currents thrown by slip of the screw against the rudder, counteract the dead water which proverbially impairs its efficient action; whereas the side wheel, by its slip, produces currents which give an apparently increasing speed of vessel through the water, and cause at the stern a corresponding actual increase of dead water. Hence side wheel steamers require, and are found to have most rudder, in proportion to tonnage, length, and displacement.

When a ship is under sail alone, or with a tow, and the screw is coupled but drags, or is uncoupled, and the rate of sailing so slow as not to revolve it, especially if there are but two blades and they set in the vertical position, the inclination of the lower blade will act on the steerage like a rudder with its helm over to one side, because the upper blade, although inclining equally the other way, does not produce entire neutralization, but it has to be produced by an opposite action given to a rudder with the helm; and even that may prove insufficient. Hence a ship under these circumstances, will turn quicker, and in a shorter space, the way in which the lower blade and the rudder act in conjunction.

Again, when the ship is moving by the screw under steam, she will be found to turn to port in obedience to a starboard helm, more readily and in less space than she will turn to starboard in obedience to a port helm; and to keep a course by compass, it may be found necessary to carry a small port helm; the supposition being, that, looking forward, the screw turns *with* the sun, (from left to right,) as it usually does, and naturally should in screwing a ship ahead, otherwise it would be a left-handed screw. This effect upon steerage is caused by action of the lower blade revolving against a greater resistance than the upper blade meets moving in an opposite direction; and these opposite effects differ most in light draft vessels, where the upper blade is not always constantly and entirely submerged.

From ignorance or disregard of this peculiarity in screw ships, most disastrous collisions† have occurred. In time, however, seamen will be-

* Instead of wasting power by crowding the screw through a narrow space between stern posts set near to make a narrow well, which is a greatest cause of "shake," we save the power and in a measure avoid the shake, by a wider space and larger well than others use. We avoid also a sacrifice of screw surface where it is most effective, viz, at the extremities of the blades, whilst Griffith's blade obtains clearance (article 45) by this sacrifice. These considerations are thrown out to engage the attention of seamen, and direct their observation; for the seamen and the engineer are very necessary coadjutors. On *fouling*, see pp. 6 and 108.

† Though not relating to the present discussion, it is well to say, that for the purpose of preventing collisions at night, an order from the Navy Department requires government vessels, when under steam, to carry three lights—a white light at the foremast head, a green light on the starboard side, and a red light on the port side. These colored lights are screened and mutually seen only by vessels meeting. A vessel therefore seeing, for example, a stranger's red light only, in the direction its own red light shines, knows that the stranger and itself are on nearly opposite courses, with no danger of collision; that if it meets a green light only, in the direction its own red light shines, the stranger and itself are on courses angling to each other, and if his bearing does not change there is danger of collision, otherwise not; and if both colored lights of the stranger are seen right ahead, both vessels should immediately change their course so as mutually to exhibit the red light only, by which each passes on the other's port hand. Generally, when vessels see from each other one colored light only, and that of the same color, they are safe. Where there is doubt about the bearings in case opposite colors are those mutually visible, the safest solution is for each at once to

come familiar with it, and learn instinctively to make the necessary allowance.*

The foregoing pages contain all, it is believed, both of construction and practice, important to be known by any one not perfecting himself as a professed engineer; enough for the special necessities of the seamen; enough also for the general reader, deriving daily advantage from steam, yet exposed in a corresponding degree to its dangers. The popular mind is blissfully ignorant of steam, except as instructed by the chapter of horrors periodically revealed. Yet there is no folly in obtaining from more harmless sources, that degree of wisdom which will constitute the public a judge and a check over engineers, at sea and ashore, as it now habitually is over the other professions; a corrective greatly needed by the times, and one infinitely more effectual than legislation!

Art. III.—GENERAL AVERAGE.

At a meeting of the Boston Board of Trade, held December 3, 1860, the following interesting paper was read by J. Russell Bradford, Esq., on the subject of International General Average:—

To the President and Members of the Board of Trade:—

GENTLEMEN:—In obedience to your request, I attended the recent meeting of the "National Association for the Promotion of Social Science," held in the city of Glasgow on the twenty-fourth of September last, and had the honor of appearing as your representative to participate in the discussion as to an International System of General Average. The desirableness and importance of a uniform or international system or code, to be the basis of settlement, and to be followed in the adjustment of all General Average losses and sacrifices, has long been felt as a necessity by merchants and underwriters throughout the mercantile world; yet never, so far as my knowledge extends, has there been any attempt to inaugurate such a system until within a year, when certain gentlemen in Liverpool, interested in the subject, brought it to the notice of influential gentlemen in London, and by them it was presented to the proper officers of the "National Association for the Promotion of Social Science," with the request that suitable measures might be taken to have the question fully

exhibit its red light only, which is in all cases equivalent to "keeping to the right as the law directs;" or if that involves an inconvenience, the next safest plan is to mutually exhibit the green light only. To make all this clear and familiar, sketch and study diagrams of all conceivable relative positions. There is, amongst governments, a conventional understanding on the subject.

So, to avoid collisions a system of bells is established, by regulation or custom, for communicating speedily from the deck to the engine room of a marine steamer.

The navy regulation is:—Ahead slow, 1 bell; fast, 4; slow again, 1; slower, 1; stop, 2; back, 3. The custom generally prevailing in the merchant marine is:—Ahead slow, 1; fast, 3; slow again, 1; stop, 1; back, 2. Either is good. But if one is best, it ought to prevail; for uniformity is the surest guard against mistakes. The first is most complex, but least ambiguous.

* It is said that in calm smooth weather, by alternately throwing a current from the screw against a starboard helm, then reversing the screw to stop headway, a ship can be turned to head in an opposite direction without moving more than her length. So at anchor, by throwing a current against a starboard helm, more properly against a rudder in the position which a starboard helm gives it, the direction of a broadside is in some measure under control of the helm, and so far obviates the necessity of a spring on the cable. Try it.

A screw does not back so effectually as a side wheel, because the water thrown forward has no free escape, but strikes the ship and reacts upon the screw.

discussed at an early day. Under the direction of the Secretary of this Society, a synopsis of the laws and customs of different countries, relating to General Average—so far as known to him—was prepared, and sent to all, or nearly all, the commercial bodies in the world, asking of them a statement of the custom of the port where such bodies were located; and also requesting the appointment of delegates to attend the meeting of the Association at Glasgow, to the intent that there might be a full and free discussion of this most important subject by practical men, acquainted with its details and difficulties, and therefore able to suggest such changes in present customs as might be desirable. In reply to these requests there were received by the Secretary very full statements of the laws or prevailing rules of nearly every important commercial port in the world, thus gathering together a large mass of valuable and reliable information for future uses. It was an evidence of the widely extended interest in the subject thus brought under discussion, and was very gratifying to all present at the congress, that so many countries were represented; there being present delegates from the Netherland Trading Company and Shipowners' Committee of Amsterdam; Chamber of Commerce of Antwerp; Board of Trade of Boston, U. S.; Chamber of Commerce of Bremen; Board of Commerce of Cadiz; Chamber of Commerce and Underwriters' Association of Copenhagen; Chamber of Commerce of Hamburg; Commercial Association of Lisbon; Chamber of Commerce of Mobile; Board of Underwriters of New Orleans; Chamber of Commerce and Board of Underwriters of New York, &c., &c.

Besides the above mentioned the following commercial bodies of the United Kingdom appointed representatives: Shipowners' Association of Dundee; Chamber of Commerce of Edinburgh; Chamber of Commerce of Greenock, &c., &c. Several of the principal average staters of London, Liverpool, Glasgow, Amsterdam, &c., &c., also took part in the proceedings.

On the first day of the session Lord Brougham presided, and on subsequent days Lord Neaves. The Secretary stated briefly the objects of the meeting, and then certain papers, six in number, prepared by different gentlemen, stating the rules at present in vogue for the adjustment and settlement of general average losses, or proposing such changes in present customs as seemed to them desirable, were read. Following these readings, as no written communication had been received from the United States, the delegates from this country addressed the meeting by request, expressing their views. I have liberty to read two of these papers at this time: one from a gentleman of almost world-wide reputation among underwriters—the leading mind for a long series of years in the settlement of all marine losses at Lloyd's in London. I allude to the late William Richards, Esq. He took an active part in all our deliberations, by his fairness and gentlemanly courtesy winning the good will of all, and at the close of the Congress returned to London—there to continue but four days, when he was called from the scenes of earth. The record of his forty years of active life, as an adjuster of marine losses, is, as I am informed, one of such fairness, probity, honesty, and impartiality, as is rarely met with. The other is from the pen of L. R. Bailey, Esq., of Liverpool, a gentleman at the head of his profession, who has edited several books upon the subject of marine losses, and whose practical knowledge of it is second to none.

After the addresses from the delegates from this country, the first resolution was offered in these words: "Resolved, that the losses or damage to a vessel or her cargo by voluntary stranding should *not* be a subject of General Average." This is in accordance with universal practice in Great Britain, and the representative from Lloyd's, together with all who took part in the discussion from any port in Great Britain, excepting one gentleman from Liverpool, supported the theory that in no case should the voluntary stranding of a vessel give rise to contribution in General Average. The remaining portion of the day was devoted to this question; some of the reasons given for the resolution being: that it was according to universal custom in England, and wherever English law prevailed; that in case of the running of a vessel on shore, there is no selection of any *particular* property to be destroyed for the benefit of the remainder; that in such a case no man could tell what damage was sustained before, and what at the time the vessel struck the shore, that in such a case the vessel was practically lost before the alleged act, and the question was merely whether the vessel should sink in deep water or in shallow; that it was the master's duty to run a sinking vessel on shore, and it was done not to save property, but to save life; that all damage to cargo in such a case must be considered as partial loss or particular average, having been caused by perils of the sea, as it was by the leaking of the vessel; that the establishment of a rule contrary to the resolution, would open a wide door for fraud, and the result would be that very many captains and owners of vessels would seek to bring the loss of their shipwrecked vessels under the rule, were it established, or even recommended, &c., &c. Notwithstanding all these arguments and others, the resolution was negatived by a vote of 19 to 15. If only the delegates had voted the majority would have been much larger, but several adjusters of marine losses, and others, having more or less knowledge of English custom, cast their votes on this resolution. On the last day of the session, this resolution was again brought forward, in the hope that something might be done with greater unanimity, and after a long discussion the following was passed unanimously. Resolved,

RULE 1.—That, as a general rule, in the case of the stranding of a vessel in the course of her voyage, the loss or damage to the ship, cargo or freight, ought not to be the subject of general average, but without prejudice to such a claim in exceptionable cases upon clear proof of special facts.

After a lengthy debate, extending through two whole days, ten other resolutions were passed, as follows:—

RULE 2.—That the damage done to ship, cargo or freight, in extinguishing a fire, ought to be allowed in general average—20 to 4.

RULE 3.—That the damage done to cargo by chafing and breaking, resulting from a jettison of part of the remainder of the cargo, ought not to be allowed in general average—14 to 10.

RULE 4.—That the damage done to cargo, and the loss of it and the freight on it, resulting from discharging it at a port of refuge in the way usual in that port with ships not in distress, ought not to be allowed in general average—12 for, 6 against.

RULE 5.—That the loss sustained by cutting away the wreck of masts accidentally broken, ought not to be allowed in general average—20 for, 2 against.

RULE 6.—That the expense of warehouse rent at a port of refuge on cargo necessarily discharged there, the expense of reshipping it, and the outward port charges at that port, ought to be allowed in general average—19 for, 4 against.

RULE 7.—That the damage done to ship, cargo and freight, by carrying a press of sail, ought not to be allowed in general average—Unanimously.

RULE 8.—That wares and provisions for the ship's crew ought to be allowed to the shipowner in general average, from the date the ship reaches a port of refuge in distress until the date on which she leaves—15 for, 10 against.

RULE 9.—That when the amount of expenses is less than the value of the property finally saved, the contributing values of ship, freight and cargo, ought to be their values to the owners of them respectively, at the termination of the adventure—11 for, 1 against.

RULE 10.—That when the amount of expenses is greater than the value of the property saved, the proceeds of the property so saved ought to be applied towards those expenses, and the excess of the expenses over the proceeds ought to be apportioned as if the whole property had finally reached its destination—12 for, 2 against.

RULE 11.—That, in fixing the value of freight, the wages and port charges up to the date of the General Average Act ought not to be deducted; and the wages and port charges after that date ought to be deducted from the gross freight, at the risk of the shipowner—7 for, 3 against.

Some discussion followed as to the best method of procedure in order to carry out the views expressed, which resulted in the unanimous resolve:—

1. That the meeting hereby requests the Council of the Association to assist by their counsels such person or persons as may be approved of by them, in drawing up a bill, with a view to its being enacted into a law by the legislative authorities of the several nations of the world, which bill shall define, as clearly as may be, the term "General Average," and describe more or less fully the cases intended to be included within the definition, and which shall also specify the nature of the loss, damage, or expense allowable in General Average, and the principle on which the amount of the loss, damage, or expense shall be ascertained; also furnish a rule or rules for ascertaining the contributory values of the interests concerned, and which shall also contain such matters as the person or persons drawing up the bill may think it advisable to insert. That upon such bill being drawing up and printed, copies thereof shall be transmitted to the several Chambers of Commerce, Boards of Underwriters, Ship-owners' Associations, and other commercial societies in different parts of the world, accompanied by a copy of this resolution, and a request to them to examine and return said copies, with such alterations or amendments as they may think proper to make therein, within six months from the time of the receipt thereof. That, upon the return of the said copies, or upon the expiration of the said six months, the said bill shall be revised by the person or persons drawing up the same, enlightened by the information acquired as aforesaid. That, upon the bill being perfected in the manner aforesaid, it be recommended to the legislative authorities of all commercial nations to enact the same into a law.

2. That, in the meantime, the meeting resolves to circulate as widely as possible, for general information, the rules embodied in the resolutions which have been passed by the meeting, as those which, under a uniform system, it might be desirable to consider.

It may now be asked whether there is any possibility of attaining this uniformity of system, so much desired in all cases of General Average loss. Of this, probably others here present can judge quite as well as I can; but it is certainly something gained that there has been a desire, thus publicly expressed, for such a system; and something more to know that so many commercial bodies from different parts of the world, deemed it of sufficient consequence to send delegates to this Congress, for every one of these, with the exception of the gentlemen from Mobile and Boston, left their homes and business for the sole purpose of expressing the universal desire of their several mercantile communities for an International Law, or set of rules upon the subject, and to do what they could to promote it. It is also very encouraging to find that the body known as Lloyd's, as well as prominent merchants and underwriters, acknowledge the desirableness of some uniform practice, and also admit that their own practice should in some respects be changed. It may be remarked here, that the principal difficulty in the way of an international system is in the very vague and little understood "Custom at Lloyd's." Nearly all continental laws upon this subject of general average, as well as the laws of the United States, are substantially in conformity with the old Rhodian law, and wherever the "Custom at Lloyd's" is contrary to that, such custom is not only an innovation, but is in most cases, if not in all, contrary to what is in this country considered sound principle.

That a set of rules or code, embracing this whole subject, will be prepared as soon as may be, and that such rules or code will be forwarded to this Board of Trade, and to other commercial bodies throughout the world, is deemed certain, as the Secretary of the National Association has already, some time since, placed the matter in the hands of gentlemen learned in the law, and acquainted with the subject in its practical details, for the purpose of carrying out the 12th resolution. By these gentlemen, it is fair to presume that some inconsistencies now noticeable in the rules passed, will be removed, and that a system will be presented, which when it shall have been examined and commented upon by Boards of Trade, Chambers of Commerce, and Underwriters' Associations, and is, after such comments, remodeled carefully by those having it in charge, will commend itself to the mercantile world, and become custom, and in time law. As an evidence of the interest manifested at Lloyd's upon this whole subject, I will read a letter received during the past week. In handing you this, my report of the doings at the Congress in Glasgow, I beg leave to express my appreciation of the honor conferred by an appointment as delegate from the Board of Trade of Boston.

JOURNAL OF MERCANTILE LAW.

STOP LAW IN TENNESSEE.

The following is a copy of the bill prescribing the remedy for the collection of debts and relief for the people, as it finally passed through the Legislature, and is now a law :—

SECTION 1. Be it enacted by the General Assembly of the State of Tennessee, That from and after the passage of this act, all judgments and decrees which shall be rendered in any of the courts of record in this State, or which shall be rendered by justices of the peace of this State for money, shall be stayed by such courts and justices for the period of twelve months from the rendition of such decree or judgment : *Provided*, That the defendant or defendants in said judgments or decrees shall appear before said courts of record during the term of such court, or within two days after the rendition of the judgment before justices of the peace, and give good and ample security for the stay of execution, to be approved of by said courts or justices, which stay shall operate as a judgment against the security in said courts or before said justices.

SEC. 2. Be it further enacted, That upon affidavit of the plaintiff in the judgment, his agent or attorney, made before the court or justice of the peace, or before the clerk of said court if in vacation, showing that the security for the stay of execution is not good and sufficient, the defendant, upon five days' notice being given, shall justify the security already given, or give other security to be approved of by the justice of the peace, or by the court if in session, and if in vacation by the clerk of said court, and upon his failure to justify or give other security, execution shall issue immediately. If the additional security shall be taken by a justice of the peace, it shall be sufficient to bind the security if he write his name as additional security or stayor upon the justice's docket, or shall authorize the same to be done by the justice, either verbally or in writing. If said additional security shall be taken by the court, the same shall be entered as matter of record on the minutes of said court. If said additional security shall be taken by the clerk in vacation, it shall be sufficient in order to bind the security that he acknowledge himself additional security or stayor, on the execution docket in said clerk's office.

SEC. 3. Be it further enacted, That in all cases where judgments or decrees have been rendered by any of the courts or justices of the peace in this State, upon which executions have been issued and not levied, the defendant or defendants in said judgment or execution may appear before the justice of the peace, or court, if in session, or before the clerk of said court in vacation, and upon giving good and ample security to said justice, court, or clerk, as the case may be, in the manner provided in the second section of this act for giving additional security, said execution shall be stayed six months from the time said security shall be given, when execution may issue against the parties to the original judgment and the security for the stay of the execution. And that in all cases where any execution or order of sale may be levied on personal property, that the debtor in the process shall have the option to avail himself of the preceding provisions of this act, or it shall be lawful for him to give bond in double the value of the property, and good security to the officer for the forthcoming of said property for sale at the court house of the county, or such other places as the parties may agree upon, in which the levy is made, on the first Monday of December, 1861. And if in the interval the surety or sureties become insolvent, the levying officer may notify the defendant, and he shall give sufficient additional security for the delivery of said property at said time and place. In order to constitute the levy on real estate valid as to proceedings before a justice of the peace, the execution shall be registered in the register's office of the county where the land lies.

SEC. 4. Be it further enacted, That in case additional security shall be given as provided in the second section of this act, the first security given shall not hereby be released from liability, but execution shall issue against the original parties to the judgment, and against the first as well as additional securities.

SEC. 5. Be it further enacted, That this act shall not be so construed so as to authorize the stay of execution upon judgments before justices of the peace that were not subject to stay before the passage of this act. Nor shall executions on judgments rendered in court against officers and their securities for official default, nor judgments in favor of a security, accommodation indorser, stayor, or co-security, who has been compelled to pay money for his principal or co-security, be stayed under the provisions of this act.

SEC. 6. Be it further enacted, That upon application of the stayor or security for the delivery of property, as provided for by this act, by affidavit in writing, to be filed with the papers, that he is fearful and believes, and has good reason to believe, that if execution is stayed, he will be compelled to pay the judgment, an execution shall issue against the debtor and stayor at any time; or if the security for the delivery of the property shall make such affidavit, the principal in said delivery bond, upon ten days' notice, shall deliver the property mentioned in said bond, at the place designated therein, and the officer shall proceed to expose the same to public sale to pay said debt: *Provided*, The parties to the original judgment may give new, good, and sufficient security, as now provided by law.

SEC. 7. Be it further enacted, That delivery bonds given under the provisions of this act, shall have the same effect and be governed in all respects by the laws now in force in reference to delivery bonds, except so far as the same may conflict with this act.

SEC. 8. Be it further enacted, That if any party, upon being notified to give additional security, and shall fail to do so, then the officer shall proceed and sell the property levied upon as though no delivery bond had been given.

SEC. 9. Be it further enacted, That this act shall not apply to actions or judgments against executors, administrators, or other persons acting in a fiduciary capacity, for money due by them to distributees, legatees, or others, and which has been actually collected by them.

SEC. 10. This act shall expire by its own limitation on the first day of July, 1862.

Passed, January 26, 1861.

INNOCENT HOLDER.

In the United States Supreme Court.—Pennsylvania. Before Judge STRONG.
Hawkins vs. Cree.

STRONG, J.—The rule laid by Lord MANSFIELD in *Walton vs. Shelly* was an attempt to introduce a new exception to the principle that infamy and interest are the tests of a witness' incompetency. The attempt proved a failure. The new rule was short lived in the country of its birth, and *Jordaine vs. Lashbrook* (7 term Rep., 601) denied it altogether. But though early repudiated in England, it was adopted here, and it still exists as a rule of our law, though judges have said that it is not to be extended, and though the later decisions have very much restricted its operation. As it exists now with us, it extends only to negotiable paper, actually negotiated before maturity in the usual course of business, and in the hands of an innocent holder, who took it without any previous notice of any original defect in it, and it excludes only those parties whose names were on the paper when it was transferred to the holder. Thus it was stated in *Wilt vs. Snyder* (5 Har., 77,) and substantially in *Harding vs. Mott* (8 Har., 469.)

Was, then, the note upon which this suit was brought negotiated in the usual course of business, and was the plaintiff an innocent holder, without any previous notice of any original defect in it?

The note was assigned to the plaintiff not indorsed, and the assignment was

not accompanied with a general guaranty made by the assignor and a third party. We are not prepared to affirm that this was a negotiation in the usual course of business. It was not the mode in which promissory notes and bills of exchange are commonly transferred. When payable to order, they usually pass by indorsement and without any superadded guaranty. There is a clear distinction between a transfer by indorsement and one by assignment. The statute of ANN recognizes, and indeed, makes a distinction. (*Lyons vs. Divelbis*, 10 Har., 185.) The holder of a promissory note, by either mode of transfer, may bring a suit in his own name, but he does not acquire the same rights against his assignor, which he has against his indorser. Over the name of the former he can write no order upon the maker in the nature of a bill of exchange. His assignor has assumed no other engagement to him than the restricted one that the note is genuine. It may be doubted, therefore, whether an assignment is a negotiation in the actual course of business, and more especially when it is coupled with a guaranty of a third party.

Waiving this, however, we think there was sufficient evidence in this case that the plaintiff was not an innocent holder without notice of any stain upon the note to justify the admission of the payee as a witness for the defendant. Before the testimony of the payee was offered, it had been proved by other witnesses that the plaintiff admitted on one occasion, when speaking of his having obtained the note, that he did not want to take it; that he thought there was something wrong with it, unless BARCLAY would guaranty it, and that BARCLAY would not do it for a long time, for fear it would cause hard feelings between him and the defendant.

On another occasion he said, "he was satisfied they were wronging CREE;" and again, he said, "they had a good deal of coaxing before they could get BARCLAY to guaranty it." To whatever period he may have referred, when he said he was wronging the defendant, it cannot be doubted that his admission of a conviction that there was something wrong with the note referred to his belief at the time when he took an assignment of it. It was because he thought so then that he demanded a guaranty, not a guaranty of solvency of the maker, but a general guaranty. And can one who has taken a transfer of a promissory note tainted by fraud in its inception be said to be an innocent holder, if, at the time of the transfer to him, he thought there was something wrong with it? If such were his convictions then, there must have been some basis for them, some knowledge of facts which awakened his misgivings. There was something which, in his mind, cast a shade over the original transaction that should have put him upon inquiry; and if he neglected it, and chose rather a collateral guaranty, he took the note with all its antecedent equities upon it. His case was not, therefore, within the rule of *Walton vs. Shelley*, as restricted in this State, and the deposition of LEVI CLARK was properly admitted.

The other assignments of error require but brief notice. The conversation between DEAN and CLARK, though not immediately in the presence of the defendant, was a part of the means made use of to accomplish it. The testimony, if believed, proved that they were conspirators; and what was said or done by either in carrying out their common design was admissible in evidence.

The offer of the plaintiff to show that DEAN got credit for the payment of another note due to HAWKINS in a settlement between himself, BARCLAY, and SHARPNECK, was wholly inadmissible. It did not tend to prove that the plaintiff had paid a valuable consideration for the note in suit; even if it did, it was of no importance. If the note in suit was obtained by fraud, and the plaintiff knew it, or ought to have known it, at the time when he became the holder, he cannot recover, even though he paid value for it; and on the other hand, if it was not obtained by fraud, or if the plaintiff was an innocent holder, without notice of the fraud, he was entitled to recover, without proof of value paid, in the absence of any notice to make such proof. So the case went to the jury, and it was left to them to find whether there was fraud, and whether the plaintiff had notice of it. Such was, in effect, the answer of the court to the defendant's first and fourth points, and we think it was entirely correct.

The judgment is affirmed.

COMMERCIAL CHRONICLE AND REVIEW.

POSITION OF COMMERCE—POLITICAL CLOUDS—MERCHANDISE ON THE MARKET—NEW TARIFF—ADVERSE INFLUENCE—STATE OF TRADE WEST AND SOUTH—STAGNATION OF BUSINESS—FAILURES IN JANUARY—1857 AND 1861—EXPORTS—EXCHANGE—FALL IN RATES—CHECK UPON EXPORTS—COTTON STATEMENT—SPINNERS—ACTIVITY OF MANUFACTURERS—BREADSTUFFS—RATES OF BILLS—SPECIE MOVEMENT—ASSAY-OFFICE—MINT—GOVERNMENT FINANCES—STATE INDORSEMENT—NEW LOAN—\$25,000,000 LOAN LAW—RATES OF MONEY—FOREIGN MARKETS—EXPORTS.

THE extraordinary condition of the national commerce, which we described in our last number, has preserved its main features, with some exaggeration, up to the close of the present month. The uncertainty in relation to the future prevented the usual preparation for business on the part of active business men, and those goods which continued to arrive, although diminished in extent by counter orders, were far in excess of the current market wants, and they accumulated in bond, as will be seen by reference to the tables hereto customarily annexed. The amount of general merchandise put upon the market was small, while the quantity under bond rose to figures quite as high as any that were reached during the panic of 1857. This is the more remarkable that the circumstances in respect of tariff are reduced. The tariff of 1857 provided for large reductions of duties after July 1st of that year, and it was natural that goods which arrived should go into bond to wait the action of that law, and thus come into consumption at a lower tax. At the present time, on the other hand, goods accumulate in bond, although there is before Congress a bill, with every prospect of becoming a law, which will largely increase the duties on most of the articles now dutiable, and bring those now free into the dutiable list. Notwithstanding this prospect, which, in ordinary times, would cause large entries of goods, the deliveries for consumption are very small. Neither the Southern nor the Western trade is such as to tempt the usual rivalry in making sales. There is, no doubt, under existing circumstances, less desire to make purchases, but the financial aspect is such as to make credit transactions extra hazardous. Many dealers prefer to have the goods in store to transferring them to the portfolio in the shape of notes that may have a less ultimate actual value. The general stagnation also greatly interferes with the collection of outstanding claims depended upon to meet the spring payments, and the resulting failures are large. One of the mercantile agencies of New York city reported the number of failures for each State in the month of January, as follows:—

NUMBER OF FAILURES IN THE UNITED STATES IN JANUARY, 1861.

Connecticut.....	8	New York State.....	63	Louisiana.....	8
Illinois.....	53	Ohio.....	62	Maryland.....	25
Indiana.....	36	Pennsylvania.....	65	Mississippi.....	10
Iowa.....	16	Vermont.....	3	Missouri.....	47
Kansas.....	4	Wisconsin.....	20	North Carolina.....	24
Massachusetts.....	75	Maine.....	5	South Carolina.....	8
Michigan.....	20	Rhode Island.....	3	Tennessee.....	18
Minnesota.....	1	Alabama.....	8	Texas.....	26
New Hampshire.....	12	Delaware.....	4	Virginia.....	33
New Jersey.....	20	District of Columbia..	7	Arkansas.....	5
Nebraska Territory..	2	Georgia.....	34		
New York city.....	97	Kentucky.....	39	Total.....	859

The number of failures Jan., 1860, was 455 ; in Jan., 1859, 640 ; in Jan., 1858, after the panic, 825 ; but the failures in January are usually less than during the months of March and April, when the heavy payments mature. The failures this year present the remarkable features of taking place at a moment when money is a "drug," when specie has accumulated with great rapidity in the bank vaults, and reached a point in New York city higher than ever before, at the same time the bank loans run down under the influence of payments on maturing paper and the non-creation of new paper. The failures of the mercantile public in 1857 arose from the inability to apply debts to credits—in other words, through the refusal of the banks to discount the bills receivable, to enable holders to meet bills payable. At present the banks are anxious to discount all good business paper ; but this has not been created by the operations of trade, and collections come in slowly. The smallness of the imports of goods presents a contrast to the continued large exports, as well of cotton as breadstuffs and provisions, and this circumstance has tended to lessen the demand for sterling bills to remit. The rate of which forced the importation of gold in December, and which rose under the action of the bank committee, continued with the improved tone of the general markets, has again declined under the excess of supply over demand, and point to renewed imports of specie. This circumstance, causing renewed difficulty in negotiating bills, checked the exports of produce, the more so that the cotton receipts improved, and indicated that the crop would reach at least 4,000,000 bales. The movement of the cotton crop has been as follows :—

	1860.	1861.
Stock, September..... bales	140,174	220,750
Receipts to February 13	3,158,135	2,562,856
Supply.....	3,298,309	2,783,636
Exports.....	1,851,757	1,758,967
Balance.....	1,446,552	1,024,639
Stock, February 13.....	1,091,378	617,360
United States consumption, Sept. 1, to Feb. 15.	355,174	407,279

The quantity exported is 100,000 bales short of last year ; the quantity taken by the Northern spinners is larger than last year, which was one of extraordinary purchases. The excess so taken during the first six months of the cotton year has reached 52,000 bales, while the export has diminished in double that amount. These figures disclose the fact that manufacturing industry, at least in that branch of it, has not been disturbed by those influences which have so disturbed trade. The supply of American goods may, no doubt, be reasonably expected to compensate in some degree for the diminished arrivals of foreign merchandise. If we turn to the exports of breadstuffs from the United States to Europe and Great Britain for a similar period, we have results as follows :—

	Flour, bbls.	Wheat, bush.	Corn, bush.
September to December 15.....	913,472	10,825,951	1,824,817
Month to January 15	208,119	1,566,561	872,863
Month to February 15.....	254,481	1,291,121	698,456
Total, September 1 to February 15.	1,371,078	13,683,633	2,396,136

These exports give a value of \$27,200,000, an excess of about \$25,000,000, or over \$1,000,000 per week, above last year, as a basis for bills. In face of this supply of bills the demand for them, as measured by the importation of goods, has much diminished. The rates of bills have been as follows:—

RATES OF BILLS IN NEW YORK.

	London.	Paris.	Amsterdam.	Frankfort.	Hamburg.	Berlin.
Jan. 1..	9 a 9 $\frac{3}{4}$	5.18 $\frac{1}{2}$ a 5.17 $\frac{1}{2}$	41 $\frac{3}{4}$ a 41 $\frac{3}{8}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{1}{2}$ a 36 $\frac{1}{4}$	73 a 72 $\frac{1}{2}$
15..	8 $\frac{1}{2}$ a 9	5.21 $\frac{1}{2}$ a 5.18 $\frac{1}{2}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{3}{4}$ a 36 $\frac{3}{8}$	73 $\frac{1}{2}$ a 73 $\frac{1}{4}$
Feb. 1..	8 $\frac{1}{2}$ a 9	5.18 $\frac{1}{2}$ a 5.17 $\frac{1}{2}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{3}{4}$ a 36 $\frac{3}{8}$	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
15..	8 $\frac{1}{2}$ a 9	5.18 $\frac{1}{2}$ a 5.17 $\frac{1}{2}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{3}{4}$ a 36 $\frac{3}{8}$	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
Mar. 1..	8 $\frac{1}{2}$ a 9	5.17 $\frac{1}{2}$ a 5.15	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{3}{4}$ a 36 $\frac{3}{8}$	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
15..	8 $\frac{1}{2}$ a 8 $\frac{7}{8}$	5.17 $\frac{1}{2}$ a 5.15 $\frac{5}{8}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{3}{4}$ a 36 $\frac{3}{8}$	73 $\frac{1}{2}$ a 73 $\frac{3}{8}$
Apr. 1..	8 $\frac{1}{2}$ a 8 $\frac{7}{8}$	5.18 $\frac{1}{2}$ a 5.16 $\frac{1}{2}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{3}{4}$ a 36 $\frac{3}{8}$	73 $\frac{1}{2}$ a 73 $\frac{3}{8}$
15..	8 $\frac{1}{2}$ a 8 $\frac{7}{8}$	5.16 $\frac{1}{2}$ a 5.17 $\frac{1}{2}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{3}{4}$ a 36 $\frac{3}{8}$	73 $\frac{1}{2}$ a 73 $\frac{3}{8}$
May 1..	9 $\frac{1}{2}$ a 9 $\frac{1}{4}$	5.13 $\frac{1}{2}$ a 5.12 $\frac{1}{2}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 42	36 $\frac{3}{4}$ a 36 $\frac{3}{8}$	73 $\frac{1}{2}$ a 73 $\frac{3}{8}$
15..	9 $\frac{1}{2}$ a 9 $\frac{1}{4}$	5.13 $\frac{1}{2}$ a 5.13 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 42	36 $\frac{3}{4}$ a 37	73 $\frac{1}{2}$ a 73 $\frac{3}{8}$
Jun. 1..	9 $\frac{1}{2}$ a 9 $\frac{1}{4}$	5.13 $\frac{1}{2}$ a 5.12 $\frac{1}{2}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 42	37 a 37 $\frac{1}{2}$	73 $\frac{1}{2}$ a 73 $\frac{3}{8}$
15..	9 $\frac{1}{2}$ a 9 $\frac{1}{4}$	5.13 $\frac{1}{2}$ a 5.12 $\frac{1}{2}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 42	36 $\frac{3}{4}$ a 37 $\frac{1}{2}$	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
July 1..	9 $\frac{1}{2}$ a 9 $\frac{1}{4}$	5.13 $\frac{1}{2}$ a 5.13 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 42	36 $\frac{3}{4}$ a 37	73 $\frac{1}{2}$ a 73 $\frac{3}{8}$
15..	9 $\frac{1}{2}$ a 9 $\frac{1}{4}$	5.13 $\frac{1}{2}$ a 5.13 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{3}{4}$ a 37	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
Aug. 1..	9 $\frac{1}{2}$ a 9 $\frac{1}{4}$	5.13 $\frac{1}{2}$ a 5.13 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 42	36 $\frac{3}{4}$ a 37	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
15..	9 $\frac{1}{2}$ a 10	5.13 $\frac{1}{2}$ a 5.13 $\frac{3}{8}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 42	36 $\frac{3}{4}$ a 37 $\frac{1}{2}$	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
Sep. 1..	9 $\frac{1}{2}$ a 10	5.14 $\frac{3}{8}$ a 5.13 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 42	36 $\frac{3}{4}$ a 37	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
15..	9 $\frac{1}{2}$ a 9 $\frac{7}{8}$	5.14 $\frac{3}{8}$ a 5.13 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 42	36 $\frac{3}{4}$ a 36 $\frac{3}{4}$	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
Oct. 1..	9 $\frac{1}{2}$ a 9 $\frac{7}{8}$	5.15 $\frac{3}{8}$ a 5.14 $\frac{3}{8}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{3}{4}$ a 36 $\frac{3}{4}$	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
15..	8 $\frac{1}{2}$ a 9	5.17 $\frac{1}{2}$ a 5.15 $\frac{3}{8}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{3}{4}$ a 36 $\frac{3}{4}$	73 $\frac{3}{4}$ a 73 $\frac{3}{8}$
Nov. 1..	8 a 8 $\frac{3}{8}$	5.20 a 5.17 $\frac{1}{2}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	41 $\frac{1}{2}$ a 41 $\frac{1}{4}$	36 $\frac{1}{2}$ a 36 $\frac{1}{4}$	72 a 73
15..	5 a 6 $\frac{1}{2}$	5.30 a 5.23 $\frac{1}{2}$	40 $\frac{1}{2}$ a 40 $\frac{1}{4}$	40 $\frac{1}{2}$ a 41 $\frac{1}{4}$	35 $\frac{1}{2}$ a 36 $\frac{1}{4}$	72 $\frac{1}{2}$ a 72 $\frac{1}{2}$
Dec. 1..	1 a 5	5.47 $\frac{1}{2}$ a 5.40	39 $\frac{1}{2}$ a 40 $\frac{1}{4}$	40 a 40 $\frac{1}{4}$	34 $\frac{1}{2}$ a 35 $\frac{1}{2}$	69 $\frac{1}{2}$ a 76 $\frac{1}{2}$
15..	1 a 4	5.60 a 5.50	39 a 39 $\frac{1}{2}$	39 a 39 $\frac{1}{2}$	34 $\frac{1}{2}$ a 34 $\frac{1}{2}$	72 $\frac{1}{2}$ a 73 $\frac{1}{2}$
Jan. 1..	2 $\frac{1}{2}$ a 5	5.40 a 5.45	38 $\frac{1}{2}$ a 39 $\frac{1}{2}$	39 $\frac{1}{2}$ a 39 $\frac{1}{2}$	34 $\frac{1}{2}$ a 35	68 $\frac{1}{2}$ a 69 $\frac{1}{2}$
15..	5 $\frac{1}{2}$ a 6 $\frac{1}{2}$	5.30 a 5.33 $\frac{1}{2}$	40 a 40 $\frac{1}{4}$	40 $\frac{1}{2}$ a 40 $\frac{1}{4}$	35 $\frac{1}{2}$ a 35 $\frac{1}{2}$	70 $\frac{1}{2}$ a 70 $\frac{1}{2}$
Feb. 1..	5 a 6	5.37 $\frac{1}{2}$ a 5.35	40 a 40 $\frac{1}{4}$	40 $\frac{1}{2}$ a 40 $\frac{1}{4}$	35 $\frac{1}{2}$ a 36	70 $\frac{1}{2}$ a 70 $\frac{3}{8}$
15..	2 a 5 $\frac{1}{2}$	5.42 $\frac{1}{2}$ a 5.35	39 $\frac{1}{2}$ a 40 $\frac{1}{2}$	40 $\frac{1}{2}$ a 40 $\frac{3}{8}$	35 $\frac{1}{2}$ a 35 $\frac{1}{4}$	70 $\frac{1}{2}$ a 70 $\frac{3}{8}$

With such figures, so far below the actual par for sterling, the specie movement has presented an appearance very unusual during the past ten years, or since the discovery of California. The exports, apart from doubloons and silver sent to the West Indies, has become nominal, while receipts continue considerable, as follows:—

GOLD RECEIVED FROM CALIFORNIA AND EUROPE AND EXPORTED FROM NEW YORK WEEKLY, WITH THE AMOUNT OF SPECIE IN SUB-TREASURY, AND THE TOTAL IN THE CITY.

	1860.		1861.		Specie in sub-treasury.	Total in the city.
	Received.	Exported.	Received.	Exported.		
Jan. 5.....	.....	\$85,080	{ 1,482,857 1,338,100*	.....	\$3,645,437	\$28,485,000
12.....	\$1,788,666	88,482	{ 1,446,219 1,400,000*	.....	2,584,455	29,045,300
19.....	.....	259,400	1,693,052	.....	2,166,242	31,764,700
26.....	1,760,582	81,800	1,246,029	22,855	5,751,293	34,720,200
Feb. 2.....	94,596	427,457	{ 1,511,693 1,200,006*	289,669	4,328,000	35,382,000
9.....	1,476,621	92,350	800,000	115,698	3,644,921	38,300,500
16.....	.....	592,997	1,616,111	117,101	3,356,000	40,475,000
Total.....	5,120,469	1,627,566	13,756,067	545,323	.....	.....

* From Europe.

Thus, of \$13,750,000 received in the city since January 1st, more than \$12,000,000 has accumulated in the city without producing much influence upon general business. The operations of the New York assay-office for the month of January indicate, as compared with the same month of last year, the destination of the metals.

The deposits of foreign coin were large, and were ordered into American coin, an operation that takes from their exportable value. To avoid that, it was vainly proposed to Congress to restore the law making foreign coin a legal tender.

NEW YORK ASSAY-OFFICE—DEPOSITS.

	Foreign.				United States.				Payments in
	Gold. Coin.	Bullion.	Silver. Coin.	Bullion.	Gold. Coin.	Silver. Coin.	Bullion.	Bars.	
Jan. 4,500,000	1,000,000	59,000	40,000	2,539,000	20,000	57,000	2,000	8,213,000	
'60	14,000	18,900	11,200	14,000	2,478,000	1,800	20,000	647,000	1,910,000

The effect of this demand for coin also shows itself in the returns of the United States mint, which, for the month of January in the last three years, were as follows :—

UNITED STATES MINT, PHILADELPHIA.

	Deposits.		Coinage.			Total.
	Gold.	Silver.	Gold.	Silver.	Cents.	
January.....	\$8,209,669	\$156,413	\$8,052,321	\$91,100	\$5,000	\$8,148,421
" 1860.	200,000	41,000	1,024,563	41,000	24,000	1,090,568
" 1859.	148,040	51,675	59,821	56,000	35,000	150,825

The Philadelphia mint and that at San Francisco are absorbing the government business. That at Dahlonega will probably be discontinued.

The stock market has shown the effects of the abundance of money, mostly in the firmness of the large holders, but speculation has been held in check by political influences and the disastrous condition of the federal finances. At the date of our last the new Secretary of the Treasury had succeeded in placing \$5,000,000 of treasury notes at an average of 10 $\frac{1}{2}$ interest. The credit of the government in the market is indicated in the fact that the 12-per cent treasury notes have fluctuated between 1 $\frac{1}{2}$ and 2 per cent premium. Subsequent reports from the Secretary on the state of the treasury showed a deficit of \$8,000,000 up to March 4th, and with the prospect of large loans in the future. A bill authorizing a loan of \$25,000,000 was passed by Congress, but the difficulties that hang over the market made its negotiation a matter of doubt, and it was proposed to have recourse to the deposits made with the States in 1836, at the period the treasury was burdened with a surplus revenue that grew out of the large land speculations, land sales, and imports of merchandise. Congress ordered that \$37,468,859 88 should be deposited with the several States, *pro rata* of the representation, until called for. Some of the States refused their share, on the ground of unconstitutionality of the law. The payment was to be made in four instalments; of these three were made, when revulsion overtook the markets, the imports declined, and the land speculation subsided to a point that left a large deficit in the revenues. The fourth instalment was accordingly withheld. It has now been proposed for the several States to indorse the federal bonds to an amount equal to those deposits. The following is a statement of the shares of the several States in the surplus revenue deposited with them by the United States government, by the act of June 23, 1836, and which the pres-

ent Secretary proposed to make the basis of security for a new loan to provide for the expenses of the treasury of the government :—

Maine.....	\$955,838 25	Louisiana.....	477,919 14
New Hampshire.....	669,086 79	Mississippi.....	382,335 30
Vermont.....	669,086 ..	Tennessee.....	1,433,757 39
Massachusetts.....	1,338,173 58	Kentucky.....	1,433,757 39
Connecticut.....	764,670 60	Ohio.....	2,007,260 34
Rhode Island.....	382,335 30	Missouri.....	382,335 30
New Jersey.....	764,670 60	Indiana.....	860,254 44
New York.....	4,014,520 71	Illinois.....	477,919 14
Pennsylvania.....	2,867,514 78	Arkansas.....	286,751 49
Delaware.....	286,751 49	Michigan.....	286,751 49
Maryland.....	955,838 25		
Virginia.....	2,198,727 99	Total.....	\$28,101,644 91
North Carolina.....	1,433,757 39	Add 4th instalment which	
South Carolina.....	1,051,422 09	was not paid.....	\$9,867,214 97
Georgia.....	1,051,422 09		
Alabama.....	669,086 79	Total surplus.....	\$37,468,859 88

The payment of \$28,000,000 was made in three instalments ; the fourth instalment was to have been paid October 1, 1837, but was withdrawn on account of the financial difficulty in which the government then found itself.

Of the \$28,101,645 actually paid, the States which have now seceded, excepting Florida, not then admitted, received \$3,032,185 41. The free States which shared in the surplus received \$16,058,082 81.

We may here call to mind that when State credit broke down in 1840, and nine sovereign States failed to make good their engagements, it was proposed by the leading financial authorities of London, that the States should give a " more comprehensive guarantee " for their credit in the shape of federal indorsement of State bonds. The " centrifugal " force of circumstances has now reversed the " guarantees " required, but it may be hoped that, as the States more than recovered their high credit without any other aid than industrial energy, so may that of the Union again take its foremost rank.

The proposition to obtain the indorsements of the States was objected to in the House. The bill authorizing \$25,000,000 passed without it, and the Secretary issued, under it, February 13, proposals for \$8,000,000, to be opened by the 23d. The bonds were to run twenty years, and bear 6 per cent coupons. The law is as follows :—

AN ACT AUTHORIZING A LOAN.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States be and is hereby authorized, at any time before the first day of July next, to borrow, on the credit of the United States, a sum not exceeding twenty-five millions of dollars, or so much thereof as, in his opinion, the exigencies of the public service may require, to be used in the payment of the current demands upon the treasury and for the redemption of treasury notes now outstanding, and to replace in the treasury any amount of said notes which shall have been paid and received for public dues.

SEC. 2. And be it further enacted, That stock shall be issued for the amount so borrowed, bearing interest not exceeding six per centum per annum, and to be reimbursed within a period not beyond twenty years and not less than ten years ; and the Secretary of the Treasury be and is hereby authorized, with the consent of the President, to cause certificates of stock to be prepared, which shall be signed by the Register and sealed with the seal of the Treasury Depart-

ment, for the amount so borrowed, in favor of the parties lending the same, or their assigns, which certificates may be transferred on the books of the treasury, under such regulations as may be established by the Secretary of the Treasury: Provided, That no certificate shall be issued for a less sum than one thousand dollars: And provided, also, That, whenever required, the Secretary of the Treasury may cause coupons of semi-annual interest payable thereon to be attached to certificates issued under this act; and any certificate with such coupons of interest attached may be assigned and transferred by delivery of the same, instead of being transferred on the books of the treasury.

Sec. 3. And be it further enacted, That, before awarding said loan, the Secretary of the Treasury shall cause to be inserted in two of the public newspapers of the city of Washington, and in one or more public newspapers in other cities of the United States, public notice that sealed proposals for such a loan will be received until a certain day, to be specified in such notice, not less than ten days from its first insertion in a Washington newspaper; and such notice shall state the amount of the loan, at what periods the money shall be paid, if by instalments, and at what places. Such sealed proposals shall be opened, on the day appointed in the notice, in the presence of such persons as may choose to attend, and the proposals decided on by the Secretary of the Treasury, who shall accept the most favorable offered by responsible bidders for said stock. And the said Secretary shall report to Congress, at the commencement of the next session, the amount of money borrowed under this act, and of whom and what terms it shall have been obtained, with an abstract or brief statement of all the proposals submitted for the same, distinguishing between those accepted and those rejected, with a detailed statement of the expense of making such loans.

Sec. 4. And be it further enacted, That the faith of the United States is hereby pledged for the due payment of the interest and the redemption of the principal of said stock.

Sec. 5. And be it further enacted, That the residue of the loan authorized by the act of 22d of June, 1860, or so much thereof as is necessary, shall be applied to the redemption of the treasury notes issued under the act of 17th of December, 1860, and for no other purpose; and the Secretary of the Treasury is hereby authorized, at his discretion, to exchange at par bonds of the United States authorized by said act of 22d of June, 1860, for the said treasury notes and the accruing interest thereon.

Sec. 6. And be it further enacted, That, to defray the expense of engraving and printing certificates of such stock, and other expenses incident to the execution of this act, the sum of twenty thousand dollars is hereby appropriated: Provided, That no compensation shall be allowed for any service performed under this act to any officer whose salary is established by law.

Sec. 7. And be it further enacted, That the Secretary of the Treasury shall not be obliged to accept the most favorable bids as hereinbefore provided, unless he shall consider it advantageous to the United States to do so, but for any portion of such loan, not taken under the first advertisement, he may advertise again at his discretion.

Approved, Feb. 8, 1861.

The rates of money for commercial paper have continued to decline on call, but have rather advanced for long paper, seeing that the best descriptions are, by the stagnation of business and the operations of payment, being called out:

	On call.		Indorsed.		Single names.	Other good.	Not well known.
	Stocks.	Other.	60 days.	4 a 6 mos.			
Jan. 1st, 1860..	6 a 6½	6½ a 7	7 a 7½	7½ a 8½	7½ a 8	9 a 10	12 a 18
Jan. 15th.....	7 a 7½	7 a 7½	8½ a 9	9 a 9½	9 a 10	10 a 11	15 a 20
Feb. 1st.....	6 a 6½	7 a 7½	8½ a 9	9 a 9½	9 a 10	11 a 12	15 a 20
Feb. 15th.....	5 a 6	6 a 7	7 a 7½	7½ a 8	8½ a 9½	10 a 12	15 a 18
Mar. 1st.....	5½ a 6	6 a 7	7 a 7½	7½ a 8	8½ a 9½	10 a 12	15 a 18
Mar. 15th.....	5 a 5½	5½ a 6	6 a 7	7½ a 8	8½ a 9½	10 a 12	15 a 18
Apr. 1st.....	5 a 5½	6 a 6½	5½ a 6	6 a 6½	5½ a 7½	9 a 10	11 a 13

	On call.		Indorsed—		Single names.	Other good.	Not well known.
	Stocks.	Other.	60 days.	4 a 6 mos.			
Apr. 15th.....	5 a 5½	6 a 6½	5½ a 6	6 a 6½	6½ a 7½	9 a 10	11 a 13
May 1st.....	5 a 5½	6 a 6½	5 a 6	6 a 6½	6½ a 7½	9 a 10	11 a 12
May 15th.....	5 a 6	6 a 6½	5 a 6	6 a 7	6½ a 7½	9 a 10	10 a 12
June 1st.....	4½ a 5	6 a 6½	5 a 6	6 a 7	6½ a 7½	8 a 9	9 a 10
June 15th.....	4½ a 5	5 a 6	4½ a 5	5 a 5½	5½ a 6	6 a 7½	8 a 9
July 1st.....	5 a 5½	5½ a 6	.. a 5	5 a 6	5½ a 6	7 a 7½	8 a 9
July 15th.....	5 a 5½	5½ a 6	.. a 5	5 a 6	5½ a 6	7 a 7½	8 a 9
Aug. 1st.....	5 a 6	6 a 7	5 a 6	6 a 6½	6½ a 7	7½ a 8½	9 a 10
Aug. 15th.....	5½ a 6	6 a 7	6 a 6½	6 a 7	6½ a 7½	8 a 9	9 a 10
Sept. 1st.....	6 a 7	7 a 9	6½ a 7	7 a 9	8 a 9	9 a 12	12 a 24
Sept. 15th.....	6 a 7	6½ a 7	7 a 7½	7½ a 8	6½ a 7½	9 a 9½	10 a 10½
Oct. 1st.....	6½ a 7	7 a 8	6½ a 7	6½ a 7½	8 a 8½	9 a 10	12 a 20
Oct. 15th.....	6½ a 7	7 a 8	6½ a 7	6½ a 7½	8 a 8½	9 a 10	12 a 20
Nov. 1st.....	6½ a 7	7 a 8	6½ a 7	7 a 7½	8 a 9	10 a 12	12 a 15
Nov. 15th.....	7 a 8	7 a 9	8 a 9	9 a 10	9 a 12	14 a 15	15 a 24
Dec. 1st.....	7 a 9	9 a 10	10 a 12	12 a 15	15 a 18	24 a 36	.. a ..
Dec. 15th.....	6 a 7	9 a 11	12 a 15	15 a 18	20 a ..	.. a ..	.. a ..
Jan. 1st, 1861.	5½ a 6½	8 a 10	10 a 12	13 a 15	18 a ..	.. a ..	.. a ..
Jan. 15th.....	5 a 6	6 a 7	7 a 8	8 a 9	8 a 10	12 a 16	18 a 24
Feb. 1st.....	5 a 6	6 a 7	7 a 8	8 a 9	8 a 10	12 a 15	18 a 24
Feb. 15th.....	5 a 6	. a 7	7½ a 8	8 a 9	8 a 10	12 a 15	18 a 24

There is a great scarcity of good business paper. The state of the foreign markets is such that, in connection with the abundance of produce here and the low rates at which, under present circumstances, it is held, encourages the hope of very large exports, which, of course, must be modified by any change in the rates of money in London and Paris, arising from the flow of specie to this country, or the occurrence of war.

The imports of dry goods for the month of January have not been much less than last year, since they have been the fulfillments of previous orders. The amount put upon the market has however undergone great reduction. The condition of trade generally, and the prospect of the passage of a high tariff, will no doubt keep down the imports for a number of months to come. The comparative aggregates of the trade of the port for some years have been as follows. The amount of specie imported figures unusually large :—

IMPORTS AT NEW YORK FOR THE MONTH OF JANUARY.

Years.	Specie.	Dry goods.	Other.	Total.
1855.....	\$90,284	\$5,630,393	\$7,335,450	\$12,945,827
1856.....	54,364	10,686,771	4,837,939	15,578,064
1857.....	886,509	10,386,476	7,733,747	19,006,732
1858.....	309,572	2,866,144	4,930,003	8,105,719
1859.....	71,308	10,575,587	3,801,067	19,447,962
1860.....	228,050	11,770,005	9,758,284	21,756,273
1861.....	7,262,229	10,956,857	8,608,325	26,827,411

The aggregate imports for the month it appears, have been very large, exceeding those of any year previous to 1860, and the increase has been mostly in dry goods. The imports, including warehousing, have been as follows :—

FOREIGN IMPORTS AT NEW YORK IN JANUARY.

	1858.	1859.	1860.	1861.
Entered for consumption.....	\$4,170,017	\$15,556,727	\$16,528,174	\$8,178,837
Entered for warehousing	1,909,448	1,201,707	2,744,411	8,560,680
Free goods	1,716,682	2,618,220	2,262,638	3,825,665
Specie and bullion	309,572	71,308	228,050	7,262,229
Total entered at the port	\$8,105,719	\$19,447,962	\$21,756,273	\$26,827,411
Withdrawn from warehouse.....	4,504,591	2,088,290	2,964,024	2,543,273

The quantity is again larger than last year, but this arises from the large receipts of specie. The large arrivals have caused a considerable increase in the quantity in bond during the month.

The following is a comparative summary of the imports from July 1st. The total for the seven months, ending with January, is nearly \$10,000,000 more than the corresponding total of the previous year, as will appear from the following statement:—

FOREIGN IMPORTS AT NEW YORK FOR SEVEN MONTHS, ENDING JANUARY 31st.

	1858.	1859.	1860.	1861.
Entered for consumption.....	\$61,869,156	\$82,178,944	\$101,456,920	\$82,893,646
Entered for warehousing.....	34,137,001	14,600,973	20,353,081	34,386,963
Free goods.....	13,932,671	13,193,413	14,023,386	14,661,464
Specie and bullion.....	7,855,593	557,065	1,918,528	15,427,722
Total entered at the port.....	117,794,421	110,530,395	137,756,915	147,369,795
Withdrawn from warehouse...	31,969,220	17,650,384	18,305,392	19,331,540

The proportions entered for warehouse, it will be seen, are as large as for the same period of 1858, which embraced the panic of the fall of 1857. The specie arrivals have been very large. The following table will show the proportion borne by dry goods in the January returns:—

IMPORTS OF FOREIGN DRY GOODS AT NEW YORK FOR THE MONTH OF JANUARY.

ENTERED FOR CONSUMPTION.

	1858.	1859.	1860.	1861.
Manufactures of wool.....	\$336,153	\$2,290,857	\$2,442,249	\$1,819,912
Manufactures of cotton.....	383,621	3,060,040	2,406,778	733,748
Manufactures of silk.....	533,080	3,071,082	4,554,640	1,494,636
Manufactures of flax.....	183,388	1,035,455	735,256	383,677
Miscellaneous dry goods.....	160,681	569,296	480,340	391,993
Total.....	\$1,596,923	\$10,026,730	\$10,619,271	\$4,822,966

WITHDRAWN FROM WAREHOUSE.

	1858.	1859.	1860.	1861.
Manufactures of wool.....	\$414,023	\$193,123	\$252,225	\$292,902
Manufactures of cotton.....	594,622	404,310	575,027	308,304
Manufactures of silk.....	616,369	126,117	331,376	308,107
Manufactures of flax.....	325,464	175,375	146,615	165,848
Miscellaneous dry goods.....	161,681	56,592	76,584	86,351
Total.....	\$2,112,159	\$955,755	\$1,381,827	\$1,161,512
Add entered for consumption...	1,596,923	10,026,730	10,619,271	4,822,966
Total thrown on market....	\$3,709,082	\$10,982,445	\$12,001,098	\$5,984,478

ENTERED FOR WAREHOUSING.

	1858.	1859.	1860.	1861.
Manufactures of wool.....	\$215,866	\$122,326	\$410,357	\$1,770,623
Manufactures of cotton.....	423,772	252,675	368,950	1,942,394
Manufactures of silk.....	425,444	104,264	249,875	1,683,536
Manufactures of flax.....	115,141	58,791	67,492	507,480
Miscellaneous dry goods.....	88,998	10,811	54,060	229,858
Total.....	\$1,269,221	\$548,857	\$1,150,734	\$6,133,891
Add entered for consumption...	1,596,923	10,026,730	10,619,271	4,822,966
Total entered at the port...	\$2,866,144	\$10,575,587	\$11,770,005	\$10,956,857

The consumption of dry goods for the seven months of the year shows a very large increase, being larger than for the same period of any previous year :—

IMPORTS OF FOREIGN DRY GOODS AT THE PORT OF NEW YORK FOR SEVEN MONTHS
ENDING JANUARY 28TH.

ENTERED FOR CONSUMPTION.

	1858.	1859.	1860.	1861.
Manufactures of wool.....	\$12,395,372	\$14,353,737	\$19,925,715	\$17,966,790
Manufactures of cotton.....	5,576,268	9,176,748	11,950,149	5,928,979
Manufactures of silk.....	11,504,000	14,294,092	21,504,310	17,396,886
Manufactures of flax.....	2,345,427	4,297,704	5,577,833	3,124,489
Miscellaneous dry goods...	2,557,291	2,718,888	3,369,042	3,752,608
Total.....	\$34,378,358	\$44,845,639	\$62,326,949	\$48,169,752

WITHDRAWN FROM WAREHOUSE.

	1858.	1859.	1860.	1861.
Manufactures of wool.....	\$4,586,012	\$2,610,972	\$2,362,047	\$2,268,396
Manufactures of cotton.....	1,797,956	1,091,815	1,080,439	1,033,460
Manufactures of silk.....	3,621,985	994,717	824,700	928,996
Manufactures of flax.....	1,085,068	849,090	560,423	510,738
Miscellaneous dry goods.....	693,528	615,339	334,061	265,430
Total.....	\$11,784,549	\$6,161,933	\$5,161,684	\$5,007,020
Add entered for consumption..	34,378,358	44,845,639	62,326,949	48,169,752
Total thrown upon market.	\$46,162,907	\$51,007,572	\$67,488,633	\$53,176,772

ENTERED FOR WAREHOUSING.

	1858.	1859.	1860.	1861.
Manufactures of wool.....	\$4,132,128	\$1,221,679	\$2,499,925	\$4,751,965
Manufactures of cotton.....	3,093,874	921,338	1,971,196	4,939,732
Manufactures of silk.....	3,249,066	488,977	1,072,913	3,673,569
Manufactures of flax.....	1,539,525	420,266	656,708	1,898,299
Miscellaneous dry goods....	1,229,611	262,848	430,045	795,166
Total.....	\$13,225,203	\$3,315,158	\$6,630,787	\$16,058,731
Add entered for consumption.	34,378,358	44,845,639	62,326,949	48,169,752
Total entered at the port.	\$47,613,561	\$48,160,797	\$68,957,736	\$64,228,483

The warehouse operations have been larger than ever before in the same period, and on this accumulation it is threatened by the tariff before Congress to compel duties by abolishing the warehousing privilege.

The exports from New York to foreign ports for the month of January show an increase in domestic produce, as well breadstuffs as cotton; but the specie export has been unimportant.

EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR THE MONTH OF JANUARY.

	1858.	1859.	1860.	1861.
Domestic produce.....	\$4,208,306	\$3,762,182	\$5,299,142	\$10,277,925
Foreign merchandise (free).....	191,125	119,489	324,003	399,940
Foreign merchandise (dutiabie)....	290,308	232,337	399,317	465,978
Specie and bullion.....	4,745,611	2,305,638	853,562	58,894
Total exports.....	\$9,435,350	\$6,419,696	\$6,876,324	\$11,202,739
Total, exclusive of specie.....	4,689,739	4,114,008	6,022,462	11,143,845

The total exports at the port of New York since July 1st, (exclusive of specie,) are much larger than for the same period of the last or any preceding years, and, including specie, reached a very high figure :—

EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR SEVEN MONTHS, ENDING JANUARY 31.

	1858.	1859.	1860.	1861.
Domestic produce.....	\$31,559,901	\$29,181,498	\$36,798,091	\$66,990,359
Foreign merchandise (free).....	2,512,724	938,039	1,939,566	909,175
Foreign merchandise (dutiable)...	5,319,505	2,089,810	3,660,863	3,138,743
Specie and bullion.....	26,707,723	15,947,160	37,371,456	20,670,300
Total exports.....	\$66,089,903	\$48,056,002	\$79,764,976	\$91,738,577
Total, exclusive of specie...	39,392,180	32,108,842	42,993,520	71,068,277

We also annex a comparative summary of the receipts of cash duties at the port of New York :—

CASH DUTIES RECEIVED AT NEW YORK.

	1858.	1859.	1860.	1861.
Six months ending Jan. 1	\$16,345,553 57	\$15,387,618 49	\$19,322,060 96	\$17,637,703
In January.....	1,641,474 59	3,478,476 38	3,898,166 17	2,059,202
Total seven months	\$17,987,028 16	\$18,866,089 87	\$23,221,227 13	\$19,696,905

JOURNAL OF BANKING, CURRENCY, AND FINANCE.

CITY WEEKLY BANK RETURNS.

BOSTON BANKS.—(CAPITAL, JAN., 1859, \$35,125,433; 1860, \$37,258,600.)

	Loans.	Specie.	Circulation.	Deposits.	Due to banks.	Due from banks.
Jan. 7	62,025,734	4,204,610	7,032,018	18,719,190	7,668,862	8,371,304
14	62,720,067	4,199,155	6,825,325	18,422,650	8,082,942	7,605,680
21	63,275,167	4,425,256	6,706,045	18,366,511	8,346,141	7,094,433
24	63,237,796	4,532,019	6,374,476	18,185,128	8,477,340	6,714,029
Feb. 4	63,264,318	4,629,068	6,247,643	18,184,009	8,485,630	6,563,176
11	63,434,332	4,573,614	6,387,552	18,074,898	8,318,692	6,299,117

PHILADELPHIA BANKS.—(CAPITAL, JAN., 1860, \$11,788,190.)

	Loans.	Specie.	Circulation.	Deposits.	Due banks.
Jan. 7....	26,891,280	4,020,266	2,689,812	15,261,925	3,593,785
14....	26,555,986	4,151,824	2,694,217	15,001,591	3,464,167
21....	26,172,473	4,263,105	2,754,315	14,750,382	3,416,292
28....	25,892,265	4,443,781	2,737,638	14,891,200	3,143,795
Feb. 4....	25,801,981	4,588,054	2,778,318	15,295,453	2,699,627

NEW ORLEANS BANKS.—(CAPITAL, JAN., 1860, \$18,917,600.)

	Short loans.	Specie.	Circulation.	Deposits.	Exchange.	Distant balances.
Jan. 5 ..	17,229,569	14,244,084	6,204,384	17,443,181	6,969,916	1,285,375
12 ..	16,756,858	15,584,142	6,377,069	18,345,680	7,017,014	1,202,133
19 ..	16,318,118	15,721,856	6,664,554	17,745,829	7,356,586	1,469,546
26 ..	15,987,904	16,289,892	6,988,091	18,443,144	8,987,904	1,263,522

PITTSBURG BANKS.—(CAPITAL, \$4,160,200.)

	Loans.	Specie.	Circulation.	Deposits.	Due banks.
Jan. 7.....	7,254,136	1,356,392	2,609,006	1,891,947	217,108
14.....	7,164,487	1,400,357	2,609,056	1,927,290	208,148
21.....	7,215,946	1,400,485	2,662,671	1,733,946	238,858
28.....	7,123,312	1,425,592	2,686,706	1,687,037	242,595
Feb. 4.....	7,099,421	1,449,036	2,642,821	1,701,427	233,634

The Missouri banks, with the exception of the Exchange Bank of St. Louis suspended specie payments. E. D. JONES, Esq., was chosen cashier, *vice*

ROBERT CARR resigned. The condition of the bank January 31, 1860, was as follows:—

EXCHANGE BANK OF ST. LOUIS AND BRANCHES, FOR THE QUARTER ENDING DECEMBER 31st, 1860.

RESOURCES.

Notes discounted.....	\$316,129 16	
State bonds.....	70,000 00	
Exchange maturing.....	975,444 31	
		\$1,361,573 47
Due from banks.....		92,815 93
Suspended debt.....		29,556 22
Real estate (for debt).....		3,851 81
Cash on hand, viz.:—Coin.....		332,214 98
Notes of other banks.....		134,120 56
		<u>\$1,954,132 97</u>

LIABILITIES.

Capital stock.....	\$1,000,000 00
Due to banks.....	118,672 65
Due to individual depositors.....	341,442 22
Circulation outstanding.....	387,720 00
Dividend unclaimed.....	67 39
Contingent fund.....	3,533 82
Profit and loss.....	102,696 89
	<u>\$1,954,132 97</u>

Contingent fund, and profit and loss as above .	\$106,230 71
Deduct dividend No. 5, declared this day.....	39,571 83

Leaves contingent fund, and profit and loss this day.....	66,658 83
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THE BANKS IN SOUTH CAROLINA.

The average weekly condition of the banks in this State, from their returns to the Controller-general, for the month of October, is as in the following synopsis:—

LIABILITIES.		RESOURCES.	
Capital.....	\$14,952,486 88	Specie.....	\$1,405,898 43
Circulation.....	6,435,242 43	Real estate.....	684,144 28
Profits on hand.....	2,130,836 77	Bank notes.....	376,030 35
Due banks.....	3,201,495 13	Due from banks.....	773,936 64
Deposits.....	3,497,122 05	Discounts.....	12,674,949 44
Due State.....	2,925,012 28	Domestic exchange.....	10,306,603 70
Other items.....	241,430 36	Foreign exchange.....	258,192 15
		Bonds and stocks.....	2,903,971 76
		Suspended debt.....	1,489,976 81
		Branches.....	1,674,048 17
		State.....	140,331 23
		Other items.....	695,538 04
Total liabilities ...	\$33,383,625 90	Total resources.....	\$33,383,625 90

By comparing this statement with that of the previous month, we note an increase in circulation of \$346,206 25; an increase in domestic exchange of \$911,319; an increase in foreign exchange of \$92,371; an increase in discounts of \$5,298; and a decrease in specie to the extent of \$276,438.

COINAGE OF THE UNITED STATES.

The coinage of the last fiscal year was \$27,039,919 and 61 cents, viz.:

	No. of pieces.	Value.
Gold double eagles.....	772,940	\$15,458,000 00
“ eagles.....	34,213	342,130 00
“ half eagles.....	72,213	361,145 00
“ three dollars.....	20,402	61,206 00
“ quarter eagles.....	51,592	128,980 00
“ dollars.....	93,215	93,215 00
“ fine bars.....	.....	7,001,807 35
	1,044,591	\$23,447,283 35
Silver dollars.....	600,530	600,530 00
“ half dollars.....	3,254,800	1,627,400 00
“ quarter dollars.....	1,321,800	330,450 00
“ dimes.....	986,000	98,600 00
“ half dimes.....	1,930,000	96,500 00
“ three cent pieces.....	548,000	16,440 00
“ bars.....	.....	480,716 26
	8,641,130	\$3,250,636 26
Cents.....	34,200,000	342,000 00

RECAPITULATION OF COINAGE FOR THE YEAR.

Gold.....	\$23,447,283 35
Silver.....	3,250,636 26
Copper.....	342,000 00

One year to June 30, 1860..... \$27,039,919 61

This sum was coined at the following points last year, and from the commencement of coinage, (1792) :—

	1859-1860.	1792-1860.
Philadelphia.....	\$5,553,653 14	\$423,426,504 24
New Orleans.....	1,767,422 33	69,201,833 80
San Francisco.....	12,461,911 52	118,029,225 26
Dahlonaga, Ga.....	69,477 00	6,060,973 00
Charlotte, N. C.....	133,697 50	4,978,061 50
New York Assay-office.....	7,053,758 12	94,532,996 76
Total.....	\$27,039,919 61	\$716,229,594 56

One extraordinary feature of the year has been the decline in the quantity of gold deposited from California, etc., as compared with former year, viz :—

States.	One year—1859-60.	Total to 1860.
California.....	\$18,095,163	\$469,406,033 84
Kansas.....	622,264	626,436 00
Virginia.....	21,604	1,547,420 12
Georgia.....	62,513	6,863,392 66
North Carolina.....	156,181	9,100,591 37
South Carolina.....	2,004	1,282,609 23
Tennessee.....	595	81,406 75
Oregon.....	2,780	.....
Alabama.....	661	197,420 07
Utah.....	4,680	4,680 00
Arizona.....	1,100	1,100 00
Nebraska.....	1,402	1,402 01
New Mexico.....	.....	190,968 16
	\$18,971,041	\$489,312,520 21

California, (parted from gold)	\$133,561	North Carolina.....	12,257
Utah (Washoe).....	102,540	Sonora.....	1,200
Lake Superior	25,880		
Arizona... ..	13,357		\$293,797

The coinage last year was \$27,039,919, whereas, for 1851 to 1856, it ranged from 56 to 64,000,000 per year. The large exports from California direct to China and to Europe, will, in part, account for this remarkable change.

RATE OF INTEREST IN LONDON.

The alterations in bank discounts during 1859 and 1860, with the amount of bank notes issued, and of bullion held at the respective periods, the price of three per cent consols on the days of change, are shown in the following table:

Price of consols.	Date. 1857.	Interest. Rate per cent.	Bank notes issued.—			Total.
			Bullion.	Held by the public.	In reserve by Bank of Eng.	
90½ a 88½	April 28....	3½	£17,640,342	£21,938,625	£9,496,645	£31,435,270
90½ a 89½	May 5.....	4½	17,205,480	22,255,685	8,790,350	31,046,035
93½ a 93½	June 2.....	3½	17,764,596	21,092,350	10,478,390	31,570,745
94 a 93½	June 9.....	3	17,957,887	21,134,345	10,607,545	31,741,890
95½ a 95½	July 14.....	2½	17,941,791	21,712,530	10,100,525	31,813,055
95½ a 95½	Jan. 19, 1860	3	15,884,498	22,053,140	7,589,865	29,643,005
94½ a 93½	Jan. 31....	4	14,942,502	21,906,340	6,846,370	28,752,710
94½ a 94½	March 29....	4½	15,271,701	20,980,355	8,082,685	29,063,640
94½ a 94	April 12...	5	14,637,102	23,467,255	4,922,085	28,889,340
95½ a 95½	May 10.....	4½	14,588,780	21,880,735	7,182,845	29,063,580
95½ a 95½	May 25.....	4	15,004,390	22,223,290	8,346,100	29,569,390
93½ a 93½	Nov. 8.....	4½	14,127,873	21,503,430	6,359,120	27,862,550
93½ a ...	Nov. 13.....	5	13,897,085	21,206,070	6,429,370	27,635,440

FRENCH FINANCE.

Now that the attention of the commercial community in this country is in an especial manner directed to the operations of the Bank of France, it may be considered a fitting moment to take a brief glance at the financial position and fiscal burthens of the French nation. We will confine ourselves to citing a few pregnant figures: In the year 1814 the national debt of France was £50,646,108. In thirty-eight years, that is to say in 1852, it had increased to £23,825,492. It is now £356,883,871; so that in the last eight years it has increased no less than £143,058,379. In 1855 the annual charge of the public debt of France was stated to be £9,000,000, whilst in January of the present year it was admitted to be £16,000,000, and is probably much more. We have not space to enter into, nor the full particulars of, the manner in which this large increase has arisen in so short a space of time. In France the financial secrets of the government are well kept. But it is a terrible fact that in the face of the unprecedented amount of taxation with which France is at present burthened, it is even now necessary to add largely year after year to the national debt.

During the same space of forty years, the English national debt has undergone several alterations, sometimes rising and sometimes falling, but it is at present very little more than it was in 1820, when it stood at £790,000,000, whilst the charge on debt has considerably lessened. It may convey a lesson to those who complain so bitterly of our system of taxation if we place in juxtaposition the account of the revenue of the two countries. It will be seen that France actually outstrips us in the amount of her revenue from taxation. At

the same time, it must be borne in mind that the figures do not include any local taxation, which in many towns in France, as here, is considered very great; it is especially heavy in Paris.

REVENUE OF GREAT BRITAIN FOR 1860.

1 Income tax.....	£12,903,715
2 Stamps.....	8,040,091
3 Crown lands.....	416,531
4 Customs.....	24,391,084
5 Excise.....	20,240,467
6 Post-office.....	2,300,000
7 Miscellaneous.....	1,801,584

Total..... £71,104,127

REVENUE OF FRANCE FOR 1860.

1 Direct taxes, land, house, personal, and patents.....	£18,000,000
2 Stamps and domains.....	14,300,000
3 Woods, forests, & fisheries..	1,500,000
4 Customs and tax on salt..	9,100,000
5 Excise.....	19,500,000
6 Post-office.....	2,800,000
7 Miscellaneous.....	7,500,000

Total..... £73,000,000

It must be difficult—nay, impossible—for France to continue for any long period the immense sacrifices she is now called upon to make. Unless the heavy load of taxation which she is now forced to bear be speedily mitigated, the effects will be most lamentable. There is a point beyond which nations, any more than individuals, cannot carry their expenditure without tempting ruin.

SALES OF REAL ESTATE IN RICHMOND, VA.

We subjoin a comparative statement of the amounts of real estate, within the corporate limits, sold at auction during the past three years:—

	1858.	1859.	1860.
January.....	29,540	10,771	87,416
February.....	20,269	25,162	31,060
March.....	31,292	53,563	33,209
April.....	82,082	118,461	40,573
May.....	24,212	66,735	68,563
June.....	62,094	52,791	29,591
July.....	55,203	29,300	100,183
August.....	4,355	14,755	24,567
September.....	23,440	29,429	47,357
October.....	27,882	73,074	36,587
November.....	38,418	7,656	5,885
December.....	20,570	36,630	35,835
Total.....	419,357	518,327	540,816

The total for 1857 was \$213,400, so that the sales have doubled in three years. A very large amount of real estate in that city is sold privately, by agents and owners, but the auction sales afford some indication of the extent of the business each year.

COMPARATIVE PURITY OF GOLD FROM MODERN MINES.

The value of the products of the modern gold fields differs more widely than would be imagined. Absolutely pure gold, free from admixture with any foreign substance, is never met with. There is always some less valuable metal contained in the yellow nugget, or the glittering dust. The process of determining the exact amount of gold present in a given quantity, is termed assaying. It is done by melting the metal into a homogeneous mass, and subjecting a thin fragment of it to minute chemical analysis. The exact proportion of gold to other matter, is thus arrived at, and if it is desired to exclude all but the gold, the process of refinement is resorted to. The old method of estimating the fineness

of gold by carats, twenty-four carats being pure gold, has been abandoned in our mint, and a new standard adopted. The fineness of gold is now stated by the decimals of one thousand : thus gold .750 fine is equal to the eighteen carat gold of the jewellers, and .900 fine is the standard for coin. Of the gold which has been received and assayed at our mint, that of Australia is the finest, some having been assayed .980 fine ; or containing only twenty parts in a thousand of foreign matter. The specimens received from North Carolina vary very much in value, some having turned out as fine as Australian, while others were but .580 fine. North Carolina and Georgia continue to furnish some gold, but Virginia and Tennessee have almost entirely ceased to be gold-mining States. It is asserted that numerous nuggets of gold have lately been sold in Quebec by some of the French inhabitants of Lower Canada, and the existence of gold fields in that country is positively asserted. It is said that the peasant miners keep the matter a profound secret and dispose of their gold in the most secret and mysterious manner. If any gold fields exist, and traces of gold have been found in the streams, the public attention now directed to it, will soon make known the secret of the peasants. But as in North Carolina and Georgia, the golden treasure may be so fast locked into the earth as to require the expenditure of its full value to release it. We give below the range of fineness of the gold which is deposited in the mint from the following places, for which we are indebted to JAMES R. SNOWDEN, Esq., the director of the mint :—

Australia.....	.960 to .980	North Carolina.....	.840 to .845
Georgia.....	.940 to .960	New Granada.....	.825 to .875
Santa Fe, New Mexico.	.940 to .952	Kansas.....	.820 to .840
California.....	.860 to .900		

It is interesting to know, that with our other material and industrial resources, we take a very high, if not the highest, rank as a gold-producing country. Since the establishment of the mint, and up to June, 1859, the deposits of American gold, the produce of native mines, has been as follows :—

California.....	\$451,310,840 26	Oregon.....	69,292 00
Georgia.....	6,800,879 33	New Mexico.....	48,672 00
North Carolina.....	8,944,409 39	Kansas.....	4,171 70
Virginia.....	1,525,515 50	Other States.....	79,224 00
South Carolina.....	1,280,604 87		
Alabama.....	196,758 54	Total.....	\$470,341,478 46
Tennessee.....	80,810 87		

The above large sum was deposited at the following places ; the first column represents the deposits of gold of American production only, and the second column the coinage of both native and foreign gold, silver, and copper up to June 30, 1859 :—

Philadelphia.....	\$238,305,639 48	\$417,872,851 10
San Francisco.....	106,641,697 73	105,567,313 74
New Orleans.....	22,293,827 91	67,434,411 47
Charlotte, N. C.....	4,868,525 67	4,844,364 00
Dahlonega, Ga.....	5,988,635 69	5,991,496 09
Assay-office, N. Y.....	92,243,151 98	87,479,238 64
Total.....	\$470,341,478 46	\$689,189,674 95

The report of the director of the mint up to 30th June, 1860, will be presented to Congress in December, with the annual report of the Secretary of the Treasury.

LOUISIANA STATE ASSESSMENT FOR 1860.

The following is the State assessment of taxes in the city of New Orleans for the year 1860 :—

	Value of real estate.	No. of slaves.	Value of slaves.	Horses, cows, and carriages.
First	\$6,805,650	1,296	\$771,200	\$111,625
Second	8,482,150	1,803	1,082,950	179,975
Third	25,467,700	1,502	911,250	240,425
Fourth	11,204,050	960	590,250	116,700
Fifth	8,202,100	1,881	816,650	188,080
Sixth	5,115,300	1,222	724,890	55,250
Seventh	4,921,200	743	476,400	122,050
Eighth	2,866,050	256	164,400	55,850
Ninth	3,404,400	600	356,350	150,625
Tenth	8,879,525	1,551	380,900	133,250
	<hr/> \$84,488,155	<hr/> 11,316	<hr/> \$6,735,240	<hr/> \$1,298,770
	Stocks in vessels.	Capital at interest.	Licenses.	Polls.
First	\$8,000	\$193,000	\$10,235	669
Second	10,000	542,800	26,775	2,064
Third	692,675	21,445,255	116,565	5,237
Fourth	4,000	4,599,800	29,230	969
Fifth	5,000	1,726,650	27,345	1,123
Sixth .....	....	339,050	14,085	697
Seventh .....	....	226,050	8,600	381
Eighth	313,000	397,150	8,595	384
Ninth .....	....	121,425	6,595	530
Tenth	4,000	221,550	12,690	1,205
	<hr/> \$1,036,675	<hr/> \$29,712,730	<hr/> \$260,715	<hr/> 13,259
Total			\$123,771,540	
Licenses			260,715	
Polls				13,259

TAX ASSESSMENTS OF HAMILTON COUNTY, OHIO.

Below will be found a table showing the value of real and personal property, and total tax levied from the year 1829 to 1859. It was carefully prepared by EDWARD T. LEA, Esq., of the Auditor's office.

It will be seen that the difference in favor of 1859, during the thirty years, is, for real property, \$77,720,830; personal property, \$35,772,775; total value, \$113,493,614; total tax, \$1,933,312 71 :—

Year.	Value of real property.	Value of personal property.	Total value.	Total tax.
1829	\$4,604,017	\$1,410,539	\$6,014,556	\$63,280 02
1835	7,846,666	2,025,678	9,372,339	137,255 10
1841	5,805,450	4,955,040	10,760,494	240,227 80
1847	40,532,750	11,527,796	52,060,546	445,151 91
1853	58,935,950	37,812,829	117,821,629	1,884,433 56
1859	82,324,856	37,183,314	119,508,170	1,996,592 73

FRENCH COINAGE.

In 1849 the mint of Paris coined 91,397,849*l.* in gold, and 80,643,108*l.* in silver. In 1859 the amount struck off was 53,225,846*l.* in gold, and only 5,375,341*l.* in silver. This fact accounts for the great quantity of gold in circulation and the penury of silver coin.

MONTHLY STOCK TABLE.

	1856-1857-1858-59.										-1860.										Nov. 19,	Lowest,	
	End.	Oct. 13. crisis.	End.	End.	End.	Jan.	Feb.	Mar.	Apr.	May.	End of the months.				June.	July.	Aug.	Sept.	Oct.	panic.	Nov. 19,	Dec. 7.	Dec.
United States 5s, 1874	116	117½	112	114	108½	106	107	107½	108½	108	104½	102½	103	102½	103	102½	103	102½	102½	95	96½	99	95
" 6s, 1867-S.	111	89	105	110	103	103	103	103	103	106	106	106	107	107	105	100	100	100	100	100	100	100	
New York 6s, 1867	82½	54	65	85	85½	82½	86½	89	90½	91	92½	90	93	94	92½	85	87	88	87	88	87	87	
California 7s	98	80	90	102½	102	99	99	101	102½	103	102½	102	104	102	102½	98	99	98	99	98	99	99	
Georgia 6s	104	70	87	102	101	98½	102	103	103½	105	103	104	106	106	106	106	106	100	99	99	100	100	
Illinois 6s	83	65	79	91	87	87½	86	88	90	91½	90	89	89	92	90½	90	92	90	92	90	92	90	
Indiana 5s	90½	67	85	95½	94	94	95½	96½	97	97	95	96	97	99	98½	94	94	94	94	94	94	78	
Louisiana 6s	89½	60½	80	90½	83	79½	80½	82½	83½	84	84½	81½	81½	79½	76½	69	69	62½	62½	70	70	70	
Missouri 6s	96½	80	90	98	96	98½	95½	95½	97	97½	95½	96½	99½	98½	92½	75	82	79	77	77	77	77	
North Carolina 6s	105	83	100	107	107	104	107½	106	106	107	104	107	107½	107½	106	103	103	100	100	100	100	100	
Ohio 6s, 1870	84½	82½	84½	95½	93½	98½	94	95½	95½	96½	96½	96½	107	100	98	106	93	95	88½	89½	89½	89½	
Pennsylvania 5s, 1877	94	55	82½	94½	90	86½	88½	90	91½	91½	92½	89½	90½	90½	87	75	76	64½	75	75	75	75	
Tennessee 6s, 1890	94½	67	88½	99½	94	91½	93	93½	92½	93½	94	90	90½	92	85½	77	79	74	78	78	78	78	
Virginia 6s	106	86	94	95	93½	94	93½	99½	x98	100	100½	103	103	103½	103	99	99	98	100	100	100	100	
New York & Erie, 1st mortgage.	97	52	86	86	92	92½	92	93	96½	x96	96½	101½	102½	99½	99½	95	95	91	94	94	94	94	
" " 2d	96½	43	67½	76	79	77	75	76½	84	88½	91½	96	96	101	91½	84	87	83	84	84	84	84	
" " 3d .....	.....	.....	.....	62	50	45	51	55	68	66	68	82	81	87	84	67	73	72	80	80	80	80
" " 4th .....	.....	.....	.....	.....	.....	.....	45	58	59½	65	75	81	80	84	64	70	65	77	77	77	77	77
" " 5th	94½	20	42	45½	25	27½	28	31	39	45	50	51	55	67	63	42	52	46	65	65	65	65	
" " sinking fund.	93	85	91	97	93	95	90½	91½	98½	96	98	99½	95	95½	97	93	95	94	93	93	93	93	
Galena & Chicago, 1st mortgage.	98½	71	96	103½	105	105½	103	103½	104	106	106½	104½	101	106	106	101	102½	100	105	105	105	105	
Hudson River 1st mortgage	97½	51	84	88	84½	88½	88½	91½	88	91	91	95	96½	100½	93	84	86½	83	91	91	91	91	
Illinois Central construction b'ds.	100	50	83½	95	89½	90	94	96½	93½	99	97	97½	100	102	97	86	92	90	94½	94½	94½	94½	
Michigan Central sinking fund 6s.	91	55	75	87½	70	68	75	74	73	84	87	90	87½	87½	85½	76	80	74	73	73	73	73	
Michigan Southern 1st mortgage.	.....	46	63	74½	60	55	56	66	46	71	77	80½	80½	81½	78½	67	72	65	70	70	70	70
" " sinking fund.	85½	C4½	94½	90½	91	91	92	92½	91	93	95½	95	96	97½	97½	90	90	90	91½	91½	91½	91½	
New York Central 6s .....	.....	.....	.....	.....	58	64	65½	73	72½	72½	72½	72	73	65	60	90	55	55	55	55	55	55
Hannibal & St. Joseph bonds	93	55	72	58½	62½	68½	62½	65½	65	69½	70½	78	78½	78	64	51	51½	46½	52	52	52	52	
Chicago and Rock Island.. shares	74½	20½	42	31½	19	20	18½	25½	28½	28½	31	38½	44½	47½	34½	26	26½	20½	81	81	81	81	
Cleveland and Toledo	61½	7½	18	16½	8½	8½	8½	10½	16½	20	18½	24	27	41½	30½	27	29	24	39	39	39	39	
Erie Railroad	118½	52½	70½	71	64½	59½	62½	63½	63½	63½	63½	72½	77½	77½	70½	57½	62	58½	67½	67½	67½	67½	
Galena and Chicago	53½	10	15	32½	33½	24	33	26½	33	39½	38½	44	45	53½	41½	32½	32½	27	34	34	34	34	
Harlem Railroad preferred	30½	9	19	33½	41½	41½	87½	40	41½	47½	48	57½	57	63½	58½	43½	43	36	45	45	45	45	
Hudson River	121	72½	88½	67½	59	57½	57	61	60	62½	63	75	85½	86½	73	53½	57	52½	75	75	75	75	
Illinois Central	88½	8½	19½	20½	6½	6	7½	11	12	11½	18½	18½	20	22½	18½	13½	14½	10½	14½	14½	14½	14½	
Michigan Southern & N. Indiana.	.....	20	33½	47½	17½	14½	16	22	24	25	30½	43½	43½	49½	38	26½	30½	23½	83	83	83	83
" " guaranteed	93½	34½	53	50½	38½	38	36½	44½	48	52½	48½	56½	69	70½	64½	45	48½	41	50	50	50	50	
Michigan Central	93½	52½	74½	84	75	74½	70½	78	78½	81½	81½	88½	83½	90½	82½	72½	71½	69½	76½	76½	76½	76½	
New York Central	97½	60	94½	123	127	131	132	135	144	133½	125½	126½	124	125½	122	106	114	107	111	111	111	111	
Panama Railroad	86½	29½	55½	52½	41½	39½	40½	42½	43	41½	40½	48½	44½	48½	41½	38	34½	30	36½	36½	36½	36½	
Reading	50	66	90½	88	77½	91½	104½	105½	89	89½	86	78	82	92½	70	80	74½	85½	85½	85½	85½	
Pacific Mail Steamship Company.	

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MASSACHUSETTS VALUATION.

The following table shows the valuation, with the tax upon polls at the rate of half a mill each as established by law, for \$1,000, and the residue of the tax upon property :—

	1850.	1860.				
	Valuation.	Polls.	Tax on polls.	Property.	Tax on property.	Total tax.
Suffolk.....	\$217,587,172 00	41,905	\$20 95	\$320,000,000	\$303 46	\$324 41
Essex.....	56,556,466 89	89,779	19 89	84,637,837	80 26	100 15
Middlesex.....	83,264,719 50	51,763	25 88	135,458,009	128 46	154 34
Worcester ...	55,497,794 00	41,320	20 66	75,412,160	71 51	92 17
Hampshire...	13,331,240 00	9,408	4 71	17,737,649	16 82	21 53
Hampden....	22,621,220 77	14,469	7 24	26,252,663	24 90	32 14
Franklin.....	11,211,309 00	8,263	4 13	12,448,961	11 81	15 94
Berkshire	17,197,607 00	12,844	6 42	24,186,962	22 94	29 36
Norfolk.	47,034,521 56	26,826	13 41	86,800,899	82 31	95 72
Bristol.	39,243,560 00	22,481	11 24	63,294,256	62 87	74 11
Plymouth....	19,200,668 00	16,961	8 48	29,160,937	27 65	36 13
Barnstable....	8,897,349 74	8,506	4 25	12,621,201	11 97	16 22
Dukes county.	1,698,005 00	1,199	60	2,908,194	2 76	3 36
Nantucket....	4,595,362 00	1,500	75	3,875,598	3 67	4 42
Total.....	\$597,936,995 46	297,224	\$148 61	\$897,795,326	\$851 39	\$1,000 00

It will be observed that the State valuation of 1860, as above stated, is \$299,858,330 in excess of the State valuation of 1850, which is an increase of about 46 per cent.

The State valuation of 1850 was.....	\$597,936,995 46
City and town valuations of 1857, aggregate.....	824,518,925 18
City and town valuations of 1858, aggregate.....	813,776,483 06
City and town valuations of 1859, aggregate.....	840,923,927 00
State valuation of 1860, as above.....	897,795,326 00

THE GOLD LOAN TO FRANCE.

On the 21st of November, it was announced in London that an arrangement had been made between the Bank of France and the Bank of England, which, it was hoped, would terminate the uncertainties that had recently disturbed the money markets of Paris and London. The *London Times* says that the Bank of France are to have a loan of £2,000,000 of gold from the Bank of England on the security of a deposit of silver to an equal amount. The first remark on this will be, "How can such an arrangement strengthen the position of the Bank of France? It is the drain of specie that has been the serious feature, and no change in the relative proportions of the metals in which their remaining stock of specie exists can operate to mitigate the evil." The matter, however, admits of explanation. The stock of specie shown in the last monthly return of the Bank of France was £17,400,000, against a note of £30,300,000, and these figures in themselves present nothing to excite panic. The fact that the proportion of gold to notes had been rapidly becoming less favorable, demanded prompt attention, but the advance of one per cent. adopted in the rate of discount might have been expected, if gradually followed up by further measures of the same kind, to prove a sufficient corrective. To the surprise of every one, the Bank of France commenced offering a premium for gold, and at the same time entered into onerous terms for obtaining large amounts from this side. A run was stimulated, and all persons were led to infer that the directors saw some imminent

peril in the position of the bank. It then transpired that the eagerness on their part to get gold was not from apprehension that their entire stock of specie might be drawn to a fatally low point, but from the fact that this stock consists mainly of silver, and that hence they were rapidly approaching a condition which would compel them to meet all demands in that metal. This announcement, however, seemed in no way to solve the prevailing perplexities. According to the law of France, where a double standard prevails, they are at liberty to discharge their obligation either in gold or silver, as they may deem expedient, and it was hard to see why they should object to pay in silver upon the exhaustion of their gold, or why, supposing the silver to be of a value beyond its denomination in coin, they should not sell it for gold in the open market, and realize the profit of this difference. The answers are rational. In the first place, if the bank had commenced paying away silver, the common knowledge that this metal has for several years past borne a high premium and been difficult to obtain, would have led to a general rush for it; in the next place, if they had suddenly thrown upon the market a quantity sufficient to provide for their gold requirements, the operation would have been attended with difficulty, and must have been effected at a proportionate sacrifice. Out of these considerations has arisen the resolution to make the application to the Bank of England for a loan of gold against silver, which has just been acceded to, the Bank of England, under their charter, are empowered to hold one-fifth of their specie reserve in that metal, and could now legally take nearly £3,000,000. The arrangement for £2,000,000 is, therefore, amply within the limit. For several years—indeed, since the last importation of rupees from India—they have not held an ounce of silver in their issue department, the depreciation in the relative value of gold consequent upon the Californian and Australian influx, having effectually precluded any such circumstance. It merely remains to remark that a principal reason for believing that the arrangement now concluded will terminate the disturbance in the markets both of Paris and London, consists in the fact that, as there will be no further withdrawals of our bullion on account of the Bank of France, (beyond the simple exchange of one description for another,) the Bank of England will not be under the necessity of advancing its rate of discount, or maintaining it at a point above that of the Bank of France, such as to interfere with the efforts of that establishment to bring about a wholesome contraction. It is not improbable, therefore, that an early lowering of our rate may be witnessed; and this event would tend materially to allay the vague uneasiness in Paris, while the maintenance by the Bank of France of their rate of $4\frac{1}{2}$ per cent, and its advance, if necessary, to 5 per cent, will probably be effectual to prevent any further very important efflux from that country. Of course, the moral still remains, that much of the drain which has now continued with few intermissions for sixteen months is to be regarded as the inevitable result of the scale of national expenditure, but, as has already been observed, that result has not yet assumed proportions beyond remedy. Meanwhile, it is satisfactory to see that the present crisis seems likely to be adjusted by a very simple act of common courtesy on the part of the Bank of England, such as the Bank of France would, as experience has shown, have been prompt on their part to accord to us.

The arrangement above described is to be for any period that may suit the Bank of France.

CUBAN FINANCES.

The total receipts into the royal treasury of the Island for the eight months of the present year add up, according to the official report, \$13,049,081 53½, against \$14,081,191 71½ the same months last year, which is a decrease of \$32,116 15. Of this amount, \$8,440,775 57½ are what are called maritime rents, and \$4,608,305 99½ what are called land rents. The receipts, month by month, as compared with last year, were as follows:—

	Maritime rents.		Land rents.	
	1859.	1860.	1859.	1860.
January.....	\$803,639 09½	\$861,387 31	\$589,551 82	\$555,599 03½
February	1,010,002 78	1,068,784 70	508,810 33½	431,991 52½
March.....	1,156,009 94	1,263,618 84	763,955 83½	679,770 11
April.....	1,061,933 93½	1,169,844 49½	663,396 68½	501,309 23½
May.....	1,215,069 00½	1,131,518 38½	539,991 54½	615,232 25½
June.....	1,059,023 72½	985,838 80½	619,413 62½	596,971 84½
July.....	1,107,192 43½	1,130,073 86½	511,259 05½	522,962 86½
August.....	846,118 57½	829,709 17½	625,823 33	654,469 15½
Total.....	\$8,258,989 48½	\$8,440,775 57½	\$4,882,202 23½	\$4,608,305 99½

SILVER AT THE UNITED STATES MINT.

The Director of the Mint, with the approval of the Secretary of the Treasury of the United States, has arranged with the Adams Express Company for the transportation, free of cost to the shipper, of the old copper cents in sums of \$20 and upward to the Mint, and of the new cents in return to all points in the Atlantic States, accessible by railroad and steamboat, and all other places which can be reached by conveyance not incurring unreasonable expense. Adams Express Company act as agents for forwarding the coins to and exchanging them at the Mint. Each parcel of silver should be securely enveloped and fastened. Enclose the memorandum of the amount and denominations in the package. Put the whole in good transportable order. Seal, mark the value on the outside, direct to the United States Mint, Philadelphia, enclosing your instructions in the package. Silver and copper must not be mingled in the same parcel.

United States Mint Circulars in relation to the purchase of silver bullion for coinage, and in reference to the copper cent, can be had by applying to the money department of the Adams Express Company, in this city.

MINT OF THE UNITED STATES, PHILADELPHIA, October, 1860.

The following are the regulations of the Mint in relation to the purchase of silver bullion for coinage, and the receipt of copper cents of the United States (O. S.) in exchange for cents of the new issues.

The Mint price of silver is one dollar and twenty-one cents per ounce of standard fineness. The silver offered for purchase will be weighed, melted and assayed as usual, and the standard weight determined therefrom in ounces troy to the one-hundredth part of an ounce. The receipt given at the first weighing must be presented by the seller, or his order.

This direction will apply to the several Minting establishments that are authorized to purchase silver for coinage, namely, the Mint at Philadelphia, the Assay Office at New York, the Branch Mint at New Orleans, and the Branch Mint at San Francisco.

The silver purchased for coinage will be paid for in the silver coins of the United States.

For the information of the public it may be stated, that according to the

above rate of purchase, the yield of various classes of coin or bullion will be about as follows :—

Five franc pieces, 96.8 cents each.

Mexican and South American dollars, 105 cents each.

Old Spanish dollars, 103.8 cents each.

Revolutionary or "hammered" dollars (often mistaken for the true Spanish dollars), 100 cents each.

Half dollars of the U. S. coin before 1837, 51.6 cents each.

The same since 1837 to the last change of standard in 1853, 51.9 cents each.

Spanish quarters, 23.2 cents each.

Spanish eighths, 10.8 cents each.

Spanish sixteenths, 5 cents each.

Mexican quarters, 25 cents each.

Quarters dollars are proportionally less productive of premium, while dimes and half dimes, coined before 1837, have lost rather more by wear, on an average, than the premium would make up; those coined since 1837 to 1853 will average a premium of $3\frac{1}{2}$ per cent each on their nominal value.

German crowns, 111.2 cents each.

Swedish, Danish, and Norwegian crowns, 110 cents each.

Old French crowns, 112.5 cents each.

German florins, 41.2 cents each.

Prussian and Hanoverian thalers, 71 cents each.

Fine silver, 134.4 cents per ounce.

American plate, usual manufacture, 119 a 121 cents per ounce.

Genuine British plate, 124.3 cents per ounce.

The old copper cents of the United States are received at their nominal values, in even sums of five dollars and upward, and cents of new issues given in exchange therefor; but no fractional part of that amount will be taken.

The reasonable expenses of transportation of the copper cents to the Mint, and the new cents in return, in sums of twenty dollars and upward, to any point accessible by railroad or steamboat, will be paid by the Mint.

JAMES ROSS SNOWDEN, Director of the Mint.

REAL AND PERSONAL PROPERTY IN INDIANA.

The following statement contains the aggregates of the assessment of real and personal property in Indiana, for the year 1860, which we take from the report of the Auditor of State :—

Number of acres.....	21,867,641
Value of lands without improvements.....	\$219,661,783
Value of improvements.....	55,491,249
Value of lands and improvements.....	275,153,032
Value of town lots and improvements.....	47,473,326
Total value of railroad assessment.....	6,619,342
Other corporation stock.....	1,819,246
Other personal property.....	122,944,432
Total valuation.....	455,011,378
Number of polls.....	208,098

On the above stated amount of property and number of polls, there are levied the following amounts of taxes :—

State tax.....	\$659,159 12
County tax.....	1,192,437 95
School tax.....	536,044 86
Road tax.....	338,847 81
Township tax.....	141,641 21
Sinking fund tax.....	88,736 88
Railroad tax.....	41,339 92
Other corporation tax.....	607,721 99
Total amount of taxes for 1860.....	3,768,426 87
Delinquent tax.....	702,699 64
Total amount of taxes.....	4,471,126 51

STATISTICS OF TRADE AND COMMERCE.

FOOD AND FOREIGN MARKETS.

We present, from an official report to Congress, a tabular statement of the foreign export of breadstuffs and provisions for each fiscal year since July 1, 1841, to which we add the values of tobacco, cotton, and rice for the same period of twenty years :—

	Breadstuffs and provisions.	Tobacco.	Rice.	Cotton.
1841.....	\$17,196,102	\$12,576,703	\$2,010,107	\$54,330,341
1842.....	16,902,876	9,540,755	1,907,387	47,593,464
1843.....	11,204,123	4,650,979	1,625,726	49,119,806
1844.....	17,970,135	8,397,255	2,182,468	54,063,501
1845.....	16,743,421	7,469,819	2,160,456	51,739,643
1846.....	27,701,921	8,478,270	2,564,991	42,767,301
1847.....	68,701,121	7,242,086	3,605,896	53,415,848
1848.....	37,472,751	7,551,122	2,331,824	61,998,294
1849.....	38,155,507	5,804,207	2,569,362	66,396,967
1850.....	26,051,973	9,951,023	2,631,557	71,984,616
1851.....	21,948,651	9,219,251	2,170,927	112,315,317
1852.....	25,857,027	10,031,283	2,470,029	87,965,732
1853.....	32,985,322	11,319,319	1,657,658	109,456,404
1854.....	65,941,323	10,016,046	2,634,127	93,597,220
1855.....	38,895,348	14,712,468	1,717,953	88,143,844
1856.....	77,187,301	12,221,843	2,390,233	128,382,351
1857.....	74,667,852	20,662,772	2,299,400	131,575,859
1858.....	50,683,285	17,009,767	1,870,578	131,886,661
1859.....	38,305,991	21,074,038	2,207,148	161,434,923
1860.....	45,271,850	15,906,547	2,567,399	191,806,555

Some idea of the relative importance of these articles may be formed from the following recapitulation for twenty years :—

Breadstuffs and provisions.....	value	\$749,843,280
Tobacco.....		223,835,553
Rice.....		45,566,224
Cotton.....		1,789,473,687
Total.....		\$2,808,718,744

Twenty-eight hundred and eight millions in twenty years, of which one-fourth is breadstuffs and provisions!

The value of breadstuffs and provisions exported abroad has been greater in previous years than in the past, but in the present fiscal year ending 30th June, 1861, will probably exceed largely the value of any former year.

From the 1st of September up to the middle of January the export was as follows :—

	Flour, bbls.	Wheat, bu.	Corn, bu.
1859.....	203,997	394,397	.....
1860.....	1,116,681	12,392,412	2,697,880

This gives for the four-and-a-half months a value of \$26,000,000, against \$1,600,000 in the previous year.

In the year 1860, now closed, the market value of wheat, flour, and corn fluctuated materially. The lowest price for wheat was in December—98 cents; and the highest in October—\$1 35. For shipping flour the range was from \$4 50 to \$5 30; for corn, 58 to 80 cents. In the rates of freight to England, the fluctuations were still greater, ranging from 1s. 6d. (thirty-five cents) to 3s.

6d., or about eighty-six cents. The following table shows these fluctuations for each month in the year 1860 :—

LOWEST AND HIGHEST PRICES EACH MONTH OF 1860, OF WHEAT, FLOUR, AND CORN, AND THE FREIGHT (IN STERLING) FROM NEW YORK TO LIVERPOOL.

	Wheat.		Flour.		Corn.		St'g freight to Liverpool.	
	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.	Lowest.	Highest.
January.....	\$1 12	\$1 26	\$5 10	\$5 55	none	none	1s. 9d.	2s. 3d.
February.....	1 15	1 25	5 10	5 50	none	none	2 0	2 3
March.....	1 18	1 30	5 25	5 65	70c.	78c.	1 9	2 3
April.....	1 17	1 35	5 25	5 65	70	85	1 9	2 3
May.....	1 17	1 33	5 15	5 70	60	80	1 10	2 6
June.....	1 18	1 35	5 15	5 65	60	68	1 6	2 0
July.....	1 14	1 33	5 15	5 60	60	66	2 3	2 6
August.....	1 15	1 33	5 15	5 80	60	68	2 3	3 6
September.....	1 14	1 33	5 30	6 20	65	70	3 6	4 0
October.....	1 14	1 35	5 40	5 70	68	72	3 0	3 8
November.....	1 05	1 32	4 50	5 65	64	72½	3 0	4 3
December.....	0 98	1 28	4 50	5 65	58	72	2 9	3 6

In the year 1858 the English markets were supplied with 14½ per cent only of wheat from the United States, but in 1860 the proportion exceeded 21 per cent. Annexed is a statement of the exact proportion per cent contributed from the various countries of the world to Great Britain during the last three years. In estimating the effect of the several variations, the great difference in present prices compared with those of 1858 and 1859 must be particularly borne in mind :—

WHEAT—TOTAL IMPORTATION INTO GREAT BRITAIN.

	1858.	1859.	1860.
Quarters.....	3,988,528	3,729,316	5,015,236
	Per cent.	Per cent.	Per cent.
Russia.....	13	21½	24
Prussia.....	15½	18½	21½
Denmark.....	7	7	4½
Mecklenburg.....	2½	3	3½
Hanse Towns.....	4	1½	3
France.....	19	29½	9
Turkey, Wallachia, and Moldavia.....	5	1½	3
Egypt.....	10½	10	3½
United States.....	14½	½	21½
Other countries.....	8½	6½	6½
Total.....	100	100	100

As regards flour, the changes have been yet more remarkable, nearly the whole of the English supply last year having been obtained from France, while, on the present occasion, that country figures for a smaller total than the United States, whence, in 1859, the arrivals were insignificant :—

FLOUR—TOTAL IMPORTATION INTO GREAT BRITAIN.

	1858.	1859.	1860.
Hundred weight.....	3,652,725	3,130,937	4,327,639
	Per cent.	Per cent.	Per cent.
Hanse Towns.....	4	6½	5½
France.....	41½	84½	37½
United States.....	47½	4	41½
Other countries.....	7	5	16
Total.....	100	100	100

UNITED STATES COFFEE CONSUMPTION.

The annexed tables of the New York *Shipping List* gives the consumption of coffee in the United States, taken from the ports as follows, for three years :

CONSUMPTION OF THE PORTS.

	1860.	1859.	1858.
New York.....lbs.	63,523,547	74,732,632	92,690,997
New Orleans	47,380,325	55,238,360	64,528,420
Baltimore.....	28,257,480	35,967,870	41,390,800
Philadelphia.....	15,431,985	30,464,718	27,694,252
Boston.....	9,828,549	12,052,220	12,717,528
Other ports.....	13,108,736	15,427,050	12,223,102
Total.....	177,530,623	223,882,850	251,255,099
Total, 1860		177,530,623	
Decrease.....		46,352,227	

In the above statement of consumption, we have included only the direct receipts at the ports, the coastwise receipts being embraced in the calculation at the port of original entry.

Comparing the receipts and consumption for many years, the results are as follows :—

	Receipts.	Consumption.		Receipts.	Consumption.
1860..lbs.	185,779,689	177,530,623	1854....	182,473,853	179,481,083
1859....	248,527,306	223,882,850	1853....	193,112,300	175,687,790
1858....	227,656,186	251,255,099	1852....	205,542,855	204,991,595
1857....	217,871,839	172,565,934	1851....	216,043,870	181,225,700
1856....	230,913,150	218,225,490	1850....	152,580,310	134,539,730
1855....	238,214,533	218,378,287			

Included in this statement is the quantity withdrawn from our markets and forwarded inland to Canada and the British Provinces. We are unable to ascertain the exact amount, but it does not vary greatly from 2,500,000 pounds.

The consumption per head in 1860 seems to have been $5\frac{1}{2}$ lbs., and in 1850, 6 lbs., showing a decline in quantity; but the value per pound of Brazil has been in the last year 13.69 cts., and in 1850, 8 cts., hence the value per head was then 48 cts. per annum, and in the past year, $75\frac{1}{2}$ cts. The quantity taken for consumption in the past year has been much less than in the ten previous ones, of which the average was $7\frac{1}{2}$ lbs. per head per annum. The high price evidently reduced the consumption.

SHOE TRADE OF MASSACHUSETTS.

The *Shoe and Leather Reporter* gives the annexed interesting tables of the export of shoes from Boston, remarking :—This table, as well as our weekly reports of the shipments, has been prepared with great care, but it is proper to state that the entries of the railroad clerks are sometimes so illegible that a shipment may be set down to the wrong place. In some cases, especially in shipments to distant points, the freight is consigned to intermediate places and reshipped. A few shippers by sea, also, especially to New Orleans and other Southern ports, are fond of making their entries as merchandise, instead of boots and shoes, though in the latter case we sometimes have means of discovering the nature of the goods. Through these various causes, slight errors have undoubtedly crept into the table, but in the main it will be found correct :—

SHIPMENTS OF BOOTS AND SHOES FROM BOSTON TO THE DIFFERENT STATES, OUTSIDE OF
NEW ENGLAND, FOR THE YEAR 1860.

Destination.	1st quarter.	2d quarter.	3d quarter.	4th quarter.	Total.
Alabama.....	1,194	762	1,950	710	4,616
Arkansas.....	371	315	1,187	327	2,000
California.....	14,161	11,200	6,205	11,841	43,407
Delaware.....	113	....	....	....	113
Florida.....	19	5	30	...	54
Georgia.....	2,069	810	1,879	1,356	6,084
Illinois.....	7,753	6,790	15,610	9,306	39,459
Indiana.....	3,070	2,018	7,607	3,247	15,942
Iowa.....	1,523	895	2,989	1,657	7,061
Kansas.....	407	474	409	45	1,425
Kentucky.....	10,069	2,942	14,719	2,748	30,478
Louisiana.....	9,907	6,848	12,405	4,767	33,937
Maryland.....	16,749	3,836	19,927	7,699	48,211
Michigan.....	796	1,367	2,227	1,810	6,200
Mississippi.....	1,692	229	808	117	2,846
Minnesota.....	31	264	457	532	1,324
Missouri.....	18,310	5,535	22,400	4,449	50,694
New Jersey.....	5	...	....	....	5
New York.....	62,423	31,822	60,558	27,323	182,126
New Mexico.....	....	50	281	....	331
North Carolina.....	67	69	120	204	457
Ohio.....	13,262	8,667	25,795	10,395	58,020
Pennsylvania.....	18,616	8,880	24,658	6,304	38,458
South Carolina.....	11,947	1,680	7,734	2,355	23,016
Tennessee.....	6,352	1,074	6,050	669	14,145
Texas.....	758	130	907	307	2,002
Virginia.....	2,533	1,210	5,348	2,114	11,205
Wisconsin.....	471	538	3,225	2,869	7,103
Uncertain.....	8	....	1,033	84	1,125
Total.....	204,686	98,420	246,649	103,292	653,047

SHIPMENTS OF BOOTS AND SHOES FROM BOSTON TO FOREIGN MARKETS DURING THE
YEAR 1860.

Destination.	1st quar.	2d quar.	3d quar.	4th quar.	Total.
Buenos Ayres.....	...	...	...	310	340
Cape Town, South Africa.....	...	...	56	...	56
Charlottetown, East Indies.....	...	25	14	10	49
Constantinople.....	...	...	263	...	263
Cuba.....	...	1	46	37	87
Halifax, N. S.....	207	95	86	154	602
Hamilton, C. W.....	84	41	157	72	354
Hayti.....	...	...	...	1	1
Hong Kong, China.....	...	...	...	41	41
Honolulu, S. I.....	11	...	...	...	11
London, C. W.....	124	5	11	12	152
Melbourne, Australia.....	1,080	973	822	965	3,840
Miramichi, N. B.....	...	45	...	...	45
Monrovia.....	...	...	...	1	1
Remedios, N. G.....	...	3	...	...	3
Richebucto, N. B.....	...	13	...	...	13
St. Johns, N. B.....	24	8	...	...	32
St. Thomas, W. I.....	...	10	15	8	33
Simcoe, C. W.....	...	15	...	...	15
Sidney, New South Wales.....	...	50	...	...	50
Toronto, C. W.....	448	12	90	23	613
British Provinces, (various places)....	6	30	...	84	120
Total.....	2,084	1,329	1,560	1,748	6,721

It will be seen that the table gives at a glance the shipments for each quarter to every State south and west with which a direct trade of any consequence is established. The various unfavorable influences, political, financial, and otherwise, which have of late borne upon the business with such deplorable effect, will be found recorded among the figures in characters not to be mistaken.

The number of cases shipped to domestic markets was 653,047. Comparing with previous years, the total presents 64,944 cases less than in 1859, and but 3,047 more than our computation for 1858—a year looked upon as peculiarly unfortunate in the shoe trade. The shipments by quarters for the last two years are as follows:—For 1859—first quarter, 215,336; second quarter, 136,612; third quarter, 260,329; fourth quarter, 105,714. For 1860, they were for the first quarter, 204,686; second quarter, 98,420; third quarter, 246,649; fourth quarter, 103,292; showing a loss in each respectively of 10,650; 38,192; 13,680; and 2,422.

Of domestic cities, New York received during the past year by far the greatest number of cases, amounting to 168,957, or more than one-fourth of the whole. Another fourth was thus distributed: 48,211 cases to Baltimore, 43,526 to Cincinnati, 55,698 to Philadelphia, and 43,244 to San Francisco. There were sent to St. Louis, 46,945 cases; to New Orleans, 33,685; to Chicago, 24,960; to Charleston, 23,845; to Louisville, 26,369; to Cleveland, 8,053; to Nashville, 8,040; to Norfolk, 6,208. From 3,000 to 5,000 cases were shipped to each of the following: Detroit, Memphis, Milwaukee, Savannah, and Richmond, and from 1,000 to 3,000 each to Albany, Alton, Ill., Buffalo, Burlington, Ia., Columbus, O., Dayton, O., Dubuque, Ia., Evansville, Ind., Galena, Ill., Galveston, Tex., Indianapolis, Ind., Keokuk, Ia., Lafayette, Ind., Lexington, Ky., Madison, Ind., New Albany, Ind., Paducah, Ky., Pittsburg, Pa., Rochester, N. Y., St. Josephs, Mo., and Toledo, O. Thirteen other places received from 500 to 1,000 cases each, and one hundred and eight places from 100 to 500 cases each. The remaining 259 places received from 20 to 100 cases each. The whole number of cases shipped to the Southern States was 182,634; to the Middle States, 288,913; to the Western States, 180,099, and to the Territories, 331; uncertain, 1,125.

The foreign shipments, which are comparatively of trifling importance, amounted during the last year to 6,680 cases, an increase of 1,602 over 1859; 3,840, more than one-half of them, were sent to Australia. Nearly all the remainder went to the British Provinces in North America, to Constantinople, and to Buenos Ayres, leaving a few to be scattered among the West India Islands.

Adding to all these an allowance of 25,000 cases for the New England trade, illegible entries, etc., we may estimate the whole number of sales from Boston during the year, in round numbers, at 685,000 cases, which, at an average value of \$45, would be worth \$31,000,000.

GRAIN AT CHICAGO.

From an able and complete review of the trade of Chicago for the past year, published in the *Chicago Tribune*, we copy the following tables:—

The total receipts of flour and grain during the past year, as will be seen from the tables which follow, amount to 36,504,772 bushels. The grain alone

foots up 33,004,742 bushels, which is more than double the receipts of 1859. and 10,000,000 more than was ever received in this city in any previous year of our history.

The shipments during the past year amount to 31,459,697 bushels, of which 27,890,002 bushels were of grain alone.

The following tables show the items, separately compared with the figures of former years :—

TOTAL RECEIPTS OF FLOUR AND GRAIN FOR FOUR YEARS.

	1857.	1858.	1859.	1860.
Wheat.....bushels	10,554,761	9,761,326	8,184,746	14,568,429
Corn.....	7,409,130	8,260,033	5,410,003	15,487,966
Oats.....	1,707,245	2,285,322	1,813,048	2,029,906
Rye.....	87,911	70,081	228,179	295,436
Barley.....	127,689	411,421	662,187	623,005
Total.....	19,886,536	20,798,133	16,298,163	33,004,742
Flour into wheat.....	1,960,670	2,624,575	3,710,060	3,500,080
Total.....	21,856,206	23,422,708	20,008,223	36,504,772

SHIPMENTS OF ALL KINDS OF GRAIN FOR THE PAST FOUR YEARS.

	1857.	1858.	1859.	1860.
Wheat.....bushels	9,485,052	8,727,838	7,266,553	12,487,634
Corn.....	6,814,615	7,493,212	4,127,654	13,943,172
Oats.....	416,778	1,498,134	1,174,177	1,039,779
Rye.....	.....	7,560	131,449	129,156
Barley.....	17,993	127,008	478,162	290,211
Total.....	16,734,438	17,853,761	13,178,995	27,890,002
Flour to wheat.....	1,298,240	2,181,405	3,484,800	3,566,695
Total.....	18,032,678	20,035,166	16,668,795	31,456,697

WOOL.

The circular of BOND & Co., of Boston, gives the comparative table of imports of wool at Boston as follows :—

	1856.	1857.	1858.	1859.	1860.
England.....lbs.	41,395	3,126,883	1,162,803	1,971,852	939,629
Buenos Ayres.....	1,883,125	3,260,011	1,643,857	3,620,167	2,775,277
Turkey.....	2,505,590	5,241,082	2,011,792	2,881,283	2,913,882
France.....	33,691	507,236	22,053	1,056,695	346,336
Cape of Good Hope.....	570,740	2,506,716	1,984,372	4,454,590	5,624,976
Brazil.....	32,458	5,496	.....	3,802	.....
Peru and Chili.....	2,211,467	3,045,440	3,578,446	2,883,641	2,238,192
British Provinces.....	4,619	2,191	13,252	14,694	9,742
Dutch West Indies.....	.....	.....	.....	.....	1,942
Malta.....	142,722	293,023	.....	97,009	.....
Tuscany, etc.....	.....	.....	58,500	.....	.....
East Indies.....	.....	281,026	64,213	771,790	241,429
Austria.....	.....	107,771	.....	.....	.....
Spain.....	.....	74,451	.....	378,078	393,751
Russia.....	.....	356,084	.....	63,539	.....
Sandwich Islands.....	.....	2,440	9,805	.....	.....
Northern Africa.....	.....	131,281	.....	387	.....
Sundries.....	.....	.....	1,751	29,851	13,467
Total.....	8,425,807	17,948,881	10,550,549	18,177,378	15,298,394

PRICES OF BILLINGS' SUPER PULLED, JANUARY 1.

1856.....	42½c.	1858.....	32½c.	1860.....	50c.
1857.....	50	1859.....	50	1861.....	40

STOCK OF DOMESTIC WOOL.

		Fleece.	Pulled.
In Boston.....	lbs.	2,000,000	700,000
In United States.....		7,000,000	2,000,000

The demand for woolen goods being brisk, the wool trade continued active until checked by the unexpected scarcity of money, caused by political troubles, early in November; since then it has remained stagnant until the close of the year. During the present month there have been considerable sales at about our quotations, some forced sales at even lower rates.

COTTON IMPORT, EXPORT, AND CONSUMPTION IN GREAT BRITAIN.

	1860.	1859.	1858.
Imported from United States.....bales	2,582,000	2,098,000	1,863,000
“ Brazil	102,000	118,000	106,000
“ West Indies.....	10,000	7,000	7,000
“ Egypt	110,000	100,000	106,000
“ East Indies.....	563,000	511,000	361,000
Total import.....	3,367,000	2,829,000	2,443,000
Export.....	609,000	437,000	348,000
Stock, December 31	595,000	470,000	372,000
Consumed during the year.....	2,632,000	2,294,000	2,174,000
Average weekly consumption	40,615	44,115	41,820
Price for New Orleans middling, June 30 ..	6½d.	6¾d.	7d.
“ “ “ Dec. 31....	7¾d.	6¾d.	7d.
Taken by speculators.....	536,900	370,000	547,000
United States crop.....	4,676,000	3,851,000	3,114,000
Consumed in United States.....	810,000	700,000	496,000
Average weight of bales.....lbs.	428	423	412
	1860.	1859.	1858.
Stock, Dec. 31.....	383,000	301,000	265,000
“ “ all sorts.....	545,000	442,000	349,000
Import	3,172,000	2,709,900	2,335,000
Export	531,000	383,000	288,000
Consumption	2,537,000	2,227,000	2,131,000
Expected from United States.....	150,000	250,000	105,000
“ East Indies....	65,000	85,000	45,000

MOLASSES.

The consumption of molasses in the United States has been, according to the tables in the *New York Shipping List*, for several years as follows:—

TOTAL CONSUMPTION IN THE UNITED STATES.

	Foreign & domes.	Foreign.		Foreign & domes.	Foreign.
1860.. galls.	47,318,817	28,724,205	1854.. galls.	56,493,019	24,437,019
1859.....	54,260,970	28,293,210	1853.....	55,536,821	23,576,821
1858.....	45,169,164	24,795,374	1852.....	48,257,511	29,417,511
1857.....	28,508,784	23,266,404	1851.....	43,048,018	33,238,278
1856.....	39,608,878	23,014,878	1850.....	37,019,249	24,806,949
1855.....	47,266,085	23,533,423			

The statistics presented above show that the total receipts of foreign molasses into the United States for the year ending December 31, 1860, were 31,126,015 gallons, against total receipts in 1859 of 28,960,175 gallons, and the consumption of foreign descriptions was 28,724,205 gallons, against a consumption in 1859 of 28,293,210 gallons, while the total consumption of foreign and domestic in 1860 was 47,318,877 gallons, against a total consumption in 1859 of 54,260,070 gallons, showing an increase in the consumption of foreign of 430,995 gallons, or over $1\frac{1}{2}$ per cent, but a decrease in the consumption of all kinds of 6,942,093 gallons, or nearly 13 per cent.

The receipts and consumption of foreign in 1860 were much larger than before in several years, owing to the crop of domestic of 1859-60 being considered below an average yield. The crop of Louisiana, etc., now coming forward, it is estimated, will not be any larger than the previous season, and very probably will be considerably less. Of the receipts into the country the past year, about 60,000 hlds. have been taken by sugar refiners, 50,000 by distillers, and the remainder has been distributed among the trade, exporters, etc.

THE STEAM MARINE OF BOSTON.

The report of the Boston Board of Trade refers to the increase of Steam coast navigation made by the merchants of that city. The Merchants' and Miners' Transportation Company have four first-class side-wheel-steamships, from ten to twelve hundred tons each, constantly employed. Three, with little variations, have plied between Boston, Norfolk and Baltimore, and the other between Boston, Baltimore and Savannah. These lines have materially increased the trade between us and the Southern ports above mentioned. And as the Company run their ships without insurance, and have escaped serious accidents, their business, under prudent management, has been moderately profitable.

During the past year, the proprietors of the line between Boston and Philadelphia have added the new steamer Cambridge, of 850 tons, which, with the Kensington and Phineas Sprague, of about 1,000 tons each, afford in the aggregate a freighting capacity of 20,000 barrels. One of these vessels leaves port every five days. The efficiency of this line for more than eight years, together with its valuable Southern and Western connections, *via* the Pennsylvania Railroad, by steamer to Richmond, and thence by Southern railroads, have justly commended it to public favor.

Within a few months, the new steamer Pembroke, of about 240 tons, has been added to the means of communication with the eastern part of Maine. This vessel is intended to ply regularly between Boston, Eastport and Pembroke, in winter as well as in summer. Her steam power is ten miles the hour, and with the help of sails she performs a passage in twenty-five hours. She is very burthensome—carrying more than her tonnage—has proved herself a superior sea-boat, and, in the words of a large owner, "will run more economically as regards coal than any steamer now known." She belongs to an incorporated company, but seven-eighths of the stock is held in that city, and principally by WILLIAM E. COFFIN & Co.

The house of ALPHENS HARDY & Co., are the pioneers here, and, as far as we are informed, in the United States, in the introduction of steam in the Mediter-

ranean fruit trade. Their clipper, *Young Rover*, of 400 tons, is a very superior vessel. She is completely rigged as a bark, with auxiliary steam power, which will be used in passing the Straits of Gibraltar, in head winds or calms. Good judges pronounce that she is "of a very handsome model," of great strength, and "finished in the first style of workmanship."

The Southern Steamship Company originated in this Board last year; and the iron screw steamers *Massachusetts* and *South Carolina*, of about 1,150 tons each, were placed on the route between Boston and Charleston, in June and July. The line is appreciated by the business men of both cities; both vessels have proved efficient, and have performed their trips with singular regularity.

On the first of August, 1859, the Government of the Board appointed a committee to inquire into the expediency of establishing a line to New Orleans; and on the 30th of May, 1860, the friends of the enterprise organized by the name of the Union Steamship Company. The capital stock was 400,000 dollars, and the right of navigation was limited to Boston, New Orleans, and the ports on the Gulf of Mexico; but, by an additional act, the capital has been increased 300,000 dollars, and the ports of Cuba have been included in the route. The Building Committee of the Company invited proposals for the construction of two first-class iron screw steamships, of about 2,000 tons each; one to be completed in September, and the other in November, of the present year.

LUMBER TRADE OF ALBANY FOR 1860.

A large amount of common pine was received from Michigan and Wisconsin, when usually only the better qualities are sent this way. The receipts for the year have been about ten millions of feet of boards and scantling more than in the previous year, and the total amount, 301,022,600 feet, is a larger quantity than has been received at any other market.

The following table exhibits the receipts at Albany during the years named:—

	Boards and scantling, ft.	Shingles, M.	Timber, C. ft.	Staves, lbs.
1850	216,791,890	34,226	28,832	150,515,280
1851	260,288,620	34,136	110,200	115,087,290
1852	317,135,620	31,636	291,714	107,961,289
1853	393,726,073	27,586	19,916	118,666,750
1854	311,571,151	24,003	28,909	135,805,091
1855	245,921,652	57,210	24,104	140,255,285
1856	223,345,545	36,899	14,533	102,548,492
1857	180,097,629	71,004	85,104	153,264,629
1858	267,406,411	31,823	119,497	135,011,817
1859	291,771,762	48,756	70,381	114,570,503
1860	301,022,600	41,222	46,888	148,735,369

VALUE.

	Boards & scantling.	Shingles.	Timber.	Staves.
1850	\$3,251,878	\$119,791	\$4,325	\$677,319
1851	4,119,568	121,524	19,010	546,655
1852	5,496,960	110,726	52,509	567,418
1853	6,299,617	99,585	3,386	569,600
1854	4,985,139	86,891	6,649	611,123
1855	4,426,589	228,840	4,854	631,149
1856	3,573,529	129,147	2,616	461,468
1857	2,881,560	248,515	15,218	689,691
1858	4,412,205	111,383	20,314	540,047
1859	4,887,177	170,646	11,965	458,282
1860	5,042,128	144,277	7,971	594,942

CHICAGO AND ITS EXPORTS.

The Chicago *Tribune* publishes a tabular statement of the exports of that city in flour, grain, and provisions, and other leading country products, during 1860. We append the table:—

	Amount.	Rate.	Value.
Flour.....bbls.	713,339	\$4 50	\$3,210,025 50
Wheat.....bush.	12,478,684	87	10,864,285 08
Corn.....	13,743,172	45	6,184,427 40
Oats.....	1,039,779	26	270,341 54
Rye.....	129,156	64	82,659 84
Barley.....	290,211	52	150,909 72
Seeds.....	117,538	2 80	330,845 40
Broom Corn.....tons	2,585	85 00	219,725 00
Highwines.....bbls.	57,617	7 25	417,723 25
Alcohol.....	3,883	16 38	63,703 54
Live hogs.....No.	133,612	12 00	1,603,344 00
Dressed hogs.....	22,672	12 00	272,084 00
Beef cattle.....	104,122	30 00	3,123,660 00
Pork.....	80,095	17 00	1,361,676 00
Beef.....	84,414	9 00	579,726 00
Cut meats.....lbs.	19,074,377	7	1,335,206 39
Provisions (not classified).....bbls.	2,025	13 00	26,325 00
Lard.....lbs.	9,150,899	11	1,006,598 89
Tallow.....	2,858,944	9½	295,424 21
Butter.....	1,697,311	12	203,677 32
Hides.....	11,609,345	10	1,160,934 50
Wool.....	733,755	40	303,502 00
Mill stuffs.....tons	906	10 00	9,060 00
Lead.....lbs.	12,114,268	5	605,708 40
Hay.....tons	1,312	10 00	13,120 00
Eggs.....bbls.	4,750	5 75	28,312 50
Poultry, game.....lbs.	94,844	10	9,484 40
Total value in 1860.....			\$33,787,489 88
Total value in 1859.....			24,280,890 47
Total value in 1858.....			19,928,495 83

The same paper states that a considerable export trade, under the general head of "merchandise," is not included in the foregoing exhibit. The excessively high rates of freight, also, are said to have reduced the aggregate about one sixth.

EXPORTS OF FLOUR AND GRAIN FROM LAKE MICHIGAN IN 1860.

The following table shows the total shipments of flour and grain from Michigan ports during the year 1860:—

TOTAL EXPORTS OF FLOUR AND GRAIN FROM LAKE MICHIGAN IN 1860.

	Flour.	Wheat.	Corn.
Chicago.....bush.	713,339	12,487,684	13,943,172
Milwaukee.....	235,712	8,161,982	114,444
St. Joseph.....	.....	25,000	.....
Waukegan.....	.....	170,000	.....
Kenosha.....	1,460	279,203	.....
Racine.....	10,871	852,951	.....
Port Washington.....	6,765	31,410	.....
Sheboygan.....	27,222	78,752	.....
Manitowoc.....	5,000	30,000	.....
Green Bay.....	36,187	109,941	.....
Total.....	1,033,146	22,227,923	14,057,616

The figures for Milwaukee are the receipts of grain and flour.

A YEAR'S TRADE OF GREAT BRITAIN.

The annual statement of our foreign and colonial trade and of navigation shows that in the year 1859 the American continent, with Cuba and the West Indies, took £40,000,000 of our produce and manufactures; and India, Singapore, and Ceylon, with Australia and China, took £37,000,000 more. To these great countries we disposed of nearly £30,000,000 of our cotton goods and yarn out of the whole £48,000,000 exported. The United States took £4,600,000 of our cotton goods, £4,476,000 of our woollens, £2,160,000 of linens, and £1,568,000 of apparel and haberdashery; India, including Singapore, took £14,290,000 of cotton goods and yarn, China only £3,190,000, and £700,000 of woollens; Australia, £1,870,000 of apparel and haberdashery, £790,000 of cottons, and £765,000 of woollens. For our iron we find our principal market in the United States (£3,000,000), and also for our tin (plates) and our hardwares (above £1,000,000 of each); for our leather and saddlery in Australia (£1,000,000); for our agricultural implements in Australia and in Russia; for beer in India (£777,378) and Australia (£660,358); for butter in Australia (£342,914); for earthenware in the United States (£600,000). The exports of our produce to Australia, £4,000,000 in 1852, were £11,000,000 in 1859, and those to India have doubled since 1855; to the United States they were not £12,000,000 in 1849, they were above £22,000,000 in 1859; to China, £1,537,000 in 1849, £4,457,000 in 1859. To New Zealand we sent £632,907 worth of our produce in 1859, not far from double what we sent only three years before. Our exports to the whole world made no progress in the year 1859. In most European countries the demand for our produce was slack. France took less upon the whole than in the previous year, though her demand for some articles increased. She took no less than 1,391,000 tons of coal, and £493,083 worth of copper. There was a considerable increase, however, in our trade with Sweden, Norway, and Denmark; and Russia took more of our produce by nearly £1,000,000, raising her demand for machinery to £1,000,000, and for iron to £1,200,000. Our entire imports for 1859 (£179,182,355) were not far from £15,000,000 above those of the previous year, and our exports (our own produce £130,411,529, foreign and colonial produce, £25,281,446—in all, £155,692,975) were £16,000,000, above those of the previous year; and it must be borne in mind that the returns of the value of our imports include freight, the exports do not. In conducting this trade 26,520 visits were paid to our ports by British vessels, and 22,351 by foreign. The totals require such figures to express them as were never until now employed to set forth a year's trade of a nation. The world beyond the seas, civilized and uncivilized, sent to our shores on an average every day merchandise of the value of nearly £500,000, and to bring it to us nearly 1,000 ships came into our ports every week. Our exports of produce and manufactures of the United Kingdom in the short space of eight years, 1852-59, have exceeded in value the capital of the national debt. In ten years they have doubled; in 1849 they were £64,000,000, in 1859 they were £130,000,000. The enormous progress of some of our colonies and possessions of late years has more than restored the proportions sent to foreign countries and to British possessions to what they were twenty years ago—two-thirds and one-third; in 1840 foreign countries took £34,000,000, and British possessions £17,000,000; and in 1859 foreign countries took £34,000,000, and British possessions £46,000,000. The exports of our produce in 1859 amounted to about £4 10s. per individual inhabitant of the kingdom; twenty years ago they were not £2, and ten years ago they were not £3.—*London Times*.

LUMBER SURVEY AT BANGOR.

The amount of lumber surveyed at Bangor the present year, to December 1, was 200,391,526, exceeding that for the same time last year by 24,000,000 feet.

NAUTICAL INTELLIGENCE.

AMERICAN NAVAL ARCHITECTURE.

The iron steamship "Wm. G. Hewes," says the *Scientific American*, is one of the largest iron steamships ever built in this country. She was launched on the 15th of December, in the presence of 5,000 people. Her hull was built by Messrs. HARLAN, HOLLINGSWORTH & Co., of Wilmington, Delaware. Her machinery was constructed by the Morgan Iron Works, of New York city. The route of her intended service is from New Orleans to Galveston. For strength and beauty of model, this steamer cannot be surpassed. We append full and correct particulars of her hull and machinery:—

Length on deck, 239 feet 4 inches; length at load line, 239 feet; breadth of beam (molded,) 33 feet; depth of hold, 10 feet; depth of hold to spar deck, 18 feet; draft of water at load line, 9 feet: area of immersed section at the above draft, 270 square feet; displacement at load line, 1,253 tons; tonnage, 1,477.45 tons.

Her frame is of wrought iron bars, 4 inches by 1 inch and 4 inches by $\frac{7}{8}$ of an inch in thickness, which are fastened with keepers $3\frac{1}{4}$ inches by $\frac{3}{8}$ of an inch thick, every 12 inches, together with rivets $\frac{3}{4}$ of an inch in diameter. Distance of frame apart from centers, 16 inches; they are molded 4 inches and sided 1 inch. Number of strakes of plate, from keel to gunwale, 16; thickness of plates, one-half to eleven-sixteenths of an inch. There are 14 cross floors, shaped T; depth of these, 18 inches; thickness, nine-sixteenths and one-half of an inch, forming belts with angle iron on top, six of them continuing up to guard deck clamp, and the balance to main deck lodger. Shape of keel, U; constructed of double plates, $\frac{5}{8}$ and $\frac{1}{2}$ of an inch in thickness; depth of same, 6 inches. There are 10 fore-and-aft keelsons, 18 inches high and shaped, T; these are capped with angle iron, continuing from end to end.

The Wm. G. Hewes is fitted with one vertical beam condensing engine; number of cylinders 1; diameter of same, 50 inches; length of stroke of piston, 11 feet; length of engine room, 76 feet; diameter of water wheels over boards, 30 feet; length of wheel blades, 7 feet 6 inches; width of blades, 7 feet 6 inches; depth of blades, 1 foot 8 inches; number, 26; material, iron; dip of wheels at load line, 6 feet.

She is also supplied with 1 return tubular boiler, made of steel plates, which is the only one of any size ever constructed in this country. Length of boiler, 21 feet; breadth, 17 feet; height, exclusive of steam chimney, 9 feet; location, in hold, forward of engine; it has a water bottom. Number of furnaces, 4; breadth of same, 3 feet 6 inches; length of grate bars, 6 feet 8 inches; number of tubes, above, in boiler, 92; number of flues below, 8; internal diameter of tubes above, 5 inches; internal diameter of flues below, 1 foot 7 inches; length of tubes above, 15 feet; length of flues below, 11 feet 4 inches. Diameter of smoke pipe, 68 inches; height, above grates, 50 feet. The boiler possesses a grate surface of 93 square feet, and a heating surface of 2,600 square feet; consumption of coal, per hour, 1,680 pounds; maximum pressure of steam, 30 pounds, cut-off at one-half stroke; maximum revolutions at this pressure, 18; weight of engines, 190,000 pounds; weight of boiler, with water, 102,690 pounds.

In addition to these essential features, the following deserve attention:—Bunkers are of wood and iron; the vessel is fitted with three anchors, weight, respectively, 2,000, 1,300, and 400 pounds; water ways are of wood; she has three bulkheads, iron braced with angle iron; the water wheels have gunwale bearings; she has one independent steam fire and bilge pump, two bilge pumps, two fire pumps, one bilge injection, and five bottom valves or cocks, arranged as

follows :—Two for fire pumps, two for injection pump, and one for steam pump. Ample protection against communication from fire has been made, in the shape of iron, tin, &c.

This steamer is named in honor of the President of the New Orleans, Ohio, and Great Western Railroad Company, of New Orleans ; she will be commanded by Captain JAMES LAWLESS, formerly of the steamship *Orizaba*.

THE BAROMETER AND THE WEATHER.

Since the invention of the barometer it has excited the attention of so many scientific men, and so many of their remarks are extant, that it may seem waste of time to offer anything further regarding its properties or utility. If, however, the little we can find room for, be found useful even to one person in command of a ship, the purpose for which we write will be accomplished. If there is anything in nature that will assist us in studying the barometer, it is the approach of daylight ; yet it does not appear to have come under the notice of many. The various philosophical works we have read are equally silent on this subject. In a long chapter on twilight, in an astronomical work, by no less a person than HERSCHEL, we sought, with a fruitless result, for some information on this subject. The only writer we know of that appears to have had his attention arrested, is FITZROY, who tells us that when the first streaks of light appear close to the horizon, and the sun's rising is preceded by a glow of faint red, not extending far, a fine day succeeds, whether the sky is overcast or clear ; but if there is much red not only near the sun, but visible on clouds near the zenith, wind, if not rain, is sure to follow. This is the sum of all we have read upon the matter, and we think it will not be improper to extend it.

Whenever the coming in of the morning can be observed, if light first appear below the altitude of six degrees, very fine weather may be depended on, at least until sunset. If any clouds be in the direction of sunrise, they will be in small fragment of cumulus, in figures of islands, castles, churches, &c., slowly changing their shape, and nearly stationary. Sometimes, however, the largest cumulus prevails, resembling large broken stacks of wool ; if there be an overcast aloft, it will be of thin light stuff, that generally retires or disappears soon after sunrise, leaving a clear expanse ; stars in and near the zenith will remain visible long after the observer loses sight of those below the altitude of fifteen or twenty degrees. Now in this appearance, consult the barometer—it will stand high. Let the wind be blowing in whatever direction it may, land, ships, and all objects will be seen at an immense distance. If the observer be within the tropics, he will observe that the cirro-cumulus in the zenith will slowly change its form to that of branches of cirro-stratus, the mackerel sky, and again rechanging it may be hours in this manner. Its motion, if any, will be in a contrary direction to the wind generally. When the day dawns, at an altitude of twenty degrees or upwards, large black clouds, shaded with red as the sun rises, or if smoky or bronzed, wind and rain will follow before the next sunrise—and you will have a sinking barometer. If the observer be in the Southern hemisphere, with such appearances, the wind be northerly, or N. N. E., but most in the eastern board ; in such case the barometer may be rising. If near land, it will be affected in the following manner :—In the Southern Ocean, about New Zealand, from the North Cape to the Bay of Plenty, N. to N. E., from Bay of

Plenty to Cook's Straits, E. N. E. to E. S. E.; through the straits, S. E., Cook's Straits to Faveaux Straits, S. E., which may be expected every new and full moon in summer in the Southern Ocean, though not all times of long duration. When day breaks above twenty degrees strong breezes may be looked for or it will be blowing and the glass low, or falling. If mackerel sky prevail overhead, with long horizontal lines of cirro-stratus above the altitude of day-break, their edges being hard and well defined, an increasing breeze will terminate the day; but if the horizontal lines are below the altitude of dawn, their edges will be less hard and defined, and an increase of wind seldom follow, though the glass may be low. Always rest assured, that the higher the dawn appears the stronger the gale; and, with sufficient clearness of clouds, the stars in the zenith will be lost sight of before those at a lower altitude. However strange this may appear, many years of constant, careful observation has established it to be a fact, and rendered these signs familiar to us. If no dawn can be observed, as in cloudy weather, the horizon being everywhere closed in with dense masses of black, dirty looking gray, and black cumulo-stratus, or more properly, compact bodies of nimbus, the gale is approaching, and the barometer is low or falling at the rate of 1-10th per hour—a good barometer giving six hours' notice. Some men are quite offended with their barometer because the gale follows immediately on its descent. Indications of hurricanes or storms may be observed by the first show of light appearing directly overhead; and though there may appear a clear expanse at sunrise, yet stars of even the second magnitude will rarely be visible to the naked eye during the entire night previous to the morning of the day of a hurricane; at all events, they will disappear soon after midnight, and stars of the first magnitude that are visible will be ill-defined, because it is evident they will be seen through a thick, dark atmosphere, although it may be cloudless. If it be perfectly clear to the eastward, the sun may rise clear (of clouds,) but not beautiful. He will rise with an angry aspect, and of a pale, brassy, or fiery brightness, with an aspect denoting, in accordance with the first coming of light, all that is to follow; and these forewarnings of nature are as sure and simple on the occasions as her operations are dreadful and destructive to those who are ignorant of or disregard them.

There is no instrument of more real value to the educated mariner and to the mercantile world than a good barometer, when properly understood. We have heard men speak lightly of this valuable instrument, and remark that the qualities of barometers varied so much that no two instruments registered alike. This is so in some cases. We ourselves have had two on board the same ship, which we shall call No. 1 and No. 2. We always observed that No. 1 and No. 2 differed in opinion, unless in a long continuance of fine weather. No. 1 rose sooner after a gale than No. 2, and in depression was lower, and it rose slower; and in the moderating of a gale of four or six hours—what may be termed a lull—No. 2 would remain unmoved, whereas No. 1 would run up a tenth or more. The descent of No. 2 was generally two-tenths lower, and four or six hours sooner than No. 1; and this was invariably the case, whether at sea or in port. In point of value, No. 1 cost more at the makers than No. 2, as it was by far the most showy instrument, but in intrinsic value to the mariner, ship-owner, and underwriter, No. 2 was worth a ship load of No. 1.

JOURNAL OF INSURANCE.

CAPITAL OF PENNSYLVANIA INSURANCE COMPANIES.

The amount of tax paid on \$1,000 capital by each insurance company, which declares no dividend, in compliance with the law of Pennsylvania, is \$3 00; for each \$10,000 capital, \$30 00, and for each \$100,000 capital, \$300. In case a company declares a dividend of six per cent, the tax amounts to just the same as above; and in case of a company declaring a twelve per cent dividend, the tax on each \$1,000 would amount to \$6 00, and for \$10,000 it would amount to \$60 00.

STATE TAX PAID BY INSURANCE COMPANIES.

We find in the last report of the Auditor-general, under the head of "Tax of Corporations," the amount of tax paid by Philadelphia insurance companies is as follows:—

American Mutual Insurance Company	\$106 74
American Fire "	1,665 00
American Life Insurance and Trust Company	1,000 00
Anthracite Insurance Company	88 79
Commonwealth "	1,119 60
Columbia Mutual "	37 76
Consolidated "	1,048 07
Delaware Mutual Safety Insurance Company	1,314 37
Enterprise Insurance Company	312 30
Equitable Mutual Insurance Company	438 32
Fame Insurance Company	150 00
Farmers' Mutual Insurance Company	150 00
Fire Insurance Company of county of Philadelphia	775 00
Franklin Fire Insurance Company	6,000 00
Great Western Insurance and Trust Company	78 87
Girard Fire and Marine Insurance Company	842 70
Girard Life Insurance, Annuity, and Trust Company	1,200 00
Howard Fire and Marine Insurance Company	221 12
Hope Mutual Insurance Company	131 39
Insurance Company of North America	7,500 00
" of State of Pennsylvania	600 00
Jefferson Fire Insurance Company	285 00
Manufacturers' "	126 98
Penn Mutual Life "	501 10
Pennsylvania Fire "	3,000 00
Pennsylvania Company for Insurance on Lives and Granting Annuities	2,600 00
Phoenix Insurance Company	409 17
Philadelphia Fire and Life Insurance Company	220 20
Quaker City Insurance Company	60 00
Reliance Mutual "	807 29
Spring Garden "	285 96
United States Life Insurance, Annuity, and Trust Company	995 09
Central Insurance Company, Harrisburg	90 00
Citizens' "	5,400 80
Eureka " Pittsburg	2,975 00
Fire " of Northampton County	112 70
Miners' Life Insurance and Trust Company, of Pottsville	673 96
Monongahela Insurance Company, Pittsburg	1,575 00
Pennsylvania " "	996 18
Pottsville Life Insurance and Trust Company	60 00
Pittsburg Life, Fire, and Marine Insurance Company	446 59
Pittsburg Insurance Company	2 00
Western Insurance Company, Pittsburg	3,375 00

MARINE LOSSES FOR 1860.

	Vessel & freight.	Cargoes.	Total.
January, 1860	\$1,223,900	\$749,950	\$1,973,850
February	1,295,000	1,114,000	2,409,000
March	1,537,450	1,894,500	3,431,950
April	783,100	1,430,700	2,263,800
May.....	946,300	1,243,500	2,189,800
June.....	613,300	859,000	1,472,300
July	749,200	1,662,000	2,411,200
August	493,900	462,400	956,300
September.....	976,600	959,600	1,936,200
October.....	1,759,000	1,013,000	2,772,000
November	1,800,100	1,416,900	3,217,000
December	1,192,750	1,300,500	2,493,250
Total.....	\$13,325,000	\$15,050,700	\$28,382,000

TOTAL OF EACH CLASS SEPARATELY FOR THE MONTH OF DECEMBER.

Steamers	9	\$330,000	\$50,000	\$380,000
Ships.....	27	590,000	1,076,500	1,666,500
Barks	18	110,250	76,300	186,550
Brigs.	18	62,200	24,900	87,100
Schooners	31	100,300	72,800	173,100
Total.....	103	\$1,192,750	\$1,300,500	\$2,493,250

TOTAL AND PARTIAL LOSS FOR YEAR 1860.

	Number.	Amount.
Steamers	84	\$7,092,800
Ships.....	259	12,856,000
Barks	214	5,037,850
Brigs.....	167	1,637,350
Schooners.....	315	1,758,000
Total.....	1,039	\$28,382,000

LOSSES IN 1859.

	Vessel & freight.	Cargoes.	Total.
January.....	\$1,178,300	\$1,650,000	\$2,829,200
February.....	1,230,600	1,246,700	2,477,300
March.....	699,400	1,159,000	1,858,400
April	642,400	599,560	1,241,960
May	1,165,800	1,393,900	2,559,200
June.....	1,413,400	1,042,500	2,455,900
July.....	1,975,100	2,252,600	4,227,700
August.....	2,170,155	1,044,150	3,214,300
September.....	1,023,400	1,242,900	2,266,300
October.....	1,791,700	2,056,600	3,851,300
November	3,203,100	5,368,160	8,571,260
December	1,223,900	743,950	1,973,850
Total.....	\$17,901,150	\$19,578,420	\$37,479,570

The above figures show a very gratifying reduction in the aggregate loss during the past year, and the losses for December were considerably less than in November. The heaviest losses reported for the month of December were as follows :—The British ship Clyde, in the Calcutta trade, \$320,000. The British Merchant, with wool, from Australia for England, \$330,000. The Georgiana,

from New Orleans for Liverpool, with cotton, burnt at sea, \$285,000. The British ship Emma, with wool, from Bombay for New York, \$150,000. The steamer John P. King, burn in port, \$110,000. British ship Lord Clyde, abandoned at sea, \$32,000; and the ship British Empire, also abandoned, \$165,000.

LOSSES BY FIRE IN THE UNITED STATES.

The following additional table shows the total number of fires and amount of loss during each month, compared with those in the corresponding months in 1859:—

Months.	1860.		1859.	
	No. of fires.	Loss.	No. of fires.	Loss.
January	25	\$1,276,000	23	\$1,478,000
February	18	907,000	15	910,000
March	38	2,172,000	13	642,000
April	23	1,302,000	15	1,828,000
May	20	1,161,000	19	1,610,000
June	9	481,000	18	1,267,000
July	30	1,608,000	10	410,000
August	12	1,273,000	17	1,502,000
September	10	771,000	19	1,322,000
October	19	825,000	23	1,809,000
November	25	2,517,000	24	2,058,000
December	22	1,304,000	12	1,132,000
Total	251	\$15,597,000	203	\$16,058,000

Add to the above the amount of property destroyed by fires in the United States, where in each instance the loss was estimated at less than \$20,000, and the aggregate would be increased to probably \$22,000,000 in 1859, and to about the same amount in 1860.

The following figures show the losses by fires, where the damage has been put down at \$20,000 and upwards, and the estimated total loss by all fires in the United States for the past seven years:—

Years.	Loss \$20,000 and upwards.	Total loss by all fires.
1854.....	\$20,578,000	\$25,500,000
1855.....	13,049,000	17,000,000
1856.....	21,159,000	27,000,000
1857.....	15,792,000	20,000,000
1858.....	11,561,000	16,000,000
1859.....	16,058,000	22,000,000
1860.....	15,597,000	22,000,000
Total in seven years.....	\$113,794,000	\$149,000,000

FIRES IN CHICAGO.

The total number of fires, including false alarms, during the past year, compared with the two previous years, is as follows:—

	Fires.	Loss.	Insurance.	Ins. del.	Net loss.
1860.....	141	\$393,665	\$509,935	\$227,920	\$165,745
1859.....	122	608,492	550,720	282,585	325,907
1858.....	82	274,131	253,013	99,053	175,101

POSTAL DEPARTMENT.

FOREIGN MAIL SERVICE.

The foreign mail service of the United States, as stated in the annual report of the Postmaster-General, is as follows:—

The aggregate amount of postage, (sea, inland, and foreign,) on United States and European mails was \$1,376,402 25, conveyed as follows, viz.:—By United States and other steamships employed by this Department, \$541,039 92; by British mail packets, of the Cunard line, \$766,418 60; and by the North German Lloyd and Hamburg lines of mail packets, \$68,943 73. Of this amount, \$830,005 55 was collected in the United States, and \$546,396 70 in the United Kingdom, France, Prussia, Bremen, Hamburg, and Belgium. Excess of collections in the United States, \$283,608 85.

The number of letters and newspapers exchanged with Europe was as follows:—Letters sent from the United States, 3,093,390; received from Europe, 3,072,979; total, 6,166,369. Newspapers sent, 2,127,870; newspapers received, 1,338,207; total, 3,466,077.

The amount of letter postages upon mails exchanged with Great Britain was \$788,431 61; with Prussia, \$285,460 20; with France, \$229,802 78; Bremen, \$35,810 21; Hamburg, \$33,133 52; and Belgium, \$3,754 93; being an increase on British mails of \$18,345 61; on French mails of \$11,032 73; on Hamburg mails of \$10,551 57; and a decrease on Prussian mails of \$3,173 43, and on Bremen mails of \$2,558 16, as compared with the previous year. (The exchange of mails with Belgium commenced on the 24th of January, 1860.) Total increased letter postages, on European mails, \$37,953 20.

The amount of postages on mails sent to Great Britain was \$376,814 03; to Prussia, \$156,785 09; to France, \$110,484 45; to Bremen, \$16,995 09; to Hamburg, \$22,871 80; and to Belgium, \$2,268 18. Total sent \$686,218 64. On mails received from Great Britain, \$411,617 58; from Prussia, \$128,684 11; from France, \$119,318 33; from Bremen, \$18,815 12; from Hamburg, \$10,261 72; and from Belgium, \$1,486 75. Total received, \$690,183 61.

The weight of closed letter mails received and sent during the year was as follows:—Prussian closed mails received, 136,845½ ounces; sent, 162,646½ ounces; total 299,491½ ounces. British and Canadian closed mails received, 50,637 ounces; sent 39,018½ ounces; total, 99,655½ ounces. British and California closed mails received, 24,442 ounces; sent, 6,279½ ounces; total, 30,721½ ounces. British and Havana closed mails received, 12,733 ounces; and British and Mexican closed mails received, 1,183 ounces.

The amount paid Great Britain for sea and territorial transit of closed mails through the United Kingdom, was \$126,049 97½, and the amount received from Great Britain on British closed mails in transit through the United States, was \$41,400 65.

Balance due Great Britain on adjustment of account for the year ended June 30, 1860.....	\$193,191 96
Balance due to France, (third and fourth quarters, 1859).....	15,367 62
Balance due to Bremen.	17,125 57
Balance due to Hamburg.....	19,879 63
Balance due the United States on adjustment of accounts with Prussia for the fiscal year.....	43,235 37

The cost of the transatlantic mail service performed by steamships employed by this Department, under the provisions of the act of June 14, 1858, was \$375,235 04. Thirty round trips were performed by American steamships between New York, Southampton, and Havre, for the sea and United States inland postages, amounting to \$228,149 70—the average, per round trip, being \$7,604 99. Eleven round trips were performed by foreign steamships between New York and Liverpool, at the sea postage only, for the sum of \$50,093 62—averaging \$4,553 96 per round trip. Ten round trips were performed between

New York and Southampton by foreign steamships, for sea postage only, for the sum of \$37,061 45—averaging \$3,706 14 per round trip. Thirty-one round trips were also performed by the Canadian line of mail packets between Portland and Liverpool and Quebec and Liverpool, for the sea postage only, for the sum of \$59,930 27—averaging \$1,933 33 per round trip.

Total postages in mails transported by steamships between New York, New Orleans, and San Francisco, via the Isthmus of Panama, including mails for Aspinwall and Panama, (New Granada,) and Acapulco, Mexico, \$226,862 75; between New Orleans and San Francisco, via Isthmus of Tehuantepec, from July 1 to October 10, 1860, \$1,584 81; between the United States and the West India Islands, \$66,715 67; and between New Orleans and Vera Cruz, Mexico, \$2,019 75.

The amount paid to the different home lines of ocean steamers conveying mails to and from Havana and Matanzas, (Cuba,) and receiving as compensation the United States postages, sea and inland, was \$50,651 68, and for transporting mails by steamship between New Orleans and Vera Cruz, Mexico, seven round trips, \$1,911 15.

DEAD-LETTERS.

The following is an enactment of Congress of the year 1860 :—

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That when any person shall indorse on any letter his or her name, and place of residence, as writer thereof, the same, after remaining uncalled for at the office to which it is directed, thirty days, or the time the writer may direct, shall be returned, by mail, to the said writer, and no such letter shall be advertised, nor shall the same be treated as dead-letters, until so returned to the Post-office of the writer, and there remain uncalled for one quarter.

This act was intended to obviate the losses, delays, and inconveniences arising from the previous practice of sending to the Dead-letter Office at Washington, all letters uncalled for at the end of a specific period—say three or six months.

But we fear the obvious intention of Congress, in this matter, will be thwarted by the instructions of the Post-office Department.

The Department has given instructions that a simple business card or address printed on the back or face of a letter, (with a view to its being returned to the writer, if not called for,) *is not to be regarded, unless a person shall indorse on it in writing, his or her name as writer thereof.*

It is obviously of importance in the extensive correspondence of merchants, bankers, and others, that mis-sent letters, or letters that for any reason may be uncalled for at the place of address, shall, within a reasonable time, be returned to the writers. This is especially the case with all remittances of money, notes, and drafts; all legal documents, insurance policies, &c. It is obvious, too, that persons and institutions having extensive correspondence cannot undertake to indorse *in writing* each letter to be dispatched by mail.

Many of our moneyed institutions and bankers mail hundreds of letters, each, daily; and they avail themselves of the clearness secured by *printing* their own address on some portion of their envelopes. As by the new interpretation of the law, such letters, if misdirected, are liable to go to the Dead letter Office at Washington, we would suggest that the following form or notice be printed upon valuable letters. This is done by many persons now, and we learn that the Post-office authorities consider such a notice will secure the speedy return to the writers of letters uncalled for, viz. :—

This letter, if not called for at the end of thirty days, to be returned to A. B., banker (or bank,) New York city.

This notice need occupy a small space only in the upper corner, or on the flap or back, of a letter. It will not only secure the early return of a letter if uncalled for at the point of destination, but, in the numerous cases of misdirected or unpaid letters, will enable the postmaster or clerks to return them immediately to the writers for correction.

COMMERCIAL REGULATIONS.

PLATE PAPER.

TREASURY DEPARTMENT, December 21, 1860.

SIR :—I have considered your report of the 1st ultimo on the appeal of the Director of the Observatory of Harvard College from your decision exacting a duty on certain plate paper imported for the use of that college, and which the appellant claims should be exempted from duty under the provision in the tariff of 1857 for articles imported for the use or by order of seminaries of learning, viz. :—"All philosophical apparatus, instruments, books, maps, and charts; statues, statuary, busts, and casts, of marble, bronze, alabaster, or plaster of Paris; paintings, and drawings, etchings; specimens of sculpture; cabinets of coins, medals, gems, and all collections of antiquities—provided, the same be specially imported in good faith for the use of any society incorporated or established for philosophical or literary purposes, or for the encouragement of the fine arts; or for the use or by the order of any college, academy, school, or seminary of learning in the United States." It would appear from the letter of the Director that the paper in question, though imported in blank, is intended for the sole use of the college, and is to receive engravings of astronomical objects to be published by the college and distributed gratuitously in all parts of the country. Though it may be intended to be manufactured into "books," "maps," or "charts," it is not a "book," "map," or "chart," when imported; and the law levies the duty upon the article in the character and condition in which it is imported. Plate paper, it will be observed, is not enumerated in the foregoing list of articles exempted from duty when imported for the use and by order of seminaries of learning, and the Department is not aware of any other provision of law that would entitle it to free entry. You were justified in treating the article as dutiable, and your decision to that effect is affirmed. I am, very respectfully,

PHILIP F. THOMAS, Secretary of the Treasury.

JAMES S. WHITNEY, Collector, &c., Boston, Mass.

TRIMMING GOODS.

TREASURY DEPARTMENT, December 31, 1860.

SIR :—I am in receipt of your report upon the appeal of Messrs. BAARE, GEER & Co. from your decision assessing a duty at the rate of 24 per cent under the classification in schedule C of the tariff of 1857, on certain articles styled by the importers "trimming goods," as "articles worn by men, women, or children, of whatever material composed, made up or made wholly or in part by hand." The appellants claim entry of the articles in question at the rate of 19 per cent as "manufactures of silk or of which silk shall be a component material, not otherwise provided for." The articles in question, it would seem, judging from the samples submitted, are composed wholly or in part of silk, made by hand and machinery, and intended to be attached to cloaks and dresses as ornaments. They are known as "dress ornaments," and if they are composed wholly or in part of silk, and are not in a fit condition when imported to be worn upon the person, but required to be sewed upon the garment, they ought, in the opinion of the Department, to be subjected to a duty of 19 per cent under the classification in schedule D of "manufactures of silk or of which silk is a component material, not otherwise provided for." Such of the articles, however, if any there are, covered by the protest and appeal in this case, as do not require, in order to be worn upon the person, to be attached by sewing or otherwise to a dress or garment, but are in a fit condition when imported to be so worn, were rightfully subjected by you to a duty of 24 per cent under the classification in schedule C to which you referred them on the entry. I am, very respectfully,

PHILIP F. THOMAS, Secretary of the Treasury.

JAMES S. WHITNEY, Esq., Collector, &c., Boston, Mass.

COLORED LITHOGRAPHS.

TREASURY DEPARTMENT, January 25, 1861.

SIR:—I acknowledge the receipt of your report on the appeal of Messrs. J. J. GRIFFIN & Co. from your decision assessing a duty at the rate of 15 per cent, as unenumerated in any schedule of the tariff of 1857, on certain "colored lithographs" imported by them, the appellants claiming entry of the articles in question free of duty under the classification in schedule I of "paintings and statuary." The sample submitted shows the article to be a lithograph colored in oil, and is so admitted by the parties. It cannot, in the opinion of the Department, be regarded as a "painting" within the meaning and spirit of the law; nor is it, it is believed, so known in the trade, but it must be held to be a "colored lithograph," and, as such, liable to duty at the rate of 8 per cent under the classification in schedule G of "engravings or plates," in conformity with the decision of the United States Circuit Court for the southern district of New York, in the case of *M. KNOEDLER vs. A. SCHELL*, acquiesced in by the Department. I am, very respectfully,

JOHN A. DIX, Secretary of the Treasury.

AUGUSTUS SCHELL, Esq., Collector, &c., New York.

MOSAICS, SET.

TREASURY DEPARTMENT, January 26, 1861.

SIR:—I am in receipt of your report, under date of the 17th ultimo, upon the appeal of JACQUES SCHIEB from your assessment of duty at the rate of 24 per cent under the classification in schedule C of the tariff of 1857, of "cameos, real and imitation, and mosaics, real and imitation, when set in gold, silver, or other metal," on certain mosaics imported by him. The appellant claims entry of the articles in question at the rate of 4 per cent under the classification in schedule H of "cameos and mosaics, diamonds, gems, pearls, rubies, and other precious stones, not set." The question which arises in this case is, are the mosaics in controversy "set" or "not set"? The samples submitted with the appeal show the article to be a mosaic or mosaics encased in German silver, and are in the opinion of the Department ready for use, with but the slight addition of a pin or hook to convert them either into breastpins or ear rings without further setting. The plain mode of setting in this instance does not remove them from the classification to which they were referred by you on the entry. Your decision, therefore, is hereby affirmed. I am, very respectfully,

JOHN A. DIX, Secretary of the Treasury.

AUGUSTUS SCHELL, Esq., Collector, New York.

PACKAGES.

TREASURY DEPARTMENT, January 28, 1861.

SIR:—The Department has had under consideration the appeal of Messrs. S. & W. WELSH from your decision assessing a duty at the rate of 24 per cent as "manufactures of iron, &c.," under schedule C of the tariff of 1857, on certain iron packages or casks containing caustic soda, the appraisers having estimated the separate value of the iron casks containing the alkali. The appellants claim entry of the packages in question at the rate of 4 per cent, the caustic soda duty—alleging that they are rendered valueless from the action of the alkali on them, and are of no further use except as receptacles for the article they contain. It does not appear, in this case, that there was any intention to evade the law or defraud the revenue, but that sheet iron casks were used because in their opinion they were the most suitable description of packages for caustic soda. In view of all the facts in the case, the Department is of the opinion that the casks in question are entitled to entry at the same rate of duty as imposed on caustic soda, to wit, 4 per cent. I am, very respectfully,

JOHN A. DIX, Secretary of the Treasury.

J. B. BAKER, Esq., Collector, Philadelphia, Pa.

SKELETONS.

TREASURY DEPARTMENT, December 27, 1860.

SIR:—I acknowledge the receipt of your report, under date of the 26th ultimo, on the appeal of Messrs. CODMAN and SHURTLEFF from your decision subjecting to duty at the rate of 24 per cent under the tariff of 1857, certain "human skeletons" as "preparations or manufacture of bone." and provided for in schedule C. The articles in question are not specified by name in any schedule of the tariff. The bones of which they are composed are in their natural form and merely held together in their natural order, by a metallic wire, the metal not being the component material of chief value. They ought not, in the opinion of the Department, to be classed as a manufacture of bone, or of bone and metal, but should be treated as non-enumerated, and subject to a duty of 15 per cent. I am, very respectfully,

PHILIP F. THOMAS, Secretary of the Treasury.

AUGUSTUS SCHELL, Esq., Collector, &c., New York.

RAILROAD, CANAL, AND STEAMBOAT STATISTICS.

NEW YORK RAILROADS.

The annual report of the New York Central Railroad Company for the fiscal year ending 30th September, 1860, has been received. This is one of the leading roads of the Union, and one that has contributed largely to the commercial prosperity of the State. There has been no interruption to the semi-annual dividends of the company since its formation in 1852. The company has realized upwards of fifty-two millions of dollars from passengers and freight during the past seven years, viz. :—

EARNINGS FROM PASSENGERS, FREIGHT, AND ALL OTHER SOURCES FOR THE YEARS ENDING SEPTEMBER 30, 1853-1860.

Years.	Passengers.	Freight.	Other sources.	Total.
1853	\$2,829,668	\$1,835,572	\$122,279	\$4,787,520
1854	3,151,513	2,479,820	286,999	5,918,334
1855	3,242,229	3,189,602	131,749	6,563,581
1856	3,207,378	4,328,041	171,928	7,707,348
1857	3,147,636	4,559,275	320,338	8,027,251
1858	2,532,646	3,700,270	205,495	6,528,412
1859	2,566,369	3,337,148	297,330	6,200,848
1860	2,569,265	4,095,933	292,043	6,957,241
Total.....				\$52,690,538

The expenses for 1860 were as follows :—

PAYMENTS OTHER THAN FOR CONSTRUCTION.

For transportation expenses—passenger business..	\$1,665,014 11	
For freight business.....	2,613,826 70	
		\$4,278,840 81
For interest, including interest on debt certificates held for the sinking fund..	\$935,272 04	
For sinking funds.....	115,266 50	
For rent of Niagara Bridge and Canandaigua R. R.	50,000 00	
		1,160,538 54
For dividends: No. 13. Feb., 1860, 3 per cent....	\$720,000 00	
No. 14. Aug., 1860, 3 per cent....	720,000 00	
		1,440,000 00

Transportation expenses for the year ending September 30th, 1860, 61.49 per cent of the gross earnings.

NEW YORK AND PENNSYLVANIA RAILROADS.

State.	Roads in operation. Miles.	Cost of roads in operation.	Passengers carried.
New York	2,527	\$147,980,402 21	12,138,059
Pennsylvania	2,086	150,373,076 10	6,367,141
Over Pennsylvania.....	441	.....	5,470,918
Over New York.....	.....	\$2,392,673 79	.....
State.	Tonnage. Tons.	Receipts from passengers.	Receipts from freight.
New York.....	3,859,283	\$7,618,785 69	\$9,907,216 62
Pennsylvania	20,851,102	5,281,861 00	11,394,455 00
Over Pennsylvania.....	.....	\$2,337,574 69	.....
Over New York.....	16,991,819	.....	\$1,417,238 38
State.	Total receipts.	Total expenses.	
New York.....	\$18,363,004 58	\$11,089,550 91	
Pennsylvania.....	18,186,604 00	14,107,444 00	
Over Pennsylvania.....	\$174,400 58	.....
Over New York.....	.....	\$3,017,393 09	

In the cost of the several works, Pennsylvania is \$2,392,673 79 ahead of New York. In the passenger traffic, seven-eighths of the number reported in Pennsylvania are local, and the same may be said of the tonnage, of which 9,133,348 tons were coal, 1,900,864 tons were merchandise, and the balance iron, iron ore, flour, lumber, etc., products of the State. The Pennsylvania Central being the only line connected with the West, but little of what is called "through freight" has been carried over it.

Out of an average, during the last five years, of 772,549 tons, it carried east 14 per cent, west 10½ per cent. The Baltimore and Ohio, out of an average of 810,802 tons, carried east 16½ per cent, west 7½ per cent. And the New York Central, out of 776,940 tons, carried east 25½, west 5½ per cent. On the Erie Canal, out of the average of 3,804,907 tons, its through tonnage east was 1,928,613, west 254,670 tons, including the local traffic.

The traffic, therefore, on the Pennsylvania roads has hitherto been local. Hereafter, when the connections and the second track is complete on the Pennsylvania Central, and when the Sunbury and Erie is complete to Erie, and the branch extending to Pittsburg, the results will be greater. Nine millions tons of coal is an item of some importance; and when we realize the fact that the business in pig metal was last year over 90,000 tons greater than the product of all other States together; that the manufacture of railroad iron, in 1856, was 83,894 tons, out of 141,554 tons made in the country; that the anthracite iron trade, in 1856, reached 236,160 tons; in 1857, 281,880 tons, and that the leading branches of industry is \$185,000,000 per annum. But the State is a "one-horse team," and as the trade of Philadelphia, ten years since, was moved by 7,000 vessels, and last year 32,000, exclusive of those required in the movement of 3,000,000 tons through the Delaware and Raritan Canal, were required, we may recognize an improvement. The organization of a line of propellers to bring over the coal at a reduction of 50 cents per ton, is another of the schemes in which New York is interested. Fifty cents a ton off 4,000,000 tons consumed in the eastern market, is \$2,000,000 per annum—enough almost to pur-

chase the canal and make it a free channel to the producer. It may also indicate to our citizens that the route of which the canal forms a part may enable them to reach and intercept the trade they are about to lose on the North, and perhaps bring back to our waters the *Gaul-way* and other lines that have left us.

RAILROADS OF THE UNITED STATES, JANUARY, 1861.

The following table gives the mileage and cost of railroads in each portion of the Union :—

	Total length of line.	Miles in op- eration.	Cost of roads and equipment.
North Eastern States—			
Maine.....	639.36	475.86	\$16,233,261
New Hampshire.....	684.29	657.88	22,676,234
Vermont.....	555.37	575.37	23,240,097
Massachusetts.....	1,886.63	1,314.35	59,777,878
Rhode Island.....	136.82	104.32	4,138,388
Connecticut.....	762.90	607.76	20,948,380
	4,185.37	3,715.54	\$147,014,238
Middle Atlantic States—			
New York.....	3,455.37	2,808.96	145,259,792
New Jersey.....	844.76	627.28	30,395,031
Pennsylvania.....	3,972.26	2,943.22	151,529,629
Delaware.....	170.69	136.69	4,370,766
Maryland and District of Columbia.....	701.81	405.81	19,979,284
	9,144.89	6,921.96	\$351,534,492
South Atlantic States—			
Virginia.....	2,483.62	1,805.04	69,580,696
North Carolina.....	1,212.04	886.92	17,084,500
South Carolina.....	1,074.47	978.47	22,045,435
Georgia.....	1,724.20	1,401.50	27,632,690
Florida.....	736.50	326.50	6,561,000
	7,230.82	5,398.43	\$142,904,321
Gulf States—			
Alabama.....	1,438.90	643.40	17,262,487
Mississippi.....	870.80	697.80	22,986,370
Louisiana.....	831.00	327.75	12,193,124
Texas.....	2,667.00	294.50	9,200,000
	5,807.70	2,063.45	\$61,640,981
South Interior States—			
Arkansas.....	701.33	38.56	1,800,000
Missouri.....	1,430.60	813.10	35,398,093
Tennessee.....	1,412.63	1,233.54	30,793,180
Kentucky.....	763.90	531.20	16,551,600
	4,308.46	2,666.34	\$4,542,873
North Interior States and California—			
Ohio.....	4,133.25	3,057.03	117,353,116
Michigan.....	1,412.10	807.30	33,615,761
Indiana.....	2,522.27	2,058.17	71,973,669
Illinois.....	3,551.90	2,924.60	106,975,581
Wisconsin.....	2,272.09	937.09	37,580,381
Iowa.....	2,021.80	548.80	17,257,905
Minnesota.....	1,167.00	.....	2,000,000
	17,080.41	10,332.99	\$386,756,913
California.....	343.23	70.05	3,600,000
Total United States, Jan., 1861.....	48,100.89	31,168.76	\$1,177,993,818
“ “ Jan., 1859.....	.....	27,857.00	961,047,364

TRAFFIC RETURNS OF ENGLISH RAILWAYS.

A late number of *Herapath's London Railway Journal* contains a careful table, compiled by Mr. J. T. Hackett, which gives the annual earnings of all the railroads in the United Kingdom, for seven years, to January 1st, 1860. Calling the £ \$5 00, we herewith append some of the results of Mr. Hackett's table:—

TOTAL RECEIPTS.		AVERAGE TRAFFIC PER MILE PER WEEK.	
1854.....	\$92,995,275	1854.....	\$13,020
1855.....	101,505,765	1855.....	13,340
1856.....	110,753,505	1856.....	13,815
1857.....	118,648,325	1857.....	13,720
1858.....	116,604,820	1858.....	13,155
1859.....	125,580,585	1859.....	13,665
1860.....	135,129,415	1860.....	14,235

The total traffic for the year 1860 shows an increase of \$9,598,830 over the preceding year.

In addition to the above returns, there are others of various railways in the United Kingdom, which have not been published weekly or monthly, and of which estimates have to be made. These results show that there are 52 railways, being, in the aggregate, 611 miles in length, upon which \$43,073,750 has been expended, the traffic receipts being about \$2,754,500. By adding these figures respectively to the 9,662 miles upon which \$1,606,062,250 of capital was expended, and the 135,129,415 referred to in the table given, it appears that there are 10,273 miles of railway, which have cost \$1,649,126,000, and produced, in the shape of gross traffic receipts, \$137,883,915. This sum, compared with the total receipts on 9,883 miles of railway in 1859, amounting to \$127,880,585, shows an increase of \$10,003,330, or about 8 per cent, thus exhibiting a very satisfactory increase on the traffic of the preceding year.

The capital accounts have not been much increased, as compared with former years, notwithstanding the increased mileage, and that of itself is a most satisfactory indication of better results for the ordinary shareholders. The above figures show an aggregate increase in the capital accounts for the year of only \$38,030,500, while the increase in the traffic alone exceeds \$10,000,000. This result contrasts favorably with the operations of former years, as will be readily seen by a glance at the annexed table. The judicious, and, in some respects, necessary outlay of capital, to accomplish the actual requirements of increased traffic, and to provide useful and indispensable extension lines at a moderate cost, provided that the aggregate amount of capital thus expended be not more in any one year than four times the increase in the gross traffic for the same period, the result must tend to increase the dividends of railways, and gradually enhance the value of railway property.

It is impossible to calculate the vast amount of benefit railways have conferred on the people and trade of the United Kingdom, and, in fact, on the people and trade of every country where they have been brought into operation. That railways should be made highly remunerative to the proprietors by good management, and by affording every reasonable facility to the public, and the districts through which they pass, would be nothing more than a just reward to the individuals concerned in railway undertakings, for incalculable benefits conferred on the community at large.

The following table presents an interesting and comprehensive exhibit of railway progress in the United Kingdom for the years named. We omit the column showing the capital expended at the end of each year for the time named, merely remarking that the total cost to 1860 had been \$1,649,135,000.

Year.	Average cost per mile.	Total traffic receipts.	Average receipts per mile.	Working expenses, rates & taxes.	Length open at end year.	Per cent'ge of receipts on capital exp.	Per cent'ge of profit on capit.
1842	£33,362	£4,470,700	£2,743	40	1,630	8.82	4.93
1843	34,929	5,022,650	2,895	40	1,736	8.28	4.94
1844	34,290	5,814,980	2,982	40	1,950	8.70	5.22
1845	33,726	6,909,270	3,080	40	2,243	9.13	5.48
1846	30,903	7,945,870	2,797	42	2,840	9.05	5.25
1847	30,924	9,277,670	2,501	42	3,710	8.08	4.69
1848	33,333	10,445,100	2,258	42	4,626	6.77	4.06
1849	33,110	11,683,800	2,000	42	5,950	5.93	3.44
1850	34,236	13,142,235	1,944	42	6,733	5.70	3.31
1851	34,186	14,987,310	2,163	42	6,928	6.32	3.67
1852	33,816	15,343,610	2,118	45	7,337	6.27	3.44
1853	33,912	17,920,530	2,305	44	7,774	6.80	2.80
1854	34,113	20,000,520	2,491	46	8,028	7.30	3.93
1855	35,425	21,123,315	2,577	47	8,240	7.24	3.90
1856	34,122	22,995,500	2,625	48	8,761	7.69	4.00
1857	33,492	24,162,465	2,634	48	9,171	7.87	4.19
1858	33,000	23,763,764	2,484	48	9,568	7.52	3.91
1859	32,603	25,576,100	2,588	48	9,883	7.94	4.13
1860	32,106	27,576,783	2,685	47½	10,273	8.37	4.39

SOUTH CAROLINA RAILROADS.

The following returns show the quantity of the leading articles of cotton, grain, live stock, etc., carried into Charleston by the South Carolina Railroad, from 1844 to 1860 inclusive:—

Years.	Cotton. Bales.	Flour. Bbls.	Grain. Bush.	Naval stores. Bbls.	M'dse. Bales.	Live stock.
1844.....	186,638	.....	.....	.....	.....	.....
1845.....	197,657	.....	.....	.....	.....	.....
1846.....	186,271	12,148	2,369	48	.....	.....
1847.....	134,302	19,043	338,848	3,189	.....	.....
1848.....	274,364	15,447	903,485	5,753	.....	4,230
1849.....	339,996	1,507	66,904	13,919	10,632	5,285
1850.....	284,935	125	15,515	10,353	11,133	5,859
1851.....	287,590	526	547	4,198	12,310	4,179
1852.....	364,729	2,533	15,652	4,316	15,227	4,894
1853.....	340,865	23,319	109,092	8,992	15,863	8,029
1854.....	350,857	62,651	136,536	21,642	11,109	12,056
1855.....	449,554	80,463	317,662	23,093	9,835	11,021
1856.....	386,349	84,808	456,994	15,079	8,935	11,769
1857.....	231,850	145,970	717,274	13,282	11,427	9,214
1858.....	428,452	140,069	282,367	17,418	9,605	12,001
1859.....	393,390	73,529	128,854	33,237	10,240	14,043
1860.....	314,619	23,216	36,179	54,439	12,853	15,213

CITY AND STATE RAILROADS.

From the annual report of the State Engineer and Surveyor, just submitted to the Legislature, we derive some interesting and instructive facts bearing upon the great railroad interests of this State. For example, during the year, no fewer than eighteen new companies have been formed. The passenger business of the city railroads is increasing in a ratio far beyond the anticipations of the projectors. The whole number of passengers carried on these roads during the

past twelve months is 49,980,148, while upon all the other roads only 9,305,978 have been carried, and the amount received for passenger business on the city roads is \$2,326,383 10, while the amount on the other roads is \$7,880,591 65. The average sum received for carrying each passenger on the city roads is nearly 4 cents, while on the other roads it is only about 2 cents for each mile. If we assume that each city passenger is carried on an average a distance of two miles, his rate of fare would be about the same as on the other roads.

The total cost of construction and equipment of all the roads in the State is set down at \$137,048,335 19. The statement annexed shows the enormous business for the year :—

BUSINESS OF THE YEAR—PASSENGER TRANSPORTATION.

Miles run by passenger trains.....	16,815,520
The same, excluding city roads.....	5,905,691
Number of passengers of all classes carried in the cars.....	59,286,126
The same, excluding city roads.....	9,305,978
Number of miles traveled by passengers, or number of passengers carried one mile, city roads not included	382,985,207

FREIGHT TRANSPORTATION.

Miles run by freight trains.....	6,969,454
Number of tons carried on freight trains.....	4,741,773
Total movement of freight, or number of tons carried one mile.....	564,050,505

CLASSIFICATION OF FREIGHT.

	Tons.
Products of the forest.....	373,424
Products of animals.....	895,519
Vegetable food.....	1,108,640
Other agricultural products.....	143,219
Manufactures.....	511,916
Merchandise.....	783,811
Other articles.....	930,241

Total tonnage..... 4,741,773

The total cost of operating the roads was \$7,331,761 19. The following shows the—

EARNINGS AND PAYMENTS.

From passenger business.....	\$10,206,974 75
The same, excluding city roads.....	7,880,591 65
From freight business, city roads excluded.....	11,839,556 68
From other sources.....	795,710 48
The same, excluding city roads.....	757,450 76

Total earnings \$22,842,241 91

The same, excluding city roads..... 20,477,599 69

PAYMENTS OTHER THAN FOR CONSTRUCTION.

For transportation expenses.....	\$14,387,983 83
The same, excluding city roads.....	12,652,676 72
For interest.....	3,952,892 61
The same, excluding city roads.....	3,915,991 04
For dividends on stock.....	2,475,536 75
The same, excluding city roads.....	1,895,943 75
Amount carried to surplus fund.....	699,392 42
The same, excluding city roads.....	590,087 04

Total payments..... \$21,406,805 61

The same, excluding city roads..... 19,062,698 55

These results are interesting chiefly to the stockholders, but we come next to the certain grim facts which will only impress the general public, and all who

have occasion to trust themselves to the care of the iron horse. Sextons and undertakers, especially, will be interested in the annexed record of accidents, within the period specified in the engineer's report :—

Number of passengers killed.....	18
Number of passengers killed, excluding city railroads.....	11
Number of passengers injured.....	36
Number of passengers injured, excluding city roads.....	22
Number of employees killed.....	28
Number of employees injured.....	17
Number of others killed.....	111
Number of others injured.....	45
Total number killed.....	152
Total number injured.....	98
Total number killed, including city roads.....	143
Total number injured, including city roads.....	71

HORSE RAILROADS OF BOSTON AND VICINITY.

There are at present twenty horse railroads established in Boston and vicinity, a number of which are leased to connecting roads running into Boston. The aggregate of the capital and business of these roads is reported as follows :—

Total amount of capital of the road is.....	\$4,675,000
Cost.....	1,974,558
Cost of equipment.....	710,557
Total length, miles, (single and double track).....	66
Number of horses owned.....	1,370
Cost of horses.....	167,253
Number of cars owned.....	208
Number of conductors employed in 1860.....	165
Number of drivers.....	168
Number of hostlers.....	112
Total number of persons regularly employed in 1860.....	662
Number of passengers carried in 1860.....	13,695,193

No passengers received injury in consequence of any blame attached to the employees of the roads.

NORTH CAROLINA AND HER RAILROADS.

The wisdom of the liberal State aid to railways has been fully vindicated by the policy of North Carolina. The rapid increase of national wealth produced by the liberal encouragement of public works within her limits, has rapidly extended the basis of taxation, and secured, indirectly, a full return for the aid of State credit which she has systematically granted. Lands which, ten years ago, sold for 10 cents an acre, now bring \$16 per acre. The assessed value of the real estate of North Carolina and its rapid enhancement are shown by the following figures:—In 1815 it was \$53,521,513. For the succeeding 21 years, it diminished—being only \$51,021,317 in 1836. During the next 14 years it increased only about \$4,500,000, and was, in 1850, \$55,600,000. In 1850, the State initiated its policy of granting the aid of its bonds to railway enterprises. During the five succeeding years the assessed value of the real estate within her borders had increased over \$43,000,000 ! and from 1855 to 1860, \$28,000,000 more ! making the assessed value, in 1855, \$98,075,969 ; and in 1860, \$126,000,000. Most of the works of internal improvement in that State have been contracted since 1850. In 1850 there were only 250 miles of railroad in the State, now there are 834 miles. The increased value of real estate since 1850 yields an annual revenue of \$140,400.

JOURNAL OF MINING, MANUFACTURES, AND ART.

LAKE SUPERIOR COPPER.

The annual circular of Messrs. DUPEE, BECK, and SAYLES, of Boston, contains matter of interest :—

The depression in the market for Mining Shares, noted in our Circular for 30th ult., continued till the 15th December. Since the latter date there has been a gradual improvement. This has been due to the canceling of a large number of time contracts, to a less stringent money market, and to the advance in ingot copper. Early in the month a few small lots of refined copper were sold at 19 cents, cash. At present there is a good demand for export at 20 cents, cash.

While the market prices for shares have fallen below those of the panic of 1857, it is gratifying to know that, during 1860, much real progress has been made in the management of the mining interests at Lake Superior. Much, it is true, remains to be done to bring down the costs of production to offset the decline in price of refined copper. For the five years prior to 1860 ingot copper has ranged from 29½ cents, four months, about the maximum, to 19 cents, cash, the minimum price. During 1860, the highest price was 24½ cents, cash, the lowest 19 cents, cash.

To meet the probabilities of a continuance of prices of copper below the average of the past six years, there will be an united effort, on the part of all the managers of the mines, to introduce more rigid economy into every department. Already much has been accomplished in 1860 over previous years. Freights to and from the mines from May to September were 25 per cent less than in 1859. The transportation of a ton of copper from the Lake Shore to Boston, cost, after the opening of St. Mary's Canal, 1855, \$20; in 1860, to Boston, \$11, and to New York, \$9. The substitution of bituminous coal for wood, which has been delivered during the past summer at the wharves of Portage Lake for \$3 35 per ton, will save much money and leave the forests of the country for building materials and for timbering of the mines. With the wants of a rapidly increasing population, new and cheaper sources of supply are constantly opening in the region itself. Many agricultural products, hitherto sent up at a great cost from Lower Michigan, are now raised in the neighborhood of the mines, and at the new settlements on the southwestern shores of the Lake, cheaply and abundantly. At Portage Lake, a machine shop, an iron foundry, and a manufactory of doors, sashes, blinds, &c., have been put in operation during 1860. The Smelting Works of the Portage Lake Company are now successfully refining the products of that district. These works consists of four reverberatory and two cupola furnaces, capable of refining six thousand tons per annum. The buildings are of the most thorough and substantial character, and the location of the works accessible, at a very small cost of transportation, to all the mines now wrought, or likely to be wrought for many years hence, in that neighborhood. Hitherto, to save cost of transportation to the Smelting Companies in other States, it has been necessary to dress the rough copper to an average, probably, of, 70 per cent. Now, by the proximity of the furnaces to the mines, a dressing of 50 per cent. will answer the same purpose, while the refined copper, hitherto rarely ready for the market before the 1st to 15th July, will now be sent directly from the Lake to New York or Boston, arriving there, in ordinary seasons, by the 1st of June. Further, there will be added the new facility of obtaining cash advances through the winter, on the warehouse receipts of the Smelting Company.

The opening of the entry into Portage Lake, during the past season, has been one of the greatest improvements in the navigation of Lake Superior since the completion of the ship canal around the falls of St. Mary's River. At the comparatively small cost of \$50,000, steamers of the largest class, able to pass

through the St. Mary's Canal, may now enter Portage Lake, and discharge their cargoes at the docks of the several companies located on the shores of that lake. Beside avoiding the loss of time and transshipment, hitherto necessary, the opening of Portage Lake has provided one of the most capacious and safest harbors in the world.

In the Ontonagon District, a plank road has been completed recently, facilitating to a very great extent the transportation to and from the Minnesota, National, Rockland, and Superior mines.

THE ST. MARY'S CANAL MINERAL LAND Co.'s explorations have been confined during the past year to their lands in the neighborhood of Portage Lake. The Albany and Boston vein has been opened with good promise on Section 5, lying north of that location.

The IRON interests of Lake Superior are rapidly attaining great importance. The amount brought down to Marquette, the port of shipment, in 1860, was,—Of iron ore, from the Jackson Co., 62,980 tons; Cleveland Co., 47,889; Lake Superior Co., 39,394; total, 150,263. Of pig iron, Pioneer Co., 3,050 tons; S. R. Gay, 1,800; Northern Co., 650; total, 6,500. Ore valued at \$3; pig at \$25; aggregate value, \$588,289.

ALBANY AND BOSTON.—This company's mining operations were commenced at Portage Lake, about the 15th June last. Since that date, all the buildings requisite for the enterprise, including a steam saw-mill, have been erected, and the vein, the widest and richest at the surface yet seen in the district, explored for 2,800 feet. This lode, when discovered, was supposed to be identical with the Pewabic. Recent explorations have determined that it is a distinct formation, and that this company possesses a mile in length of each of what are now termed the "Albany and Boston," and the "Pewabic" veins. The A. & B. lode, so far as exposed, is from five to thirty feet in width, carrying, in almost every part of it, rich barrel and stamp work. The regular mining work has already made good progress.

CENTRAL.—The shipments this season have been 78.6 tons of 75 per cent copper. The product would have been larger had it not been for the delay in time between the expiration of the lease of the Northwestern Co's stamps and the erection of new ones by the Central Co.,—a period of about four months. The new stamps, 48 heads, at the last date, were in perfect running order.

COPPER FALLS.—Shipments this season have been on Company's account 239 tons; on tributer's account 89 tons, both yielding over 84 per cent. The November product was nearly 18 tons of 85.7 per cent purity. The new stamping machinery, two heads (Ball's), it is presumed will be in operation by February 1st next. It is expected to be more powerful than any of that patent hitherto erected. As the mine has been largely opened the product should hereafter be very much increased.

FRANKLIN.—The mining operations of this company for 1860 have resulted in opening a large amount of stoping ground, preparatory to a large product for next year. In the meantime the product for the year ending November 30, has been 112 masses, weighing 72,166 lbs.; 721 barrels of barrel work, 469,116 lbs.; and 67 barrels stamp work, 63,816 lbs. Total, 605,098 lbs., equal to 180.7 tons refined copper. The actual shipments were about 267 tons rough, or 158 tons ingot copper. The stamps are Ball's, consisting of two pairs of two heads each. They did not commence work till November 19. Up to the latest dates their results were entirely satisfactory. An assessment of \$2 per share has been called, payable January 1st. This amount paid in will place the Franklin among the first-class mines.

HANCOCK.—The stamping machinery, 16 heads of improved Cornish, it is understood, is about ready for working up a large accumulation of vein stuff. Shipments in 1860, 72 tons.

HURON.—Total shipments this year 65.4 tons of 64½ per cent barrel work and 12,311 pounds of refined copper, smelted at the Portage Lake works. There is ready for the stamps an amount equivalent, at a fair estimate, to the quantity shipped this season.

ISLE ROYLE.—November returns not received. They will probably exceed

40 tons. Total shipments this season 458.6 tons, averaging over 70 per cent. Preparations have been made for opening a large amount of ground during the winter, with a view to large shipments at the opening of navigation.

MESNARD.—All the work thus far has been preparatory to future extensive operations.

NATIONAL.—November product 71.7 tons. Total shipments in 1860 were 692.8 tons. A dividend of two dollars per share will probably be paid in February.

PEWABIC.—November product 304.8 tons. The actual shipments for the season have been 2,727,632 pounds. The product for one year to November 30, was as follows:—

467 masses weighing 348,658 lbs.; 2,294 barrels kiln or barrel work weighing net 1,450,778 lbs.; 342 barrels No. 1, Stamp, 379,718 lbs.; 399 barrels No. 2, Stamp, 389,973 lbs.; 401 barrels No. 3, Stamp, 346,912 lbs.; add on tributer's account, 27,428. Total, 2,943,467 lbs.

The smelting returns are not yet all made, but on an estimate, based on past experience, the result will not vary much from 2,030,992 lbs., or about 1,000 tons of ingot copper.

During the year there have been shipped 1,533 ounces of silver.

The annual products of the Pewabic mine have been as follows:—1855, 19 197 tons rough, or 11.0895 ingot, value \$1,080 19; 1856, 96.799 rough, or 65.823 ingot, value \$31,492 23; 1857, 204.342 rough, or 118.127 ingot, value \$44,058 29; 1858, 379.568 rough, or 208.301 ingot, value \$76,538.02; 1859, 742.167 rough, or 520 ingot, value \$196,551 62; 1860, 1,458.019 rough (besides tributers') or ingot, estimated, 1,007 994, value \$403,988 80.

A full report of the company's affairs will be published as soon as the accounts, made up to this date, are received from the mine.

PHOENIX.—The product shipped during 1860, was 31½ tons rough of about 83 per cent, or nearly 26 tons refined copper. A very large amount of stoping ground has been opened in readiness for the new stamping machinery of 48 heads (Wayne's) now, probably, in full operation. The equipment of this mine in the matter of machinery, including one of the most powerful steam engines at the Lake, is in every respect of the most substantial character. An instalment of \$1 per share is called for, payable January 12th.

PITTSBURG AND BOSTON.—November product 114 tons. Total shipments 1,357 tons. Total product for the year 1,402 tons. The annual report recently published gives the result of the year ending December 1, 1859. The product, for that year was 1,099.8 tons, yielding 64.35 per cent., or 707.5 tons ingot copper. The receipts, including \$2,405 17 from sales of silver, were \$292,503 14. The expenditures were \$272,175 75, leaving net profit \$20,327 39. The assets of the company December 1, 1859, over its liabilities, were, exclusive of mining property, furnaces, warehouses, and docks, \$122,050 68. The result of 1860, as far as indicated by the increased shipments, the constantly improving condition of the mine, of which minute accounts are given in the report; the very large addition of stamping machinery (Hodge's) now about in working order; and the great purchase of the property of the North American Mining Co., consisting of 2,300 acres, with all the equipments of a mine, for \$100,100—all combine to make the Cliff mine one of the most valuable of its class in the world.

PONTIAC.—An assessment of \$1 per share has been called, payable December 14th inst. Like the Mesnard, the principal work at present is in opening the mine extensively for future production.

QUINCY.—November product 172 tons. Shipments in 1860, in masses, 55.6 tons, stamp work 377.2 tons; barrel work 419.4 tons. Total, 852.2 tons. The mine has 64 heads of Wayne's stamps. They stamped in November 3,078 tons of rock, producing 88½ tons of copper.

ROCKLAND.—Total shipments for 1860, 441 masses and 707 bbls. of kiln and stampwork, weighing net 1,105,367 lbs., or 552.7 tons. This is an increase of 205 tons over last year. The increased attention paid to keeping ground opened ahead almost guarantees a largely increased product for 1861.

SUPERIOR.—Shipped in 1860 19 masses and 37 barrels. Net weight 14 tons 123 lbs. Last year the shipment was but 1.7 tons.

TOLTEC.—The recent movement in this stock is the alleged discovery on its tract of the Minnesota vein. All accounts concur in the richness of the surface show.

PORCUPINE MOUNTAIN DISTRICT.—The principal mining company working in this district is the Carp Lake Co. This company has shipped during the past season 20½ tons rough copper. Operations have already progressed sufficiently to warrant the erection, early next season, of Hodge's stamping machinery.

COMPARATIVE TABLE OF SHIPMENTS OF ROUGH COPPER FROM LAKE SUPERIOR DURING THE SEASONS OF 1859 AND 1860.

[The weight of the barrels have been deducted and the results are given in tons of 2,000 lbs. and tenths.]

KEWEENAW DISTRICT.			ONTONAGON DISTRICT.		
	1859.	1860.		1859.	1860.
Central.....	172.3	78.6	Adventure.....	139.4	29.7
Clark.....	5.6	7.2	Aztec.....	15.3	4.9
Connecticut.....	24	5.3	Bohemian.....	3	
Copper Falls.....	329.4	328	Evergreen Bluff.....	27	41.9
Eagle River.....	6		Hamilton.....	7	7.9
North American.....	8.7		Mass.....	12.3	
Northwest.....	73.8	103.5	Minnesota.....	1,623.6	2,183.4
Phoenix.....	32	31.2	National.....	323.2	692.8
Pittsburg and Boston..	1,254.5	1,357	Nebraska.....	9.8	26.4
Summit.....	4		Norwich.....	22	
			Ogima.....	35.4	
			Ridge.....	27.8	
	1,910.3	1,910.8	Rockland.....	347	552.7
			Superior.....	1.7	14
			Toltec.....	9.4	
				2,597.6	3,553.7
PORTAGE DISTRICT.			RECAPITULATION.		
C. C. Douglass.....		24	Keweenaw District....	1,910.3	1,910.8
Isle Royale.....	241.3	258	Portage.....	1,533.1	3,050.8
Franklin.....	204.7	267	Ontonagon.....	2,597.6	3,553.7
Hancock.....		7.2	Porcupine Mountain..		20.5
Huron.....	7.4	78	Sundry mines.....		7.6
Mesnard.....	.6				
Pewabic.....	734.4	1,363.8			
Portage.....		8.7			
Quincy.....	336	852.2			
	1,533.1	3,050.8		6,041	8,543.4

This 8,543.4 tons rough are equal to 6,000 tons ingot copper, valued at \$420 per ton; or, in the aggregate, two millions five hundred and twenty thousand dollars.

STATEMENT OF PUBLIC TRANSACTIONS IN MINING SHARES DURING DECEMBER 1860, WITH THE AMOUNT PAID IN PER SHARE, AND THE OPENING AND CLOSING PRICES FOR THAT PERIOD. EACH COMPANY HAS ISSUED 20,000 SHARES.

Paid in per Shares				Paid in per Shares			
	share.	sold.	Op'n'g. Clos'g.		share.	sold.	Op'n'g. Clos'g.
Central.....	\$4 35	3,000	\$6 75	\$5 62	Petherick....	1 50	4 2 50
Copper Falls. 21 00					Pewabic.....	3 75	608 33 00 34 00
Franklin.....	4 50	195	19 00	19 50	Phoenix.....	8 00	
Hancock.....	2 50	2,718	2 50	2 25	Pit's'b'g & Bost	5 55	126 40 00 52 00
Huron.....	4 00	400	5 00		Pontiac.....	2 00	1,692 *2 37 †3 00
Isle Royale..	16 10	4,860	7 62	6 87	Quincy.....	10 00	69 28 50 27 87
Mesnard.....	2 50	3,427	2 50	3 50	Rockland....	5 00	503 18 00 17 25
Minnesota....	3 50	214	66 00	66 00	Superior.....	4 00	408 2 00 2 37
National.....	5 50	84	28 50	30 00	South Side... 1 00	245	1 00
North Cliff..	2 50	55	1 00	1 00	Toltec.....	17 00	1,684 2 37 2 00

* Prior t assessment.

† Assessment paid.

FIRE-PROOF SAFES.

It is obvious that in the construction of a chest designed to be not only burglar but fire-proof that iron as a material would naturally suggest itself. Nevertheless, oak seems formerly to have been a favorite material, probably from the facility of working and ornamenting. An example of this kind of coffer is afforded in the chest in which the crown jewels of Scotland were deposited in 1707. The chest, beautifully ornamented, was secured with iron bands, hasps, and staples. There were three locks, which then no doubt afforded security, but each of them could be opened in five minutes with a bit of crooked wire in our day. At the close of the last century there began to be made the iron chests known as "foreign coffers." These were constructed of sheet iron strongly riveted to hoop iron crossed at right angles on the outside; a lock, throwing eight bolts inside and two bars and staples for padlocks outside, were employed to secure the lid; over the door lock was a cap, beautifully pierced and chased, and a secretly operated escutcheon concealed the key-hole. These were formidable to look at, and no doubt answered their purpose all the better, that the science of lockpicking was then not so advanced as in the present day.

About the beginning of the present century, cast iron chests began to be made for commercial purposes, and the manufacture flourished to a considerable extent. The idea of introducing non-conducting substances as a protection against fire, occurred but some years later. The favorite substance for this purpose is gypsum, or plaster of Paris. The same material was applied to fire-safes in Paris, and these were to some extent imported into New York about the year 1820.

The first actual application of plaster of Paris to safes in this country seems to have been by JAMES CONNER, the type founder, of New York. His business made him acquainted with the non-conducting qualities of plaster of Paris, and he applied it to an iron chest in his office, which chest has been in use ever since. Soon after JESSE DELANO, of New York, began making chests of the Paris pattern, substituting solid cast iron heads to secure the bands. In 1826, he patented an improvement which consisted in coating the wooden foundation with a composition of equal parts clay, lime, plumbago, and mica, or saturating the wood in a solution of potash and alum, to render it incombustible.

The first portable fire-proof chests introduced for sale in this city, were imported from France by the late JOSEPH BOUCHERED, Esq., about 1820, and no doubt many of our old merchants and bankers remember them, as many were sold for use in counting-houses and bank vaults; they were constructed of wood and iron. The foundation was a box of hard close-grained wood, covered on the outside with plate iron, over which were hoops or bands of iron about two inches wide, crossing each other at right angles, so forming squares on all sides of the chest; holes were made in the bands and plates, through which well made wrought iron nails, or spikes, having "*hollow*," half-spherical heads, were driven into, and through, the wooden box, and then "*clinched*"—the inside of the chest was then lined with a covering of sheet iron. These chests had a well-furnished but very large lock, having from six to eight bolts operated by one turn of the key.

After Mr. DELANO, C. J. GAYLER began the safe manufacture, and in 1833 he patented his "double" fire-proof chest. This consisted of two chests, one so

formed within the other as to leave one or more spaces between them to enclose air or any known non-conductors of heat. In the same year, one of these double chests was severely tested by being exposed in a large building in Thomaston, Maine, that was entirely destroyed by fire. The chest preserved its contents in good order. This excited the public admiration, and one enthusiastic writer described it as a "Salamander," which name has ever since been popularly applied to safes.

The majority of the so-called "safes" in use at the time of the great fire in New York in 1835, were simply iron closets, and were of little protection against the devouring element. There were then about sixty of GAYLER's *double chests* in use, and they earned a character for the means with which they preserved books and securities. The fire of 1835, notwithstanding, stimulated ingenuity in the construction of safes, and JOHN SCOTT obtained a patent for the use of asbestos for fire-proof chests. He mixed that material with plaster of Paris and water, and spread it on from one to three inches thick on a wooden foundation or box. The composition was then covered with sheet iron, secured by bands or bar iron. In the following year, Mr. JAMES MATTHEWS, of New York, patented a composition for fire-proof safes, consisting of Roman cement, soapstone, alum, and glue. In 1837, BENJAMIN SHERWOOD, of New York, obtained a patent for a circular revolving safe within a safe, and claimed the exclusive right to the use of boiled gypsum and pulverized charcoal in equal proportions, mixed with water, and poured into the space between the inner and outer plates of each safe. In 1840, B. G. WILDER obtained a patent for a construction known as the "WILDER patent." This has had very good success. There is in New York two manufacturers of these—B. G. WILDER & Co., and A. S. MARVIN & Co.

In the same year Mr. FITZGERALD got out a patent for the combination of a safe with a counting-house desk. In 1843, the same person obtained a patent for the use of plaster of Paris alone or with mica, in the construction of fire-proof safes. In 1855, HOLMES G. BUTLER patented an improvement in the mode of applying alum filling in safes. The Messrs. SPEAR, of Philadelphia, obtained a patent for the use of the residuum of the materials used in the making of soda water, for safes. There have been many patents obtained for the use of plaster of Paris mixed with other substances. The leading articles used up to this time, however, are plaster of Paris, clay, and cement. These materials have furnished the manufacturers with the means of various combinations, for which greater or less advantages are claimed. The American safes are no doubt superior to those made in any other part of the world.

The main object of the safes enumerated has been protection against fire. In 1851, however, LEWIS LILLIE, of Troy, obtained a patent for a burglar proof chilled iron safe, that has come into vogue with the bankers. The mode of construction is peculiar, a foundation or box is made of bars of wrought iron, crossing each other at right angles, and placed near each other so as to form a compact network. The inside of this box is filled with sand, and placed in a mould with an open space of from one to two or more inches all around the outside. Into this space is poured cast iron, which becomes thoroughly chilled and hard, like the plowshare, and impervious to a drill. The door is made in the same manner, and secured by a Derby combination lock. There are other modes of combining the same materials for effecting the same object.

STATISTICS OF AGRICULTURE, &c.

AREA OF THE UNITED STATES.

One of the most interesting and instructive statistical tables compiled under the supervision of the government at Washington is one which shows the area in square miles and acres of the several States and territories of the Union. We present is as compiled at the General Land Office:—

AN EXHIBIT OF THE AREA OF THE SEVERAL STATES AND TERRITORIES OF THE UNITED STATES.

States of the Union.	Square miles.	Acres.	States of the Union.	Square miles.	Acres.
Maine.....	35,000	22,400,000	Maryland.....	11,124	7,149,360
New Hampshire	9,280	5,539,200	Virginia.....	61,352	39,250,280
Vermont.....	10,212	6,535,680	North Carolina .	50,704	32,450,560
Massachusetts...	7,800	4,992,000	South Carolina..	34,000	21,760,100
Rhode Islands..	1,306	835,840	Georgia.....	58,000	37,121,000
Connecticut....	4,750	3,040,000	Kentucky.....	34,080	24,115,100
New York.....	47,000	30,000,000	Tennessee.....	45,600	29,184,000
New Jersey....	8,320	5,324,800	Texas.....	274,356	175,587,840
Pennsylvania...	46,000	29,440,000			
Delaware.....	2,120	1,306,800	Total.....	744,604	476,540,560
Land States.	Square miles.	Acres.	Land States.	Square miles.	Acres.
Ohio.....	39,964	25,575,640	Florida.....	59,268	37,931,520
Indiana.....	33,809	21,637,960	Alabama.....	50,722	32,462,080
Michigan.....	56,451	36,128,760	Mississippi.....	47,166	30,179,080
Illinois.....	55,410	35,162,400	Louisiana..	41,346	26,461,440
Wisconsin.....	53,924	34,228,800	Arkansas.....	52,198	33,406,720
Iowa.....	55,075	35,228,800	Missouri.....	65,350	41,824,000
California.....	188,981	120,947,800			
Oregon.....	95,274	60,975,360	Total.....	978,429	626,194,560
Minnesota.....	83,531	53,459,840	D. of Columbia.	60	38,400
Territories.	Square miles.	Acres.	Territories.	Square miles.	Acres.
Kansas.....	126,233	80,821,120	Utah.....	220,196	140,925,400
Nebraska.....	342,433	219,160,320	Indian.....	67,020	42,892,800
Minnesota.....	81,960	52,434,400			
Washington....	193,071	123,565,440	Total territories.	1,287,277	823,857,280
New Mexico...	256,309	164,037,760	" land surface	3,010,277	1,926,636,800

To which added water surfaces, lakes, rivers, &c., we have a surface of over 3,250,000 square miles.

The aggregate area of the land States and territories is upward of 1,450,000,000 acres.

RUSSIAN TRADE AND HARVEST.

The London *Times* gives a review furnished by Mr. C. MATVEIEFF of the results thus far ascertained of the Russian grain harvest, which shows that, "although it will not realize the expectations originally entertained, it is likely on the whole to be very good both in quality and quantity. The drawbacks sustained have been from heat and drought, and consequently, while the autumn-sown crops which had previously gained strength have proved extremely abundant, those of the spring have been starved, and in many instances, destroyed. In the Moscow district the weather was most favorable until July, and although from that date the want of rain was much felt, the damage to the rye crops was

less than had been feared. The hay crop, which had been cut two or three weeks earlier than usual, turned out a full average and of superior quality. The spring-sown grain—principally oats—is expected to be under the average. With regard to the other parts of the empire, separating it into four divisions, the results appear to be as follows:—1. East and southeast.—The quantity and quality of autumn-sown corn full average, and that of spring-sown much below the average. 2. South and southwest.—Autumn-sown (rye and wheat) most abundant; spring corn full average. 3. West and northwest.—Autumn-sown, (principally rye, wheat being less cultivated here than in the southwest,) full average; spring-sown only an average. 4. North and northeast.—Autumn corn (rye) very good, both in quantity and quality; spring-sown a full average. From Siberia the reports describe the weather to be most beautiful and highly favorable for the crops, which were making great progress; the final result, however, had yet to be ascertained. With regard to other than cereal productions, the promise throughout the country seems to be satisfactory. The linseed crops have also suffered from the heat, but, owing to the quantity sown, the expectation is that, under any circumstances, they will be larger than those of last year. In respect to live stock it is stated that the supplies of beasts at Moscow have been so large that the prices of meat have fallen fifty per cent since March. The graziers had sent forward these supplies expecting an increased demand from a prosperous manufacturing business, and an augmentation of a number of workmen, and also in the belief that the combination among the speculators would succeed in keeping up the price of tallow, but the inland trade at all the principal fairs proved bad from the unfavorable harvest of last year and the collapse in the money market, and the manufacturers, instead of requiring more labor, find themselves with heavy stocks on hand. The latest accounts from Nischni—the greatest fair in Russia, are said to be deplorable. Concerning the future supply of tallow the opinion is that it will not be small. It is already known that the quantity from Samara will be about thirty-five thousand casks. Siberia is also certain to send as much as her recent contribution or more, as she is said to be making remarkable progress with this product. Since 1835 her annual supply has increased from eighteen thousand casks to forty thousand, exclusive of a few thousand casks retained for candle factories. The Ukraine likewise promises a larger yield this year, in consequence of good weather and the abundant harvest.

AGRICULTURE OF IRELAND, 1860.

The following statistics, from the official bureau in Dublin, will no doubt be read with general interest:—

AGRICULTURAL STATISTICS OF IRELAND FOR THE YEARS 1859 AND 1860.

	1859.	1860.	Increase.	Decrease.
Wheat	464,175	469,652	5,467	.....
Oats	1,982,662	1,961,384	....	21,278
Barley	177,894	180,964	3,070	.....
Bere and rye	13,196	12,822	....	376
Beans and peas	14,851	12,745	....	2,106
Total	2,652,780	2,637,557	8,537	23,760
Decrease in cereal crops in 1860			acres	15,223

	1859.	1860.	Increase.	Decrease.
Potatoes.....acres	1,200,317	1,171,837	....	28,510
Turnips.....	322,137	318,691	....	3,446
Mangel wurzel and beet root.....	27,054	32,060	5,006	....
Cabbage.....	31,680	22,749	....	8,931
Carrots, parsnips, & other green crops	21,971	21,630	....	358
Vetches and rape.....	33,243	40,533	7,290	....
Total.....	1,636,432	1,607,483	12,296	41,245
Decrease on green crops in 1860.....				28,949

GENERAL SUMMARY.

	Acres.
Increase on meadow and clover in 1860.....	157,375
Decrease in cereal crops in 1860.....	15,223
Decrease in green crops in 1860.....	28,949
Decrease in flax crops in 1860.....	7,838
	52,010
Total increase in extent of land under crops in 1860.....	105,865

TOTAL EXTENT IN STATUTE ACRES OF CEREAL AND GREEN CROPS.

	1859.	1860.
Wheat.....	464,175	469,632
Oats.....	1,982,662	1,961,384
Barley.....	177,894	180,964
Bere and rye.....	13,198	12,822
Beans and peas.....	14,851	12,745
Potatoes.....	1,200,347	1,171,837
Turnips.....	322,137	312,691
Mangel and beet root.....	27,054	32,060
Cabbage.....	31,680	22,749
Carrots, parsnips, and other green crops.....	21,971	21,613
Vetches and rape.....	33,243	40,533
Flax.....	136,282	128,444
Meadow and clover.....	1,437,111	1,594,486

RETURN OF LIVE STOCK.

	Horses.	Cattle.	Sheep.	Pigs.
1859.....	629,095	3,815,598	3,592,804	1,265,751
1860.....	620,938	3,599,235	3,537,946	1,268,590
Decrease.....	8,157	216,363	54,958	Inc. 2,839

PRODUCING MANURE FROM ATMOSPHERE.

The London *Chemical News* contains an article on this very important subject by two French chemists. The value of guano and most other concentrated manures consists, to a considerable extent, of the ammonia which they contain. As three-quarters of the atmospheric air consists of nitrogen, and as hydrogen forms one-ninth of all pure water, if some cheap means could be found for inducing the hydrogen of water to enter into combination with the nitrogen of air in the form of ammonia, this valuable manure could be produced in unlimited quantities, and the agricultural products of the world enormously increased. The production of ammonia at a low price has been a problem of the highest interest to agriculturists. It is composed of nitrogen and hydrogen.

Atmospheric air is an inexhaustible and gratuitous source of nitrogen. How-

ever, this element presents so great a difference in its chemical reactions, that, notwithstanding the numerous attempts which have been made, chemists have not heretofore succeeded in combining it with hydrogen so as to produce ammonia artificially. MM. MARGUERITTE and DE SOURDERAL, the chemists alluded to, have succeeded in making it artificially from the atmosphere, baryta. The following is the operation:—In an earthen retort is calcined, at an elevated and sustained temperature, a mixture of carbonate of baryta, iron filings in the proportion of about thirty per cent, the refuse of coal, tar, and saw dust. This produces a reduction to the state of anhydrous baryta, of the greater part of the carbonate employed. Afterwards is slowly passed a current of air across the porous mass, the oxygen of which is converted into carbonic oxyd by its passage over a column of incandescent charcoal, while its nitrogen, in presence of the charcoal and barium, transforms itself into cyanogen, and produces considerable quantities of cyanide. In effect, the matter sheltered from the air and cooled, and washed with boiling water, gives with the salts of iron an abundant precipitate of Prussian blue. The mixture thus calcined and cyanuretted is received into a cylinder of either cast or wrought iron, which serves both as an extinguisher and as an apparatus for the transformation of the cyanuret. Through this cylinder, at a temperature less than 300 degrees, (Centigrade,) is passed a current of steam, which disengages, under the form of ammonia, all the nitrogen contained in the cyanide of barium. It is impossible to foresee all the results of this great discovery. Among other things, it suggests the production of nitric acid from the air by oxydizing ammonia.

SHOEING OF CAVALRY HORSES.

The following circular has just been issued from the Horse Guards, by the Adjutant-general of the British army:—

SIR:—It being very desirable that a uniform system of shoeing should be established in the cavalry, and the whole of that important subject having been recently referred to the consideration of a board composed of officers of great experience in that branch of the service, assisted by two old and experienced professional men, the General Commanding in Chief has been pleased to direct that the following instructions, extracted from their report, and which embody the whole of their recommendations, be circulated throughout the cavalry, accompanied by duplicates of the pattern shoes, which have been sealed and deposited at the office of Military Boards for general reference and guidance.

1. The shoe is to beveled off, so as to leave a space and prevent pressure to the sole.
2. It is not to be grooved or fettered; but simply punched and the nails counter-sunk.
3. Calking is to be applied to the hind shoe only, and is to be confined to the outside heel. The inside heel is to be thickened in proportion.
4. The weight of the shoes is to be from twelve to fifteen ounces, according to the size of the horse.
5. As a general principle, horses are to be shod with not less than *six* nails in the fore and *seven* in the hind shoe; nor is this shoe to be attached with not fewer than *three* nails on either side.
6. In preparing the foot for the shoe, as little as possible should be pared out, and the operation should be confined to the removal of the exfoliating parts of the sole only.
7. Both the fore and hind shoes are to be made with a single clip at the toe.

STATISTICS OF POPULATION, &c.

UNITED STATES CENSUS FOR 1860.

The returns furnished by the Census Bureau to the Governors of States for the purpose of apportioning members of Congress gives the following aggregates:—

NORTHERN STATES.

	Population.		Apportionment.	
	1850.	1860.	New.	Old.
Maine.....	583,169	619,958	5	6
New Hampshire.....	317,976	326,072	3	3
Vermont.....	314,129	315,827	3	3
Massachusetts.....	994,514	1,281,494	10	11
Rhode Island.....	147,545	174,621	1	2
Connecticut.....	370,792	460,670	4	4
New York.....	3,097,394	3,851,563	30	33
Pennsylvania.....	2,311,786	2,916,018	23	25
New Jersey.....	489,555	676,034	5	5
Ohio.....	1,980,427	2,377,917	19	21
Indiana.....	988,416	1,350,802	11	11
Illinois.....	851,470	1,691,233	13	9
Michigan.....	397,654	754,291	6	4
Wisconsin.....	305,391	768,485	6	4
Iowa.....	192,214	682,000	5	2
Minnesota.....	6,077	172,793	1	2
Oregon.....	13,294	52,566	1	1
California.....	92,597	384,770	3	2
Kansas.....	.....	143,645	1	1
Total.....	18,454,169	18,950,759	150	149

SOUTHERN STATES.

	Population in 1850.			Population in 1860.			Apport.	
	Free.	Slave.	Total.	Free.	Slave.	Total.	N.	O.
Delaware.....	89,242	2,290	91,532	110,548	1,805	112,353	1	1
Maryland.....	492,666	90,368	583,034	646,183	85,382	731,565	6	6
Virginia.....	949,133	472,528	1,421,661	1,097,373	495,826	1,593,199	11	13
North Carolina.....	580,491	288,548	869,039	679,965	328,377	1,008,342	7	8
South Carolina.....	283,523	384,984	668,507	308,186	407,185	715,371	4	6
Georgia.....	524,503	381,682	906,185	615,336	467,400	1,082,736	7	8
Florida.....	48,135	39,309	87,445	81,885	63,800	145,685	1	1
Alabama.....	428,779	342,892	771,673	520,444	435,473	955,917	6	7
Mississippi.....	296,648	309,878	606,526	407,051	479,607	886,658	5	4
Louisiana.....	272,953	244,809	517,762	354,245	312,186	666,431	4	4
Arkansas.....	162,797	47,100	209,897	331,710	109,065	440,775	3	2
Texas.....	154,431	58,161	212,592	416,000	184,956	600,956	4	2
Tennessee.....	763,154	239,460	1,002,717	859,528	287,112	1,146,640	8	10
Kentucky.....	771,424	210,981	982,405	920,077	225,490	1,201,214	8	10
Missouri.....	594,622	87,422	682,044	1,085,595	115,619	1,145,567	9	7
Dist. of Columbia	48,000	3,687	51,687	.....	.....	75,321	.	.
Total.....	6,470,503	3,204,099	9,664,650	8,434,126	3,999,283	12,508,730	84	89

TERRITORIES.

Nebraska... ..	.....	28,893
New Mexico ...	61,547	93,024
Utah.....	11,354	50,000
Dacotah.....	.....	4,839
Washington....	.....	11,624
Total Territories... ..	72,901	188,370
Total United States....	23,191,876	31,647,859

IMMIGRATION IN CANADA.

We have, says the *Spectator* of Canada, through the kindness of the government emigrant agent in this city, been favored with the following comparative statement of the arrival and final settlement of immigrants from January 1st, 1857, to December 31st, 1860 :—

COMPARATIVE STATEMENT OF THE ARRIVAL OF IMMIGRANTS FOR THE YEARS 1857 TO 1860, BOTH INCLUSIVE.

	1857.	1858.	1859.	1860.	Total.
England.....	6,850	3,523	2,885	1,149	14,407
Ireland.....	5,942	2,505	1,743	1,453	11,643
Scotland.....	3,180	1,925	1,165	629	6,899
Germany.....	14,679	9,689	6,427	4,000	34,795
Norway.....	4,158	2,470	1,938	391	8,957
Total.....	34,809	20,112	14,158	7,622	76,701

SETTLED IN CANADA.

	1857.	1858.	1859.	1860.	Total.
England.....	3,992	1,591	1,146	591	7,320
Ireland.....	2,048	1,020	1,743	566	5,377
Scotland.....	1,674	1,245	1,165	456	4,540
Germany.....	1,916	1,082	513	562	4,023
Norway.....	....	....	15	...	15
Total.....	9,630	4,888	4,582	2,175	21,275

From the above it will be seen that out of 76,701 immigrants who have been drawn to this city from the five leading emigrating countries in Europe, 21,275 only have settled in this and the Northwestern portion of Canada, while 55,426, or over two-thirds of the arrivals, have passed on to the Western States. That there is some reason for this, is apparent to the most superficial observer. The purposes of human life—and especially among the emigrating classes—are not formed and completed without the powerful motive of improvement of circumstances, and it is equally certain that flaming placards and insinuating tales of untold wealth, to be found in the Eldorado of the West, have had an undue influence in directing so many Europeans to that portion of the continent which, like a maelstrom, has swallowed up their last dollar and left them a prey to the sharpers who infest these regions. With the exception of the Germans arrived here, eight-ninths of whom have passed through to the Western States, and out of 8,957 Norwegians we have secured 15. The inhabitants of the British Isles are the greatest dupes to those misrepresentations. In Scotland, it must be admitted, that the public are either better enlightened or they possess a stronger love of country, for fully two-thirds of the Scottish emigrants have settled in the Province.

ARRIVALS OF IMMIGRANTS IN NEW YORK FOR THE PAST TEN YEARS.

1850.....	212,706	1857.....	183,773
1851.....	289,601	1858.....	78,589
1852.....	300,992	1859.....	79,322
1853.....	284,954	1860.....	103,621
1854.....	319,223		
1855.....	136,233	Total.....	2,181,437
1856.....	142,342		

For a few years past no regular record has been kept of the amount of moneys that immigrants have brought into the country, but allowing \$76 *per capita*,

which is a fair average, it will be seen from the following table that the several countries have contributed as follows :—

Ireland.....	\$3,546,184	West Indies.....	30,596
Germany.....	2,860,336	Nova Scotia.....	1,976
England.....	844,512	Sardinia.....	6,916
Scotland.....	114,456	South America.....	8,056
Wales.....	61,484	Canada.....	1,758
France.....	111,720	Chiua.....	988
Spain.....	17,252	Sicily.....	304
Switzerland.....	104,816	Mexico.....	1,672
Holland.....	32,528	Russia.....	4,686
Norway.....	5,016	East Indies.....	904
Sweden.....	26,448	Turkey.....	152
Denmark.....	37,620	Greece.....	152
Italy.....	40,248		
Portugal.....	1,444	Total.....	\$7,875,196
Belgium.....	5,624		

POPULATION OF PENNSYLVANIA.

We publish below the returns of the census of Pennsylvania, as taken by the United States Marshals, which shows a gratifying increase of population, enabling Pennsylvania to retain her rank as the second State of the Confederacy. We have re-arranged the order of the table, in order to show the numerical importance of the separate counties, and have added the returns for 1840 and 1850, as follows :—

	1840.	1850.	1860.		1840.	1850.	1860.
Philadelphia...	258,037	408,762	568,034	Huntingdon...	35,484	24,786	28,204
Alleghany....	81,235	138,290	180,074	Adams.....	23,044	25,981	27,997
Lancaster....	84,203	98,944	116,621	Blair.....	.....	21,777	27,785
Berks.....	64,569	77,129	94,043	Center.....	20,492	23,355	27,087
Luzerne.....	44,006	56,072	91,089	Somerset....	19,650	24,416	26,920
Schuylkill....	29,053	60,713	90,173	Bedford.....	20,335	23,052	26,803
Chester.....	57,515	66,438	74,749	Clarion.....	.....	23,565	25,575
Montgomery...	47,241	58,291	70,494	Venango.....	17,900	18,310	25,189
York.....	47,010	57,450	68,088	Columbia....	24,267	17,710	24,603
Bucks.....	48,107	56,091	63,803	Greene.....	19,147	22,136	24,406
Westmoreland.	42,699	51,726	54,020	Lawrence....	.....	21,079	23,213
Bradford.....	32,769	42,831	50,046	Perry.....	17,096	20,088	22,940
Erie.....	31,344	38,742	49,687	Carbon.....	.....	15,686	21,239
Crawford.....	31,724	37,849	49,041	Warren.....	9,278	13,671	19,299
Lehigh.....	25,787	32,472	48,932	Clearfield...	7,834	12,586	18,925
Dauphin....	30,118	35,754	48,640	Jefferson....	7,253	13,518	18,414
Northampton.	40,996	40,235	47,775	Clinton.....	8,323	11,207	17,722
Washington...	41,279	44,939	47,319	Monroe.....	9,879	13,270	16,805
Franklin....	37,793	39,904	42,242	Mifflin.....	13,092	14,980	16,378
Cumberland..	30,953	34,327	40,402	Juniata.....	11,080	13,029	16,300
Fayette.....	33,574	39,112	40,166	Snyder.....	.....	.....	15,129
Lycoming....	22,649	26,257	37,560	Union.....	22,787	26,083	14,222
Mercer....	32,873	33,172	37,164	Montour.....	.....	13,239	13,110
Susquehanna..	21,195	28,688	36,665	Wyoming....	.....	10,655	12,644
Armstrong...	28,365	29,560	36,114	Potter.....	3,371	6,048	11,467
Indiana.....	20,782	27,170	33,809	Fulton.....	.....	7,567	9,140
Butler.....	22,378	30,346	33,753	McKean.....	2,975	5,254	9,000
Wayne.....	11,848	21,890	32,172	Pike.....	3,832	5,881	7,360
Tioga.....	15,498	23,987	31,218	Elk.....	.....	3,531	5,848
Delaware....	19,791	24,679	30,614	Sullivan.....	.....	3,694	4,440
Lebanon.....	21,872	26,071	30,030	Forest.....	.....	.....	889
Beaver.....	29,368	26,689	29,321				
Cambria.....	11,256	17,773	29,313				
Northumberland.	20,027	23,272	29,057	Total....	1,724,633	2,311,786	2,913,041

POPULATION OF IOWA.

	1840.	1850.	1860.		1840.	1850.	1860.
Dubuque.....	3,059	10,841	31,387	Page	551	4,418	
Lee	6,093	18,861	29,296	Chickasaw.....		4,336	
Scott.....	2,140	5,986	25,994	Floyd.....		3,744	
Clayton.....	1,101	3,873	20,746	Butler		3,714	
Des Moines....	5,577	12,988	19,707	Harrison		3,634	
Linn.....	1,373	5,444	19,020	Taylor.....	204	3,591	
Clinton	821	2,822	19,013	Mitchell.....		3,414	
Jackson.....	1,411	7,210	18,509	Howard.....		3,168	
Henry	3,772	8,707	17,783	Guthrie.....		3,058	
Johnson.....	1,491	4,472	17,589	Ringgold.....		2,928	
Van Buren	6,146	12,270	17,084	Webster		2,507	
Marion		5,482	16,811	Union		2,110	
Muscatine.....	1,942	5,731	16,454	Hamilton		1,701	
Jefferson	2,773	9,904	14,920	Cass.....		1,608	
Mahaska		5,989	14,838	Adams.....		1,494	
Wapello		8,471	14,596	Franklin.....		1,389	
Washington....	1,594	4,957	14,277	Greene.....		1,378	
Winneshiek....		546	13,940	Montgomery....		1,275	
Davis.....		7,264	13,771	Woodbury.....		1,124	
Jones.....	471	3,007	13,331	Adair.....		984	
Keokuk.....		4,822	13,282	Cerro Gordo....		940	
Cedar.....	1,253	3,941	12,976	Monona.....		818	
Allamakee		777	12,246	Shelby.....		818	
Fayette		825	12,097	Grundy.....		787	
Appanoose		3,131	11,933	Worth.....		756	
Polk.....		4,513	11,639	Wright		652	
Delaware.....	168	1,759	11,050	Audubon.....		454	
Louisa	1,927	4,939	10,492	Kossuth.....		409	
Warren.....		961	10,287	Crawford.....		345	
Jasper.....		1,280	9,879	Humboldt.....		332	
Decatur.....		965	8,692	Carroll.....		282	
Monroe.....		2,884	8,619	Sac		246	
Benton		672	8,503	Dickinson.....		180	
Black Hawk....		135	8,269	Hancock.....		179	
Iowa		822	8,075	Winnebago....		168	
Buchanan		517	7,907	Plymouth.....		149	
Madison		1,179	7,520	Calhoun.....		147	
Marshall		338	6,717	Palo Alto		132	
Wayne		340	6,413	Emmett.....		105	
Poweshiek.....		615	5,672	Pocahontas		103	
Lucas.....		471	5,608	Cherokee.....		59	
Clark.....		79	5,484	Buena Vista		57	
Hardin.....			5,475	Clay.....		52	
Boone.....		735	5,430	Ida.....		43	
Tama.....		8	5,291	Sioux.....		10	
Dallas		854	5,230	O'Brien.....		8	
Fremont		1,244	5,069	Buncombe.....			
Pottowatamie ..		7,828	4,967	Osceola.....			
Bremer			4,896				
Story.....			4,600				
Mills			4,478				
				Total	43,112	192,214	676,435

MIGRATION FROM BREMEN AND HAMBURG.

	Bremen.	Hamburg.		Bremen.	Hamburg.
1850.....persons	25,776	7,430	1856	36,517	26,203
1851	37,493	12,279	1857	49,448	31,566
1852	58,551	29,035	1858	23,177	19,799
1853	58,111	29,480	1859	22,011	13,242
1854	76,875	50,819	1860	29,378	15,953
1855	31,550	18,652			

POPULATION OF THE UNITED STATES.

By a formula published with the census of 1840, by the Franklin Institute *Journal*, the population of the United States was calculated up to 1900, and back to 1750, or for 15 decades. By reproducing the formula, as then published, and adding the numbers as since ascertained by the census of 1850 and that of 1860, we obtain results as follows:—

Date.	By census.	By formula.	Census exceeds formula.
1750 .....	.....	1,015,000	.....
1760 .....	.....	1,455,000	.....
1770 .....	.....	2,054,000	.....
1780 .....	.....	2,059,000	.....
1790	3,929,827	3,928,000	.....
1800	5,305,940	5,344,000	.....
1810	7,239,814	7,207,000	32,814
1820	9,654,576	9,650,000	4,596
1830	12,866,020	12,856,000	10,020
1840	17,069,453	17,068,000	789
1850	23,196,876	22,629,000	562,876
1860	31,648,923	30,007,000	1,641,923
1870 .....	.....	39,890,000	.....
1880 .....	.....	53,200,000	.....
1890 .....	.....	71,000,000	.....
1900 .....	.....	97,000,000	.....

Where the figures of the census exceed those of the formula the disturbance has been caused evidently by immigration. Thus the census 1860 exceeds the figures by formula 1,641,923, but the number who arrived in the country during that time has been 2,518,054, of whom at least sufficient to account for the discrepancy remained. The census of 1850 was 562,876 in excess of the formula; but 1,427,337 immigrants arrived in that ten years. In the previous decades the number of arrivals was small and the discrepancy not large. The formula, then, which has proved so accurate for eight decades may well be depended upon for at least two or three more, and the close of the present century will find, 100,000,000, we trust, united and prosperous people.

POPULATION OF MICHIGAN.

A week or two ago, says the *Detroit Free Press*, the Legislature adopted a resolution calling upon the Secretary of State to furnish the Legislature with a table of the population of the State by townships and counties at the census of 1860. He has complied, and a document has been printed containing the required information. The total population of the State by counties foots up at 757,683, which is the first official statement published, and is an increase of some ten thousand over what it has been heretofore stated.

THE WORLD'S CENTER.

The census develops the curious fact that there are more Scotch descendants in London than in Edinburgh, more Irish than in Dublin, 100,000 more Romanists than in Rome, and more Jews than in Palestine. There are also in the same metropolis no less than 60,000 Germans, 30,000 French, and 6,000 Italians. a very large number of Asiatics, from all parts of the East, and many who still worship their idols.

MERCANTILE MISCELLANIES.

FOREIGN COMMERCIAL ITEMS.

I.—THE SOURCES OF THE NILE—CULTIVATION OF COTTON IN AFRICA.

On the 12th of February, 1861, Mr. PETHERICK, British Consul in the Sudan, who is about to proceed to Africa to explore the sources of the Nile, delivered an address to the merchants of Liverpool. Consul Petherick has been fifteen years a resident in the interior of Africa; and, under the auspices of the Royal Geographical Society, he is about to commence an expedition from his residence at Khartum, in the hope of meeting and assisting Captain Speke, who is starting from Lake Nyanza to explore the yet unknown district lying between there and Kondokoro, and where he hopes to be able to trace the sources of the Nile:—

Mr. PETHERICK said:—"Unbiased by theory myself, I propose what appears to me the most practical way of dissolving the mystery as to the source of the Nile, namely, simply to follow the course of the stream. Capt. Speke, in examining the northern confines of the Lake Nyanza, might probably discover a water-shed, dipping westwards, and be enabled to throw additional light on a stream of considerable magnitude, the existence of which I learned from the Neam-Neam, during my last trading expedition in the year 1858. When, according to my crude calculations, unassisted with instruments, I believed I had arrived near the equator, I learned that the southern extremity of the Neam-Neam territory was defined by a large river, the course of which was distinctly described as flowing from the east towards the setting sun. Taking into consideration that our knowledge extends but a very inconsiderable distance from the west coast into the interior, and that, with the exception of the Niger, our knowledge of the course of other streams is but conjecture, I am induced to believe that this reported river might be either a large tributary to the Congo, or some one or other of the large streams that discharge themselves into the South Atlantic Ocean. It is to this large and navigable river, in the most central point of Africa, that I look forward to establish the first fruits of geographical discovery in connection with British commerce. If a channel, such as described, should be proved to lead from the seaboard into the very heart of Central Africa, the whole produce of the country, in addition to ivory, such as oils, seeds, hides, indigo, cotton, gums, and India rubber, may be obtained in exchange for our manufactures. In addition to India rubber, I have also discovered cochineal; and, with regard to cotton, they would observe that Dr. Livingstone stated that in his quarter of Africa he found indigenous cotton growing in the country without cultivation on the part of the people; they found that the missionaries in Abeokuta, going up the valley of the Niger, observed the same thing; and Mr. Petherick, going up the White Nile from the northward, found the people there growing and manufacturing cotton, and, on the Gold Coast, very large communities of people were engaged in the production of this article. In the quarter which he had visited, he ventured to say that cotton was not only abundant in quantity, but excellent in quality. He found in the country immediately to the interior of Sherboro that cotton was the great staple article of production; the people there were in the habit of producing and manufacturing it, and the clothes which they manufactured were of precisely the same quality as those which we found, from the accounts of missionaries, up the Niger, and highly valued by the people."

II.—CULTIVATION OF COTTON IN AUSTRALIA.

What is required to bring the cotton lands of Australia into cultivation, is

capital and labor. Of these two important essentials, the men of Manchester have no lack. They readily subscribed a hundred thousand pounds when the repeal of the Corn Laws obtained for them cheap bread for their factory hands, and procured them new markets for their manufactures, in exchange for the corn and flour which would be imported. The same sum, judiciously applied, would have gone far to have obtained for them a supply of cotton from Queensland and other parts of the British possessions. With respect to the supply of labor, that is a difficulty which might have been, and would have been overcome, had the necessary capital been forthcoming, by the importation of Coolies and Chinese into the new cotton growing districts. With such magnificent colonies as we possess; with lands suited in every respect for the culture of cotton, which may be purchased for a merely nominal sum; with all our manufacturing skill for producing the necessary implements; and with abundance of capital at our disposal, and with facilities for obtaining labor from India and from China under the new treaty, it will be a crying shame and disgrace to the country, if we continue much longer in our state of precarious dependence upon the cotton growing states of America. Whatever may be done in directing attention to new fields of productiveness, we hope that the unequalled facilities of Queensland will not be overlooked. We are glad to learn that the colonists are fully alive to the importance of providing additional labor, and a memorial is in course of preparation to the authorities, praying for some relaxation in the present regulation respecting the introduction of Coolie emigrants. Now that the treaty of Peking recognizes the right of emigration on the part of Chinese, there can be no difficulty in affording increased facilities to their leaving the country and settling in Australia.—*Australian and New Zealand Gazette.*

III.—THE SUPPLY OF COTTON AND BORNEO.

The prospects of a civil war in America have caused a rise in the price of all descriptions of cotton; and, what is more important, the future supply is now a matter anxiously discussed by our Lancashire spinners. Lord John Russell has proposed to the Manchester Chamber of Commerce, to place the services of Her Majesty's Consuls in all parts of the world at the disposal of any association taking steps to promote the growth of this staple. In his letter he states that the course is an unusual one, but he considers the importance of the case demands it at his hands. Instructions by this mail will be sent to India to increase the growth there. Now is the time for those interested in Borneo to show what can be done there, and it may lead to a protectorate by the British government to Sarawak. It would be well if the government instructed Lord Elgin, or if he took it on himself to call there and at Labuan, to ascertain the causes which led to the interference of Governor Edwards in the affairs of Sarawak, and in other respects gain information for our government of that settlement, and Borneo in general.—*London and China Telegraph.*

IV.—EUROPEAN RAILWAYS.

The yearly statistics of the passenger traffic between France and Great Britain have been published by the French Custom-house, and it appears that the number of passengers arriving at or leaving the French ports, taking arrivals and departures together, were as follows in the year 1860:—Boulogne, 102,829 passengers; Calais, 74,875; other ports, 55,833; total, 233,537 passengers.

In the year 1859, the numbers had been, at Boulogne, 86,579 passengers; Calais, 67,311; other ports, 51,566; total, 205,456 passengers. There is thus an increase at Boulogne of 16,250 passengers, or 18½ per cent; at Calais, of 7,564 passengers, or 11 per cent; at the other ports of 4,267 passengers, or 8 per cent; giving a total increase of 28,081 passengers, or 13 per cent. The total number of passengers between British and Belgian ports amounted to 27,722 in 1860.

V.—INDIGO GROWING IN INDIA.

A deputation from London of gentlemen largely interested in indigo planting in India, consisting of Messrs. Skinner, Begg, Thomas, Mochair, Savi, and Mackinlay, accompanied by Mr. Smollett, M. P., had an interview with the Manchester Chamber of Commerce, on the 28th, for the purpose of seeking the aid of the Chamber in calling the attention of government to the disastrous condition of the indigo districts in Lower Bengal, owing to the non-fulfilment of contracts on the part of the ryots, in which course they appeared to have received direct encouragement on the part of the government officials in India. After a very lengthened sitting, it was unanimously resolved to memorialize Viscount Palmerston, praying that Her Majesty's government would institute immediate and searching inquiry, with a view to redressing the grievances complained of.

VI.—THE FAILURES IN THE LEVANT TRADE.

Public attention is directed to the collapse of a large number of houses, principally Greek, in the Levant trade. The failures within the last few days have been very numerous. To say that further embarrassments are looked for in the same quarter, is merely to echo the feeling in commercial circles, and the remark, therefore, cannot be considered invidious. There is no doubt whatever, that a number of firms in this department of business have embarked in engagements to an extent out of proportion to their capital. The existing embarrassments furnish, consequently, a fresh warning which it may be well for the commercial public to digest. They show that when the practice of relying upon paper credit takes too firm a hold of any branch of trade, there is a worm at the root of its apparent prosperity. Its operations may be based upon shrewd calculations; its profits may be large and legitimate; but a mere accident may affect the pillar of credit upon which the entire superstructure reposes, and its collapse becomes then certain. The present distrust of all Greek paper is scarcely justified by the statements of accounts put forward on behalf of some of the houses that have lately stopped. It is to be observed, too, in mere fairness, that the financial and other establishments which have transactions with the Greek houses, speak highly of their business-like and straightforward conduct. This is a subject which it would perhaps be hardly judicious to pursue further in the present disturbed state of the public mind, yet which cannot be altogether ignored in any record professing to deal with prominent commercial topics.—*London Daily News*.

VII.—BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

The next meeting of this association is to be held at Manchester on Wednesday, the 4th of September, under the Presidency of Mr. William Fairbairn, F. R. S., President of the Literary and Philosophical Society of Manchester. Among the gentlemen who have consented to act as Vice-Presidents, are Lord Stanley, M. P., Sir Philip de Malpas Grey Egerton, Bart., Sir Benjamin Heywood, Bart., Mr. Aspinall Turner, M. P., Mr. Bazley, M. P., and the Bishop of Manchester.

THE LONDON "TIMES"—A GLANCE AT ITS MACHINERY.

The London *Times* is the recognized organ of British public opinion, and is beyond all question the most ably edited and influential journal in the world. Its editorials are essays upon the great political, literary and social topics of the day, and so powerfully written that they have been collected into books; while its correspondence from all parts of the world is an inexhaustible source of information. A complete set of the London *Times* from its commencement forms the most voluminous history of the world in print. All details, therefore, connected with this powerful journal will be read with interest by our readers. A correspondent of the French journal, *Courrier de l' Eure*, after visiting that establishment, furnishes the following particulars :—

I have visited in London the printing office of the *Times*. It is truly something great and wonderful; there is nowhere in France anything of the kind to equal it. At the starting of the paper in 1791, the *Times* consisted of only a single page, and was printed by a hand-press, which struck off one side of two hundred sheets per hour. In 1814, Koenig made a press which struck off 1,800 sheets. In 1827, Applegarth, aided by Courier, constructed a new one, on which 4,000 to 5,000 copies could be printed. In 1828, the same Applegarth established his famous vertical machine, which I examined, and on which 10,000 copies per hour are struck off. Since 1828 the managers of the *Times* have erected another machine, with horizontal cylinders, which strikes off eight copies at once, or about 12,500 per hour. These two presses, which make while at work a deafening noise, and which can be stopped at a moment's notice, are moved by an engine of 45-horse power. Adjoining the room in which is the boiler is a closet containing white marble bathing tubs intended for the workmen in the establishment. They cost ninety guineas.

A compositor on the *Times* must have passed an examination showing that he can set at least 40 lines of 56 letters, or about 2,240 letters per hour. The price paid for type-setting is 11d. per thousand letters, at which rate the compositor can make from 25 to 30 francs in an ordinary day's work. This amounts to about five dollars per day. There are 124 compositors employed, 50 of whom are occupied solely in setting up advertisements. Five or six stenographers take notes of Parliamentary proceedings, at Westminster, and return every quarter of an hour to the newspaper office, to put their copy in shape and let the compositors have it without delay. In this way it often happens that a speech delivered at two o'clock in the morning appears in the journal which is struck off at six o'clock and distributed at seven.

The editorial room is large and well lighted. In the center is a huge oak table, and around the room are little desks finished with every convenience for writing. Adjoining is a dining-room for the editors, and the archive room, where are stored all the files of the *Times* since its foundation. Next to the archive chamber, I saw the proof-readers' rooms, where are hundreds of dictionaries and encyclopædias, in all languages and relating to all subjects. A dozen proof-readers are employed during the day, and another dozen during the night. They have an eating room adjoining that where they work, and their meals are provided at the expense of the establishment.

Another story is a small room where are printed the registers and envelopes for the mail papers. Every one of the editors, living in London carries with him

a number of envelopes addressed to the *Times*, so that in any place, where he may happen to be, at the theater, the races, or elsewhere, he can send by a special messengers his copy to the office. The foreign correspondents have envelopes of red paper, which are sent immediately on their arrival from the post-office to the *Times* office. Supplies of paper and ink are constantly kept in readiness. Four thousand pounds of ink are used each week. The paper is weighed in the establishment by a very ingenious machine. It is also postmarked on the spot. The journal appears every morning and evening. But sometimes during the day special editions are issued when important news demands. This extra edition can be prepared in two hours. When I visited the establishment it was one o'clock in the day, and the news had just arrived of the death, at half-past twelve, of ALBERT SMITH. At half-past two the *Times* appeared with his obituary.

The administration of the *Times* has nothing to do with the subscriptions to the paper. SMITH, of the Strand, attends to the mailing of the papers for England, Europe, and, indeed, the entire world. Mr. SMITH takes thirty thousand copies a day, sixteen thousand of which he receives at five o'clock in the morning, and dispatches them by carriers at six o'clock. The other numbers of the *Times* are bought by one hundred and seventy news dealers, who pay in advance. They order each day the number of copies they will need for the day following. They pay 30 centimes for each copy, retailing it at 50 centimes. The management of the paper lose something on each sheet by selling it at such a price, but look to the advertisements for their profits. The charges for these advertisements are, of course, very large, and the amount must be considerable, as the revenue of the *Times* reaches to nearly five millions francs. I was told that one of the proprietors of the *Times* had given as a dowry to his daughter the money accruing from one advertising page of the paper for one year.

The wear and tear produced by the perpetual motion which reigns in this immense establishment is so great that it is necessary to rebuild and strengthen once every two years the lower stories of the building. In the museum I was shown the arms with which some ten years ago the workmen of the establishment, to the number of three hundred and fifty, repressed a disorderly mob.

~~~~~ WOULD I WERE RICH!

These words fell from the lips of a wife, who was surrounded with more blessings than usually falls to the lot of women, if they had been rightly appreciated; but an error in education had produced a morbid desire for independence and freedom of all care and labor, even the necessary duties of the wife, whose position as the mistress of the household required of her the general oversight of it.

"Would I were rich!" again fell from her lips, as they curled in scorn at the idea of a little care and labor! "Oh! if I were rich, I should not be compelled to do a menial's work. I would have overseers in every department, and then I could live at my ease! I would have servants enough! I would have my carriage, rich dresses, and diamonds! Then I should feel happy!"

This is no fiction; we heard the words as they fell from the lips of one whose elegant figure and intelligent face bespoke one capable of creating a little world of happiness, and shedding a halo of joy upon a thousand hearts. But alas! an uneasy spirit, a soul of unrest, was shedding a blight on the very atmosphere around, like to the chill that falls upon the air when the sun is eclipsed! So

the beauty and joy which might have been scattered around by a spirit otherwise so beautiful, was destined to be lost, and the happiness which, were it not for this fatal error, would have been bestowed on a troop of loving friends, was gone forever!

Oh! this desire for wealth by woman! To win it, happiness, hope, honor, and home, with all that makes life worth living for, must be sacrificed at the shrine of Gold!

"Would I were rich! then should my pride
And loftiest hopes be gratified!
But now, alas! I must endure
A harder fate, for I am poor!
And must I daily toil and work,
Like some poor slave of turbaned Turk?
Caged here at 'home' from day to day?
Never! Not I! There is a way
Where I can win the wealth I crave,
And live above the toiling slave!
I will be rich! I will have gold!
Though all my hopes of earth are sold!
I will be rich! in splendor shine!
I will have wealth! It shall be mine!"
Thus spoke this proud, imperious dame,
Who deemed that wealth was honor, fame!

How few in this world rightly appreciate the value of a true education! Woman, truly trained, passes through the world leaving a train of influences that are perennial with glory and honor. But when she has been wrongly educated, she leaves a blight and mildew upon all that is young, fair, and beautiful; for by reason of her greater and more potent influence, so is her pathway marked with glory or dishonor!

A mother's influence is of a high, holy, and Godlike character. She is the "Creator of Men," and her example must affect the world for weal or woe. And when one who bears such an influence gives her life, soul, and energies, to the love of wealth, such as we have described, and truthfully, too, how long will it be before the world will lose its love of gold, which is but the food of the murderer, robber, and assassin? The picture we have essayed to draw is dark, but it is a true one.

THE ABUSE OF CREDIT.

Credit, although desirable, and in the opinion of many indispensable, in carrying on business of all kinds, is nevertheless indiscreetly used, inconsiderately given, and often abused. We purpose to consider by whom the system is abused, and first the creditor himself, in consequence of too great anxiety to sell, when he meets what he considers a good customer, more goods than that customer can pay for without depending on a great many contingencies, oversteps the bounds which prudence would fix and investigation would suggest. The consideration is too often, is he good for it? It should be, will his legitimate business enable him to make prompt payments? If such a question should not receive a satisfactory answer, if it will be evident that the ordinary business transactions of the customer will not warrant him in using the credit which his too willing creditor would extend to him, the bills receivable which the creditor may hold, will be the poorest possible description of available funds, for the property of the debtor must be sacrificed before they can be collected, and the law with all its

uncertainty and delay, will render this mode of settlement slow and tedious. The buyer, too, abuses the credit system, when he allows himself to buy more goods than his regular trade will call for, under ordinary circumstances. It is not all that is sold to the consumer, which is well sold, no matter how good he may be for it, but only what he can conveniently pay for. Men, who have a moderate capital and good credit are tempted to open a mercantile house in a certain location, because it is considered a good location for business, and some of those, who have been long established there, have become wealthy; and in order to make a good appearance, and in that way build up a business at once, they tax their capital and credit to the utmost. The consequence is, that before the foundation is laid, their capital and their credit are both lost. They, with a little more patience, with a little more calculation, with a little more willingness to build up a business gradually, would have used their credit judiciously, and would have saved it and their capital also. The credit system is abused in another way, by selling merchandise which has been bought on time, and which really belongs to creditors, for anything but cash down, or at a stipulated time. The man who finds that he has bought more goods than he can find a ready sale for, and exchanges them for houses or land, not only abuses his credit, but does his creditor great injustice and great injury. In consequence of this system of credit, facilities are offered to engage in mercantile life which many accept who are either incapable of conducting any business successfully, or who attempt to carry it on in locations already full, and this is another abuse of the system. But another way in which the system is used is by far the most disastrous of all, and that is, in helping on great speculations which dishonest men contrive. For instance, an individual with a moderate capital may commence business in some thriving town, he will visit one of our wholesale establishments, and with his good references, but particularly with his money, he will contrive to become favorably known. He will confine himself at first to one house, but by managing his funds adroitly, he will soon extend his acquaintances. For a time he purchases with caution, pays promptly and succeeds. He enjoys the reputation of a man of promptness and capital, and of one doing a staving business. His acquaintance is sought; he is encouraged, consulted, and flattered; everything goes on finely for a while, but at last he buys largely, goes in beyond his depth, makes one grand splurge, and then judiciously and profitably goes up. Set it down, that the farmer or mechanic, who buys beyond his available means is a bad customer; and the merchant, who is continually selling at cost or under, in order to sell more goods than his more judicious neighbor, is a bad customer; and the dealer, who buys goods to make a show with, is a bad customer. Any man, who does business, entirely on credit, is a bad customer, and finally the man, who does not own at least one-half of his stock in trade, is never a safe customer.

WHAT BECOMES OF WEALTH?

A boot and shoe dealer has hanging in his store, a pair of boots worth \$7. They constitute a portion of his wealth, and a portion of the wealth of the world. A man buys them and begins to wear them; by friction against the pavements little particles of the leather are rubbed off, and thus separated from the rest of the sole. Every particle that is thus removed takes out a portion of the value

of the boots, and when the boots are entirely worn out, the seven dollars of wealth which they formed is consumed. The wheat, corn, &c., which was raised by our farmers last summer is being eaten up. No particle of matter is destroyed by this process, but the value which was in the grain is destroyed.

As, while men are wearing out clothing and eating up food, they are generally busily employed in producing wealth of some kind, the wealth of the world is not usually diminished by this consumption, but it is changed. This applies, however, only to personal property; town lots and farms generally retain their value, but the personal property is in a state of perpetual destruction and renewal. As the several particles of water which constitute a river are forever rolling away to the ocean, while their places are being supplied from the springs and fountains, so the movable wealth of the world is constantly being consumed to gratify human wants, and constantly being renewed by the restless activity of human industry.

CENTRAL HEAT OF THE EARTH.

The rate of increase of heat is equal to one degree of Fahrenheit for every forty-five feet of descent. Looking to the result of such a rate of increase, it is easy to see that at seven thousand two hundred and ninety feet from the surface the heat will reach two hundred and twelve degrees, the boiling point of water. At twenty-five thousand five hundred feet it will melt lead; at seven miles it will maintain a glowing red heat; at twenty-one miles melt gold; at seventy-four miles cast-iron; at ninety-seven miles soften iron; and at one hundred miles from the surface all will be fluid as water—a mass of seething and boiling rock in a perpetually molten state, doomed possibly never to be cooled or crystalized. The heat here will exceed any with which man is acquainted; it will exceed the heat of the electric spark, or the effect of a continued voltaic current. The heat which melts platina as if it were wax is as ice to it. Could we visually observe its effects, our intellect would afford no means of measuring its intensity. Here is the region of perpetual fire, the source of earthquake and volcanic power.

COATING IRON WITH INDIA RUBBER.

A peculiar method of coating iron with India rubber and vulcanizing it has been patented by T. D. DART, of London, whereby plates of iron so treated may be employed for ship-building, and have a most permanent and impermeable surface. The surface of the iron is first scoured bright with diluted sulphuric acid, sand, and water; then sulphurized India rubber is applied to the surface, and all the air is excluded. For this purpose, two thin sheets—one on each side—of India rubber are applied to a sheet of iron four feet by fourteen inches, and the edges of them brought close together so as to seal up the iron between them. Before the sealing action is performed, however, all the air is excluded under the sheets by commencing at the middle and rolling them toward the edges, when the sheets are then united together. A pile of sheets being thus prepared, they are placed with a sheet of common tinned iron between each pair, then cramped and pressed tightly together and set into the vulcanizing chamber where they are subjected to high pressure steam, and the India rubber thus becomes most permanently attached to the iron.

 THE BOOK TRADE.

1.—“*The Merchants' and Bankers' Almanac*” for 1861 has been published at the office of the *Bankers' Magazine*, in an octavo volume of two hundred pages, with an elegantly engraved frontispiece by the American Bank Note Company, with the heads of the following merchants and bankers:—1. George Peabody. 2. Stephen Girard. 3. Albert Gallatin. 4. Erastus Corning. 5. David Leavitt. 6. John Richardson, President Bank of North America, Philadelphia. 7. James M. Ray, of Indiana. The contents of the volume are as follows:—

1. A List of the Banks, arranged Alphabetically, in every State and City of the Union, January, 1861—Names of President and Cashier, and Capital of each. 2. A List of Private Bankers in Three Hundred and Fifty Cities and Towns of the United States. 3. Alphabetical List of Sixteen Hundred Cashiers in the United States. 4. List of the Banks in Canada, New Brunswick, and Nova Scotia—their Cashiers, Managers, and Foreign Agents. 5. Governor, Directors, and Officers of the Bank of England, December, 1860. 6. List of Banks and Bankers in London, December, 1860. 7. List of Bankers in Europe, Asia, South America, Australia, West Indies, etc. 8. Lowest and Highest Quotations of Stocks at New York, each Month, 1860. 9. History of the Mint of the United States, and Statistics of the Coinage. 10. Quotations of Foreign Exchange at New York, each Month, 1860. 11. The Usury Laws and Law of Damages on Bills, of each State in the United States. 12. The Banks of New York—Names of President, Vice-President, Cashier, and Notary. 13. On the Progress of Bank Note Engraving in the United States. 14. Historical Sketch of Early Banking in the United States. 15. The Cotton Crop of each Year, and Foreign Exports, 1857–1860. 16. Dictionary of Commercial and Financial Terms. 17. Portraits and Biographic Sketches of Albert Gallatin—Stephen Girard—George Peabody—Erastus Corning—John Richardson—David Leavitt—James M. Ray. 18. Railroads of Each State—Length, Cost, etc.—December, 1860. 19. The Banking Systems of Europe—France, Germany, Austria, Russia. 20. Table of the Values of all Foreign Gold and Silver Coins in the United States. One volume octavo, paper covers. Price \$1 25. The engravings are in the highest style of art. They are not only admirable portraits of the eminent originals, but are executed in a style that reflects the highest credit on the enterprising publisher, as well as upon the character of American steel engravers.

2.—*The Works of Francis Bacon*, Baron of Verulam, Viscount St. Albans, and Lord High Chancellor of England. Edited by JAMES SPEDDING, M. A., of Trinity College, Cambridge. Vol. xiv., being vol. iv. of the Literary and Professional Works. 12mo., pp. 422. Boston: Brown & Taggard; also for sale by E. French, 53 Cedar-street, New York.

It is with pleasure we note the progress of this superb edition of the literary remains of Lord Bacon, by the enterprising publishers above. In the present volume, which is volume four of his literary and professional works, is included his Formulaires and Elegancies; his religious writings, such as Confessions of Faith, Prayers, Translations of Certain Psalms, together with his Christian Paradoxes, and in that part allotted to his professional writings we find his Maxims of the Law, Reading on the Statute of Uses, Use of the Law, &c., &c. Truly this is the best republication, both as regards subject matter and mechanical skill we have had in a long time, and the Boston publishers are well deserving the patronage of the public for their generous outlay.

- 3.—*The American Almanac and Repository of Useful Knowledge for 1861.* Boston, 1861.

Part I. contains the Astronomical Department, which has been prepared by Mr. GEORGE P. BOND, the Director of the Observatory at Cambridge, an interesting paper on Meteorology by Professor LOVERING, of Harvard College, and an elaborate and exceedingly valuable article by Dr. MORRILL WYMAN, of Cambridge, on Pleuro-Pneumonia, etc. In Part II. will be found the usual amount and variety of valuable knowledge in relation to the complex affairs and details of the General and State Governments. There are tables giving the weight, fineness, and value of foreign gold and silver coins; prices of beef, pork, and nine other articles, at New York, for forty years; railroads, telegraphic and submarine telegraph lines; colleges and professional schools; an abstract of the population tables of the eighth census (1860) of the United States, with the federal representative population, and the representatives to which each State will be entitled for the next ten years, with the gain or loss of each State, etc., etc., and the members elect to the thirty-ninth Congress, etc. The lists of the executive and judiciary of the several States are given, corrected to the latest date, and full details respecting their finances, schools, and charitable and correctional institutions; and the European portion is especially full. Price \$1, and sent by mail free of postage.

- 4.—*Fibrilia; A Practical and Economical Substitute for Cotton*, with Illustrations from Microscopic Examinations. 16mo., pp. 260. Cloth bound, price \$1 00. Boston: Crosby, Nichols, Lee & Co.

This new work gives a full account of the patented process by which flax, hemp, jute, China grass, and various other plants capable of cultivation throughout the United States, may be converted into an article superior to cotton, and profitably sold at a far less price than that famous staple has averaged for the last thirty-two years.

- 5.—*A Practical Treatise on Banking.* By JAMES WILLIAM GILBART, F. R. S., late General Manager of the London and Westminster Bank. A new Edition, with a View of American Banking Systems and Statistics, to 1860. By J. SMITH HOMANS, Editor of the "Banker's Magazine," etc., and Author of "Cyclopedia of Commerce;" to which is added "Money," a Lecture by HENRY C. CAREY. One Vol., 8vo., pp. 553. Price, \$3 00. Sent by mail free of postage to any part of the United States. Boston: 1861.

The previous edition of Mr. Gilbert's work has been out of print for some years. The present edition contains all that was in the former, with some recent bank statistics of the several States. The additional matter is as follows:—Banking in the United States; Banking in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, (including a full copy of the Free Banking Law of Pennsylvania, approved March 31, 1860;) Delaware, Maryland, District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Louisiana, Mississippi, Arkansas, Texas, Kentucky, Tennessee, Missouri, Ohio, Indiana, Illinois, Michigan, Wisconsin, Iowa, Minnesota, California.

- 6.—*Money; a Lecture delivered before the New York Geographical and Statistical Society.* By HENRY C. CAREY.

- 7.—*Bruin; the Grand Bear Hunt.* By Capt. MAYNE REID, author of "The Boy Hunters," "The Young Voyageurs," "Odd People," &c., &c.

Is another one of Captain Reid's entertaining story books for the entertainment of young people, which we have no doubt will be duly appreciated by the juvenile class who love stirring adventure, told in the real Baron Munchausen style.