Choice of pursuits, or, What to do, and why, describing seventy-five trades and professions, and the talents and temperaments required for each; also, how to educate, on phrenological principles, each man for his proper work : together with portraits and biographies of more than one hundred successful thinkers and workers / by Nelson Sizer.

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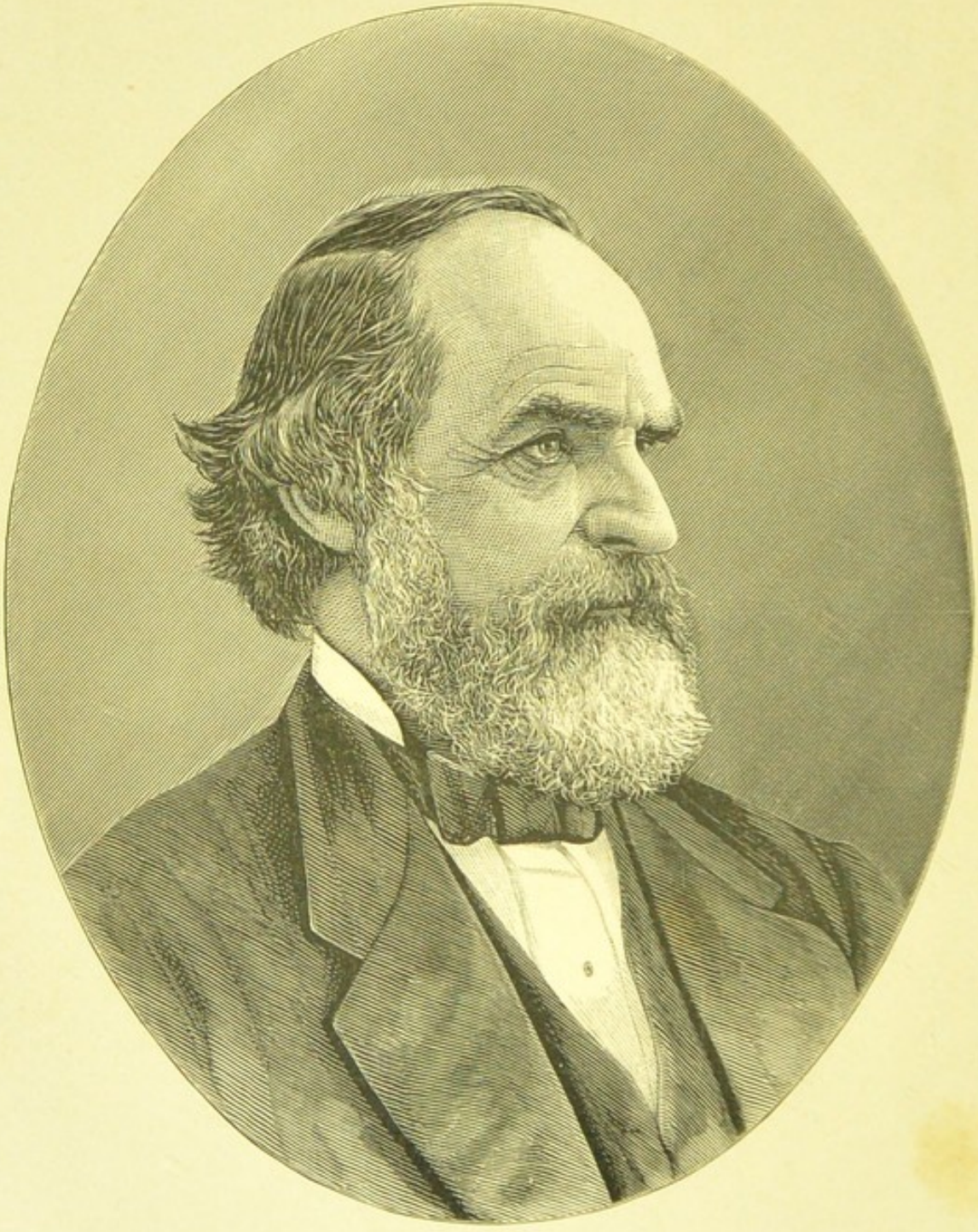

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Yours Truly
Nelson Sizer

CHOICE OF PURSUITS;

OR,

WHAT TO DO, AND WHY,

DESCRIBING

SEVENTY-FIVE TRADES AND PROFESSIONS,

And the Talents and Temperaments Required for Each;

ALSO, HOW TO EDUCATE,

ON PHRENOLOGICAL PRINCIPLES,

EACH MAN FOR HIS PROPER WORK.

TOGETHER WITH

PORTRAITS AND BIOGRAPHIES

OF MORE THAN ONE HUNDRED

SUCCESSFUL THINKERS AND WORKERS.

NEW EDITION, REVISED AND ENLARGED BY 180 PAGES.

BY NELSON SIZER,

PRESIDENT OF THE "AMERICAN INSTITUTE OF PHRENOLOGY;" AUTHOR OF "FORTY YEARS IN PHRENOLOGY," "HOW TO TEACH; OR, PHRENOLOGY IN THE SCHOOL-ROOM AND THE FAMILY;" "THOUGHTS ON DOMESTIC LIFE; OR, MARRIAGE VINDICATED AND FREE LOVE EXPOSED;" ASSOCIATE EDITOR OF "THE AMERICAN PHRENOLOGICAL JOURNAL," ETC.

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PREFACE.

THE occupation which a man follows does much to make or mar his happiness. We can not over-estimate the importance of selecting a proper life-pursuit, and of the requisite culture of the faculties, through the action of which health, success, and happiness may be obtained.

Whatever will minister in any degree to these great interests should challenge ready attention and cordial acceptance.

Most young persons stumble into business, or are thrown into it by accident or temporary necessity, or are drawn to it by misguided ambition or a perverted fancy, without any serious thought as to their real fitness for the vocation they adopt. When the years for learning the theory and practice of their trade or profession are passed, they often awake, with regret and dismay, to the fact that they have not only made a mistake in their selection, but have wasted the precious years of early manhood upon a wrong pursuit.

An attempt is made in this work to show what bodily and mental *peculiarities* are adapted to different trades and professions, and also to show how the faculties of the intellect, the selfish and animal propensities, and the moral sentiments of man may be cultivated and trained, so that each person may secure not only the best possible development of his natural powers, but that guidance, training, and exercise which will enable him to make the

most of himself as a human being, and to place himself in such relations to his life-pursuit as to secure the best possible success and to render to the community the highest degree of service; in short, to tell every honest inquirer "What to do, and why; and how to educate each man for his proper work."

In the author's professional duties as a lecturer and in the application of mental science to practical life, during a period of more than thirty years, the substance of the matter composing this volume has been given to patrons in criticism, instruction, and advice; and he has reason to believe that many persons have been led thereby to the adoption of appropriate pursuits, to higher life purposes, and to a richer mental culture; and he earnestly hopes that many thousands may be inspired to the achievement of a better manhood and nobler success through the influence of these pages, long after the friendly hand that penned them shall have gone to its rest.

NEW YORK, *July 4th*, 1877.

PUBLISHERS' PREFACE.

"What Ought I to Do?" and "How Should I be Educated for Duty?" are important questions. This book deals with them pointedly, and may be read with profit by all successive generations. A story once read is dismissed. This book will bear fifty readings. Every page is full of instruction. No one, with a true sense of its value, would be without it.

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INTRODUCTION

WEALTH is anything of value achieved. Effort is the price of success, and, as a rule, nothing worth having comes without cost.

Every man above idiocy in intellect and imbecility in bodily power, is good for something, and can win honorable success if he find a vocation adapted to his talents and powers, and honestly pursue his course with patient earnestness.

It is a sad fact that a majority of men at fifty regard their career in business as a failure. They have seen others, no more gifted or industrious than themselves, acquire fortune and they complain of their own ill-*luck*, or imagine that they have been defrauded. Neither hypothesis may be true, because, generally, luck waits on pluck, policy, prudence, and power. With these virtues in full exercise luck is forestalled as unnecessary, and fraud finds small opportunity to get a foothold.

The man with dreamy fancy, who expects learning without labor, and wealth without worthy work of head or of hand, is in himself a standing invitation to every fraudulent device, and is ready to listen to any promise of something for nothing, or of much for little. Most fish will not bite a bare hook; but men who expect thousands without investing cents, or even sense, practically try to fish with a bare hook, and are astonished when merited failure comes. Some complainingly point to men without brain or industry, saying, "They toil not, neither do they spin, but they are clothed in purple and fine linen, and fare sumptuously,

and render no equivalent." To this we reply, that now and then drones and dunces may be raised in place and property by the aid of others, but talent, tact, and worth use their own wings, and, scorning aid, become master of their circumstances.

Men must be willing to work with their best endowments of mind and muscle if they would win honorable and enduring success, and those who ignore this necessity, or try to evade its requirements, are at war with all the facts of human history, as well as with the laws of all conscious life. Work in some form, therefore, is the law of all earthly existence. Every living thing must work or die.

In the Animal Kingdom, the Ant, the Beaver, and the Bee are not the only examples of industry. The huge Whale, that wallows in the deep, must swim a hundred miles and strain ten thousand tons of water through the bony network of his cavernous mouth, to obtain enough of the insects of the sea for a breakfast.

The Sea Gull, that skims with endless turnings over our rivers and harbors, watches for floating morsels of food with a vigilant industry quite equal to that of the hundred thousand anxious factors, merchants, bankers, and business men who daily hurry to our great business centers to win the means of support.

Even the Teredo that honeycombs our ship planks, or the Wood Worm that bores unseen its pathway to success through-and-through the trunks of dead trees, must gnaw his bigness in the solid oak to win his living; while his natural enemy, the Wood Pecker, with sharp beak and sharper appetite, is tapping on the surface of the tree to find, by the hollow sound, the track of the worthless Wood Worm, that he may sink a shaft and capture his helpless prey. Meanwhile the hungry Hawk, attracted by the hammering of the Wood Pecker, comes swooping fiercely down and captures the captor; and then, careless of

danger, in his hungry greed, he settles to the ground to enjoy his repast, which is scarcely completed when the Panther, unseen by the Hawk, asserts his prerogative of might, and licks his rapacious jaws in triumph as he swallows the Worm and Bird and Hawk; being quite unconscious himself that his shining fur has tempted the wary Hunter to follow his footsteps, and to level the deadly rifle at his head in this supreme moment of victory.

The Elephant and the whale, those bulky monarchs of the land and the sea; the myriad insects which spread their viewless wings in the sunbeam or sport unseen in the drop of water—all must work for their daily food.

The very earth is a chemical laboratory; the forest an assemblage of powerful hydraulic engines; Action, Effort, Productiveness, the law of the Universe. "The Music of the Spheres" is not idle or useless.

Since all animate creatures, from the dawn of their being to its close, maintain a continuous struggle for their individual support, can man, especially in view of the history of the race, wisely or honestly regard himself as exempt from the imperious law of demand and supply? And since this law exists, it is useless for collective manhood to seek its infraction or to evade its claims; and though it were possible that all could live for a generation without the necessity of economic thought or work, the morals and the manhood of the race would become a compound of total depravity and worthlessness. The intellectual health and moral vigor of human nature need the stimulus of necessity to insure action of mind and muscle. Idleness is the mother of vice and demoralization. Mere muscular labor which costs no more thought than the plow-horse requires—though a thousand-fold better for man than idleness—may procure for his animal life bread and shelter, yet his thoughtless drudgery lifts him little above the horse he drives.

In the supple adaptation of man's bodily powers to every form of skillful achievement, he surpasses the combined skill of all the animals on the earth; but his MIND, full of invention, practical skill, logic, science, art, poetry, and immortal aspiration, constitutes his better selfhood. It is this which gives him the image of God. This is the great factor in his complex being which is startling to him who studies it, and awakens the pious ejaculation: "THOU hast made him a little lower than the angels, and hast crowned him with glory and honor."

If this is man's true position, full of dignity, honor, and wonderful possibility, should not every son of this great, free Republic rise in effort and aspiration toward such successful results, as no age but this has ever made possible, no country but ours ever opened the pathway?

Come, then, all ye with willing hearts and hands, who seek honestly and earnestly the road to success in all that relates to mind, body, and estate; accept the conditions, adopt the earnest activities of body and mind which alone can make you worthy to wear the crown; remembering that although ninety-five in a hundred who seek wealth as merchants suffer failure at least once in their lives, this entire feature in business life may be reversed, so that only five in a hundred shall suffer such loss and mortification. Ninety-five in a hundred of animals, if left to their instincts, fill their natural measure of success. And man can do quite as well if he will conform as closely to the conditions of his being.

In the Animal Kingdom no choice of pursuit is accorded. That is fixed by destiny as revealed in the law of instinct.

Among men, the freedom of choice in this matter makes diversity of employment both pleasant and profitable, and the chief reason why, among so many who struggle for wealth and honor, so few realize their hopes, may be found in the fact that the right man does not find the right place.

Few are so poorly endowed as not to be valuable somewhere, and many spend the evening of life in vain regrets over their misfortunes, whose powers and talents might have given them a seat among princes, if their care and diligence had been directed to the proper pursuit. The wasted friction of the world's unwise and ill-directed effort would make all men rich.

The learned world has measured and marked the pathway of the stars—has weighed the planets and discovered their composition—has magnified the mĭnūte and startled us with its wonderful revelations, but has left the struggling millions who seek wealth and honor to navigate an uncertain sea without chart or compass; and it is not strange that *scores* of staunch barques have been sunk or stranded, where *one* has come to harbor in good time, with full cargo, a clean bill of health, a sound hull, and flying colors!

Men not only desire but deserve a brighter and better career. Let us help them to find and follow it.

Dedication.

TO

PARENTS AND TEACHERS,

WHO HAVE TO

GUIDE AND INSTRUCT THE YOUNG IN ALL THAT RELATES TO THEIR CHARACTER, TALENT, AND FUTURE GOOD;

AND TO

YOUNG MEN AND WOMEN,

WHO HAVE TO SUSTAIN THEMSELVES BY

LABOR OF HEAD OR OF HAND,

AND WHO, ABOVE ALL THINGS, HONESTLY DESIRE TO FIND

THE RIGHT PURSUIT,

AND TO CULTIVATE AND EMPLOY ALL THEIR POWERS IN THE MOST USEFUL AND SUCCESSFUL MANNER,

THESE PAGES

ARE AFFECTIONATELY AND HOPEFULLY INSCRIBED BY

THE AUTHOR

CHOICE OF PURSUITS;

—OR—

WHAT TO DO, AND WHY.

A few inherit large fortune, and with it, perhaps, a lucrative business. Without thought or plan of their own they are fixed in their pursuit, and, with no need of change, have only to continue that which their fathers with skill and care established.

The great majority of young men, however, must make their own way in the world, and the more thoughtful of them naturally ask the important question, what is my true road to wealth and honor? And fortunate, indeed, is he who finds it.

If all had a reputable business which would yield a sure and comfortable support, it would immensely add to human happiness and prevent nine-tenths of the vice that curses the race.

On no subject are young men more liable to mistake. Without definite knowledge of their capabilities and deficiencies, and with little experience to guide them in their choice, they may be misled by a treacherous fancy, or if pressed by necessity for immediate action, they stumble into an avocation for which their talents and character are not adapted; and, after wasting the best years of their life in discovering their mistake, they become dejected in hope and ambition, or in despair descend to vice and degradation.

He who adopts a pursuit in which he cannot win success, is not, himself, the only sufferer. His family, and the community at large in which he dwells, must, in some measure, share with him the misfortune of his wasted life. If each man could select an occupation for which he were better adapted than to any other, he would be master

of the highest and best field of action he is capable of filling, and have within his reach the largest amount of success and happiness of which he is capable; and if, added to this fact, he could have some positive assurance of success, his mind would acquire a spirit of contentment with his lot, and a pride or ambition to fill his station well. Moreover, a vast majority of the crime and wretchedness that now scourge the race, would be obviated if all men had enough to do of the right kind of business; and we believe that all *might* have, if every man were in his true sphere. Most men are better adapted to farming or mechanism than they are to mercantile pursuits, to art, or to professional life, and it is apparent that the industrial pursuits open a far wider field for effort than the avocations requiring taste and culture. We want at least five hundred farmers and mechanics to one lawyer, one clergyman, one physician, one artist, and one merchant.

In the present state of public sentiment, however, nearly every young man, with any pretensions to talent, thinks he must be a lawyer, doctor, minister, or merchant. The plow is abandoned in the furrow; the saw, the hammer, and the plane are discarded; and the stores, medical schools, and lawyer's offices are swarming with candidates for wealth and fame.

The statistics of medicine, law, divinity, trade, and art we have no means of ascertaining; but suffice it to say, that nearly every one of these pursuits is overcrowded, and that failure and poverty necessarily await the great majority of those who are entering the lists to obtain the few prizes in this great professional lottery.

Our farmers are reaping a golden harvest, and through all seasons of hard times which pinch nearly everybody but themselves, they command enormous prices for their products. Does not this fact indicate that the plow has been neglected for trade and other pursuits, until farming has become a monopoly, and farmers the true lords of the land? They virtually put an embargo on our mouths, and name the premium at which they will raise it; and though judges, senators, and millionaires cry out *extortion!* ROBBERY! the farmer quietly holds the keys to our stomachs, and refuses to yield them except on his own terms. Every mercantile crisis is a severe test of virtue, as numerous frauds, defalcations, and failures attest. Is not this a sufficiently severe lesson for young men who think it would be very fine to be a merchant? There are, at least, a hundred blanks to a prize in this pursuit.

On the other hand, millions of acres of land in our great West, rich, nay rank with unshorn luxuriance, await the first foot-prints of civilization, and beckon the gathering hand to take possession of their inexhaustible stores. Prairies almost boundless wave their blooming verdure to the breeze with no owner's eye to admire their beauty, no olfactory to be regaled by their floral fragrance, and no hand to garner up the teeming fruits of this sunny bosom of nature.

It is a common remark, that everybody wants to do that which is easiest and most remunerative. In our professional career we often meet with those who are sincerely desirous of doing the wisest and best thing possible, and we are frequently asked, "What position

in life am I best fitted to fill properly? With my talents and characteristics, what ought I to do? What would be best for the community that I should do? Not merely wherein can I secure the most money, but what has the world a right to expect from me?"

Others have a different spirit. One young man whom we happen to know, wrote us for our assistance in obtaining a situation. He modestly stated: "I want a situation in which the duties are very light and the pay very large." This seems to be the desire of many, but few have the candor to put it in black and white. Many persons, though not endowed with talent for a high vocation, still crave earnestly the pleasures and emoluments of pursuits for which they have little or no talent, and in which they can deserve no high degree of success. Men seem anxious to avoid the supposed curse of gaining their bread by the sweat of the brow.

Occasionally we find a man willing to bend his back to the rough burdens of life. One snowy, sloppy day in New York we passed an aged son of Erin engaged in carrying coal, from a pile on the sidewalk, up several flights of stairs. As he bent to his task, we thought, "What a pity that he could not have in his old age relief from such toil!" and ventured to ask him if he did not wish he had learned some trade when young, so that at his time of life he could avoid such drudgery. He replied, in a ringing, hopeful voice: "Who, thin, sir, wud do the laborin' work?" God bless you in your cheerful performance of humble duty, thought we as we passed along; whoever is willing to do "the laborin' work," and does it

cheerfully, may be fulfilling his destiny and earning the final commendation: "Well done, good and faithful servant." Since that time, whenever we see strong arms engaged in the fulfillment of heavy work, we say, God bless those who are willing to do "the laborin' work," if it must be done by manual strength.

LABOR-SAVING INVENTIONS.

We render special homage to the genius which contrived the steam-engine, whereby horse-flesh and manual labor are greatly relieved, and the comforts of the world multiplied a hundred-fold. He who invented the mowing machine relieved the aching backs of millions. Verily he made two spires of grass grow where but one grew before, or made it possible for a man to avail himself of twice as much as, by hand, he was previously able to do. All honor to the man who invented iron fingers to do the world's sewing, as well as to him who invented the spinning-jenny and the power-loom with which to make the cloth. Notwithstanding all the machinery the world has in use, there is still a great deal of laboring work to be done. There is no doubt that a man of genius and talent, with an equally strong body, would make a better laborer than the stupid hind who only knows enough to use his physical strength to break stone or shovel earth. But since all men are not possessed of inventive talent and philosophical planning ability, many must be content to perform the simpler operations of labor, and happy is the man who has the wisdom and honesty to accept cheerfully the pursuit in which he can serve the world and himself

best, whether it be according to the world's estimate, high or low. To be a good and faithful doer, and to secure success in the doing, should be the great object of effort.

It does not require great sagacity to understand that it is better for a man to be a first-rate lumberman than a third-rate cabinet-maker. He who can fell trees, float the logs to market and cut them into boards, and do it well, is far more useful in his success than the shabby builder or cabinet-maker who partially spoils good lumber in the construction of indifferent houses or poor furniture. Success, in its best sense, is the measure of merit. It is not how much money he makes — the world sometimes pays for poor services—but it is how much good service he renders the world! When a man has rendered such service, the world owes him adequate compensation; nothing less than this should he receive, nor has he a right to anything more. What, then, can each person do in which he can serve the world in the best manner, and through those means deserve such remuneration as will be necessary for his comfort and support?

If one finds out that he has adopted a wrong pursuit, even though he shall have reached the age of thirty years, he may properly change to a business more in accordance with his tastes, talents, and necessities. He might, it is true, lose half the value of his time for three years, while learning a new business, but after that, through all his remaining years, he may be worth twice as much to himself, to his family, and to the world.

Cultivation of the Soil.

FOOD-RAISING.

IT should be the aim of every honest man, in the prosecution of business, to do only that which is useful—that which will add to the intelligence, the comfort, the virtue, or the legitimate wealth of the world. Among the laborious vocations, we regard those as standing first which produce something intrinsically valuable. The first necessity of man is food; consequently food-producers ought to take a prime rank among men. In this country, at least, we need five farmers where we now have one. An error, as we believe, has pervaded public sentiment relative to the size of farms. Men have frequently two hundred acres or more, when they could cultivate properly not more than fifty, the remainder lying partially waste. These two hundred acres, therefore, should have three more farmers, giving to each fifty acres. While men are traveling from the Eastern States into the West, even going to California, to cultivate the land, about one-third of the State of New Jersey, and probably one-third of the State of Pennsylvania, and very large fields of territory in the State of New York, are yet untouched, utterly uncultivated and wild; and that expense which would be requisite to move a family to Kansas would buy land enough in the State of New Jersey to support a family. Men should learn to till the soil well, and make every acre

of land largely productive. Nor should men be satisfied simply to raise cereals for the market; and though bread is the staff of life, every family needs fruit in liberal measure for the health of its members.

Farming, therefore, should not be understood as merely raising corn and wheat, pork, beef, and butter. Every farmer should raise all the fruit his own family requires, and a considerable quantity for market. This would insure to himself and family this healthful ingredient of food, while the market would be amply supplied, so that citizens and villagers engaged in other occupations could have in abundance this much-needed article of food.

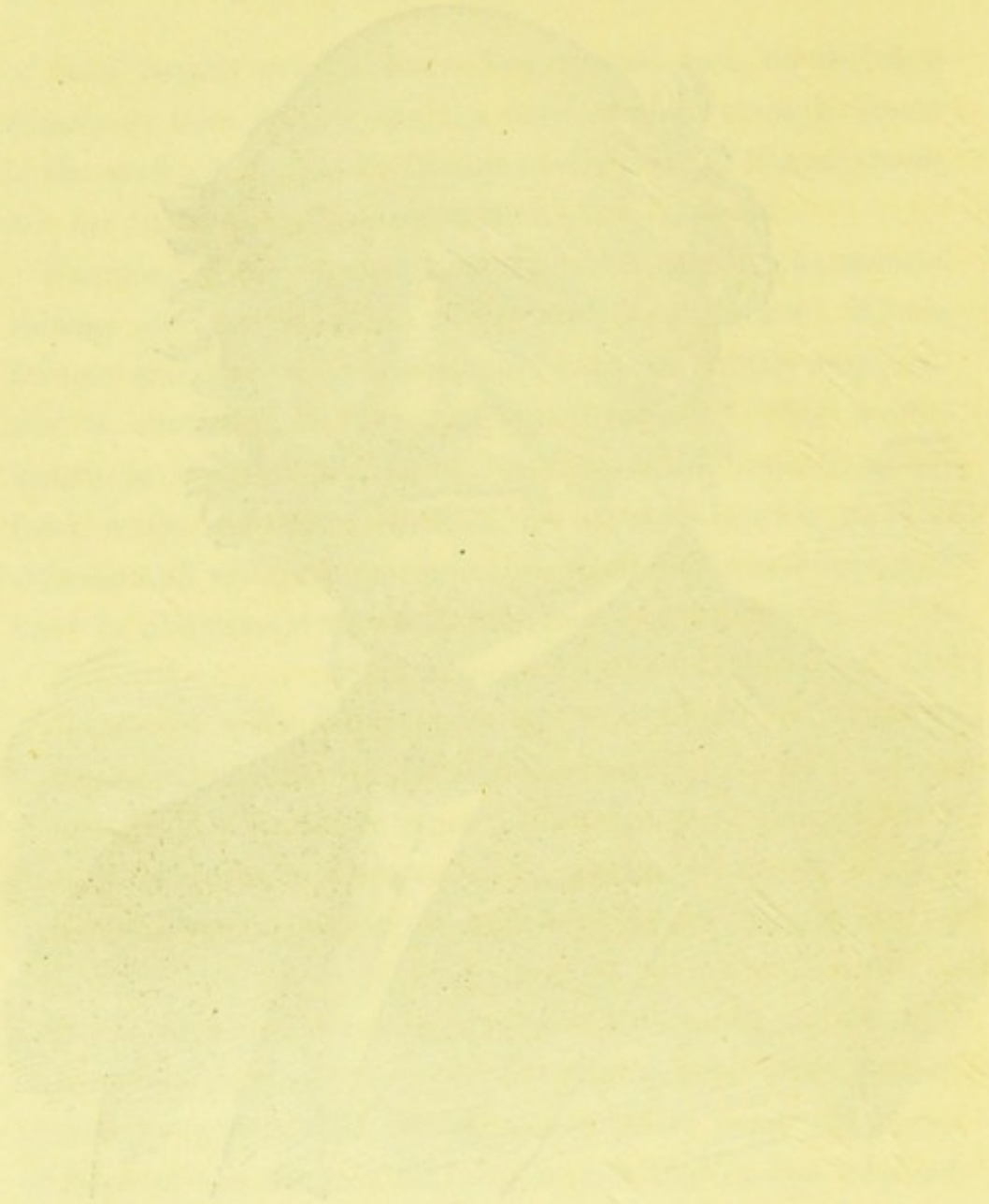
EDUCATED FARMERS.

Farmers should not be the drudges and intellectual drones they now are. They should study chemistry, and understand soils; botany and physiology, that they may understand the nature of plants, and the properties of food, and the laws of health, and thus prosecute their vocation intelligently. Some people think that brute force, and not intelligence, is required by the farmer. A man of thorough culture will get as much profit from ten acres of land as one without culture, or the knowledge derived from other people's culture, will get from fifty acres. It is well, therefore, for young men to turn their attention to farming; and if people following that pursuit are less intelligent and less respectable than they should be, let a million young men of culture manfully go to the soil, and thereby redeem the business from the disgrace of ignorance and consequent unthrift, and acquire a generous



MARSHALL P. WILDER.

This veteran worker in the cause of Agriculture, Horticulture, and Pomology was born in Ringe, N. H., September 22, 1798. Since 1825 he has resided in Boston, Mass. Was eight years President of the Massachusetts Horticultural Society, and a long time President of the American Pomological Society, and President of the United States Agricultural Society. As President of the Senate of Massachusetts he labored to establish the State Board of Agriculture.



support, instead of shivering around the outskirts of the overcrowded professions. Let them carry their intelligence to the proper cultivation of the soil, and as nature always generously rewards honest, intelligent labor, they will have their reward. True, a farmer needs courage and strength; he needs energy of character and perseverance; he ought to have Combativeness and Destructiveness sufficiently developed to give him force and the spirit of industry; he ought to have Cautiousness, to give him prudence; and Acquisitiveness, to give him economy; he should have a fair degree of Constructiveness, to understand the principles of mechanism and to enable him to wield the tools and implements of his business with skill and effect; he ought to have large perceptive organs, so that his power of observation shall be sufficient to open his mind to all the surrounding facts of nature; he should have the power of analysis and a good memory, so that the facts of past experience may be carefully treasured up and be made available to him.

The farmer does not really need an eloquent tongue. He does not need much Ideality or Approbativeness, though we believe the possession of all the organs well developed and properly cultivated would make him more of a man and more of a farmer. The right temperament for a farmer is one in which the Motive, or muscular, is sufficient to give a good frame; in which also the Vital temperament is sufficient to give strong nutritive and sustaining power; and there should be a fair development of the Mental temperament, but that should not be in excess, otherwise he would be inclined to neglect physical

exertion, and live too much in the realm of mental specu lation. A plump, strong, substantial body, therefore, is the best for a farmer, so that physical exertion shall not be too great a tax on the one hand, and that it may be pleasurable on the other.

RAW MATERIAL FOR CLOTHING.

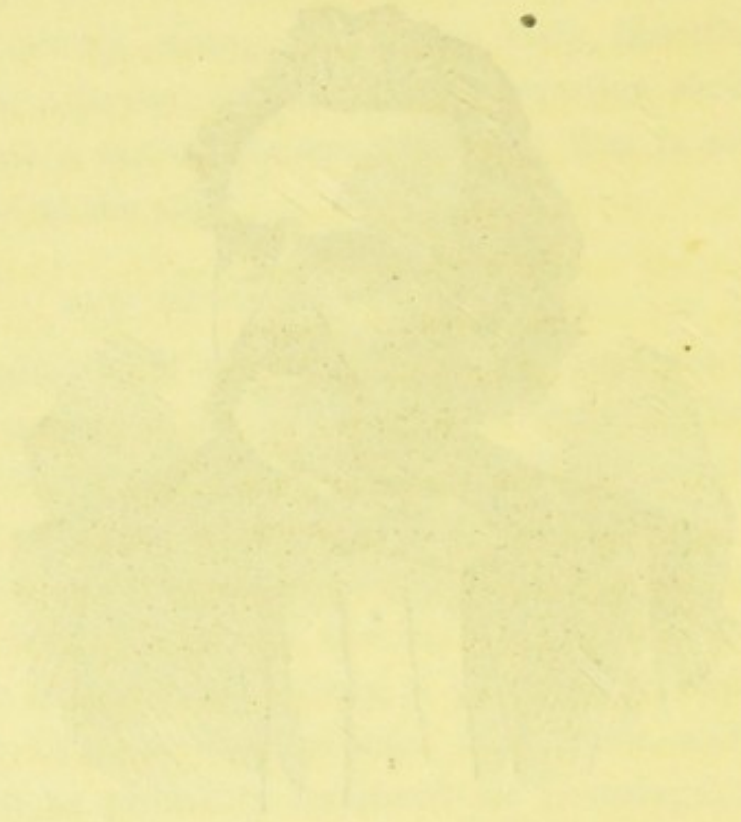
The production of food by the farmer does not cover the whole ground of production from the soil. There is wool-growing, the raising of flax, hemp, and cotton, the raising of cattle for their butter, cheese, hides, and beef. The vocation of grazing varies somewhat from that of grain and fruit raising. It can be conducted on soils ill adapted to the profitable raising of grain. The mountain ranges of Virginia, Pennsylvania, New York, and Ver mont could be profitably employed for pasturage; while with proper facilities for the transportation of flocks, either by rail or by driving, they could be taken to be wintered where hay is abundantly produced. The idea of keeping a few sheep on a mountain range, and being obliged to pick out the smooth places to mow grass to keep them through the winter, is not, in our judgment, the way to raise wool. But let the whole mountain be employed for pasture, and some not too distant valley, where hay is plentiful, be the wintering-place. America ought to be ashamed to import wool of any kind; and linen, we doubt not, could be quite as well produced here as in Ireland; and if we have not enough Irish people here to dress and spin the flax, we certainly could import them.



SOLOMON W. JEWETT,

THE SHEPHERD OF VERMONT AND CALIFORNIA.

He is widely known as a successful breeder of Paular sheep and other fine-wooled varieties, and also the heaviest importer of Merinos from the best flocks in Europe, and exported to California as early as 1859 the Vermont improved Merino, and also the French Merino, at a charge for freight alone of $9,000. Mr. Jewett published, with illustrations, in the "Cultivator," the first approved standard of Merino sheep for breed, relating to form, constitution, and fleece, which breeds have since added many millions to the product of the wool crop annually. Mr. Jewett was the first to disseminate this stock over the United States and South America. As early as 1834 he was known as the largest flock-master in Vermont, and, being an artist, gave fine drawings of sheep and other stock, illustrating it for wide publication. His sons in California succeed him in sheep and wool culture, and have been known to raise over 12,000 lambs from one yeaning. In the fall of '76 they added to their sheep stock by purchase 18,000 large wethers, fattening them for the spring market on hay and grain alone. Thus they follow as shepherds their father and grandfather.



STOCK-RAISING.

The business of raising cattle ought to be largely followed. Pork is unfit food for man, as it is generally produced. If swine could run at large as beef-cattle do, and not be confined to close pens without exercise or pure air, and were not stuffed with corn and over-fattened, thereby rendering their flesh diseased, pork would not be so detrimental an article of food as it now is. But let oxen and sheep, which make the best kinds of animal food for the use of man, take the place of swine, and it would be a great step toward progress and improvement. Beefsteak ought not to cost thirty cents a pound. It ought to be so abundant as to be relatively cheap. Two men could take care of five hundred head of cattle, especially during the grazing season; and we think it would be profitable for farmers having, say, thirty or forty acres of land, to raise something besides cattle-feed. Let the cattle be grown mainly where the soil is not tillable; at least let them spend eight months of the year on such lands.

The stock-raiser requires to be a patient, thoughtful man, who has Hope enough to wait until his appointed time for profit; one who is inclined to read and think, and is fond of general exercise and exertion. Such a man need not be a plodder. He may be, even, ambitious and enterprising.

LUMBERING AND TREE CULTURE.

Another of the departments of productive industry requiring perseverance, energy, industry, and good practical judgment, is that of "lumbering." But if our views of right modes of cultivating land could prevail, this

shearing of the native forests would not last for many generations. Timber is becoming comparatively scarce, and if land were wanted by a million more farmers it would soon be, to a great extent, stripped. There should be attention paid to the planting of forest trees. They will grow about as quickly as fruit-trees. In twenty years, chestnut timber can be grown large enough for railroad ties or fence posts. In general, to follow the pursuits mentioned, a man needs strength, courage, fortitude, and patience originating in a strong temperament and a large base of brain, with good practical talent and large Firmness. A man does not need a high degree of taste or mechanical talent. He needs but little policy, and not great Imitation or logical power; good common sense and good health being, of course, as in other callings, chief qualifications.

Manufacturing.

THE first great need of mankind being food, and that having been properly supplied, the next great want is clothing, the raw material of which is supplied directly or indirectly from the land. We now come to consider the usefulness of manufactures, and the talents required in these pursuits. The manufacture of clothing, of course, does not cover the whole field of mechanical ingenuity; but there is hardly a more useful department; certainly it



JOHN BRIGHT,

MANUFACTURER AND STATESMAN.

This is a noble head, royal in moral standing and talent, and a grand specimen of the triumph of talent and worth rising to distinction above the barriers of precedent, and aristocratic and royal prejudice. Verily, he stands unabashed among nobles, princes, and kings, by mere force of inward strength and unquestioned worth. Born November 16, 1811. Is at the head of a firm of cotton manufacturers in Rochdale. In 1838 he entered into the Anti-Corn Law Association, and became one of its leading spirits. Elected to Parliament in 1847, 1852, and 1857. During our war he warmly took our part, both in and out of Parliament; became a member of Gladstone's Cabinet in 1868. In the affections of the common people he is the foremost man in England. He is a most eloquent and thoroughly honest speaker.

is second only to food-raising in its importance and value to mankind.

THE QUALITIES REQUIRED.

To be a manufacturer and a tool-user requires, first of all, constructive talent, and this comes from large Constructiveness combined with large perceptive organs, especially those of Form, Size, Weight, and Order. One needs, in addition to these organs, a good degree of Causality, as a basis for the planning and inventive talent. Many persons are good tool-users, with simply perception and Constructiveness, and that part of Constructiveness, too, which seems to work with the perceptive organs, not that portion which works upward with Causality and Ideality, and gives a tendency to plan, lay out work, and invent.

THE MECHANIC A GREAT BENEFACTOR.

When we look around us and consider how many of the comforts of life, to say nothing of its elegances and refinements, originate in constructive talent, the mechanic appears to be one of the principal men in the community; and so he is. It requires ingenuity to make a yard of cloth; to work the raw material into threads; and those threads into fabrics, and those fabrics into garments. To change the raw hide of animals into useful and ornamental boots, shoes, gloves, harness, and the like, is no child's play. The house also should be regarded as a part of the clothing of the human race. The umbrella as well as the cloak keeps off a part of the storm, and so the roof and the walls of the house are a certain kind of outside clothing, as the shuck and shell of the walnut shield the living

germ within. The carpenter, the mason, the cabinet-maker, the decorator, and the carpet-weaver must not be forgotten. Look at a house and its furniture, with the clothing of the family! Look at all the conveniences for cooking and eating, the elegant contrivances for the gratification of taste which a well-appointed house affords! and one would think that three-fourths of the human race were employed in the realm of manufactures. Viewing the subject from this point, we may ask, is not

THE LORD OF THE LOOM AND THE ANVIL

a lord indeed among men? Certainly he serves the world; and as, according to Scripture, "he that would be great, let him be your minister," so he who ministers to the comfort of men in the way of clothing, useful articles or implements, houses, furniture, and decorations, ought to rank well. Let no man who can construct a house, or a carpet, or a piece of useful furniture, or an utensil for cooking, feel that he is, by virtue of his pursuit, degraded. If he incline to feel so, let him look into

SAVAGE AND BARBAROUS LANDS,

where the three-legged stool has yet to be invented; where the skins of animals are used for clothing, or rude structures of the bark and branches of trees are the only houses, and contrast that nation with those which are highly civilized, and he will appreciate the dignity of mechanical labor. To be an artisan, doubtless requires a higher order of talent than it does to be what is generally understood by the term farmer. The artisan has sharp

competition. The world knows the difference between good and bad work when it relates to the construction of a chair, a boot, or a bureau, but has not yet so far advanced as to be able to determine, in general, the difference between good and bad farming. Indeed, there is so little of good farming, that we have nothing really with which to contrast poor work in that line; and so long as every man who has culture and aspires to be respected entertains the untruthful opinion that to be a tiller of the soil is to be merely a drudge, and a disreputable one at that, so long the best talent and culture will seek other vocations. The sharp attritions and competitions of rivalry serve to urge manufactures forward toward perfection much more rapidly than any influences now operating tend to push forward and perfect agriculture. Agricultural publications are working in the right direction; still, there is a sneer on nine-tenths of the faces of the farmers against

"BOOK FARMING,"

and this sneer is partly merited, because fanciful, unlaborious gentlemen, with chemistry and vegetable physiology in their heads, and very little practical experience, have undertaken to carry on farming by the book with kid gloves on, and of course made everything cost more than it would sell for. But this is no argument. The sturdy son of the soil should have a sturdy, common-sense education, and then he can elevate his pursuit. The mechanic is forced by competition to educate himself in his business, to bring all the appliances of science to the perfection and development of his work.

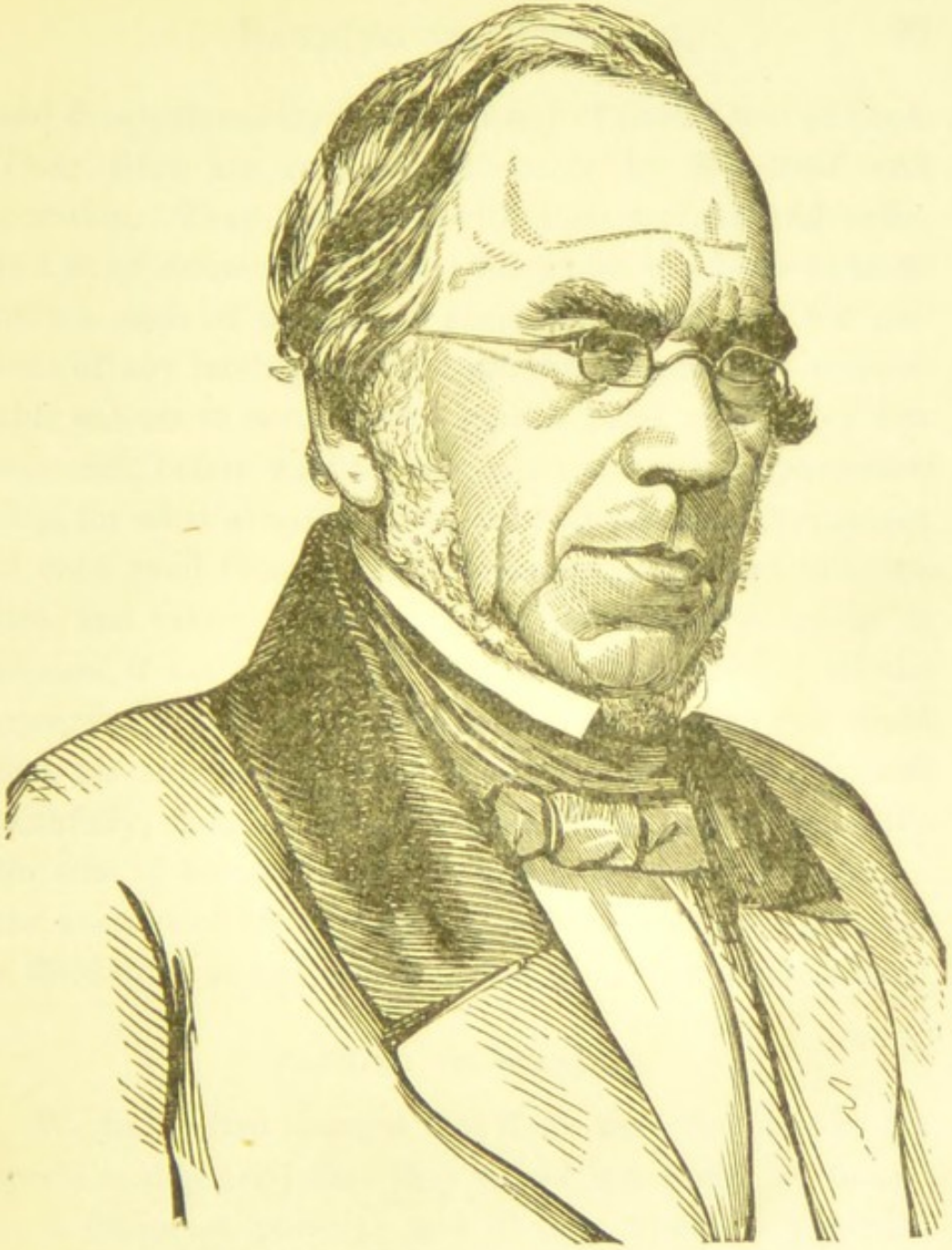
The mechanic needs a prominent brow, to give him perception, and a good development above it, to give reasoning talent. He needs a full temple, to give him ingenuity and taste, and considerable wideness to the middle and back head, to give him economy, energy, and force. He requires a good degree of the Mental temperament, to make his mind sharp and clear; and enough of the Motive temperament, to give him force, industry, and activity; and of the Vital temperament, sufficient to furnish the steam for vigorous effort, and to maintain him in health; and last, but not least, he needs pure air to breathe, and plenty of sunlight. Making boots in cellars by gaslight is low business, because it crushes the man.

THE INVENTOR A GREAT MAN.

Consider the inventor of the steam engine, the power loom, the printing press, the sewing machine, and all other machinery by which various articles of utility and elegance are constructed. Verily he is a creator who can compel dead iron, wood, and other material substances, to take the place of fingers, and almost take the place of thought. He who looks upon the inventor or the successful user of machinery as an ignoble man, or upon that pursuit as low and base, has yet to learn the first lesson in the realm of truth as applied to justice, honor, and respectability.

UTILITY OF PHRENOLOGY IN SELECTING TRADES.

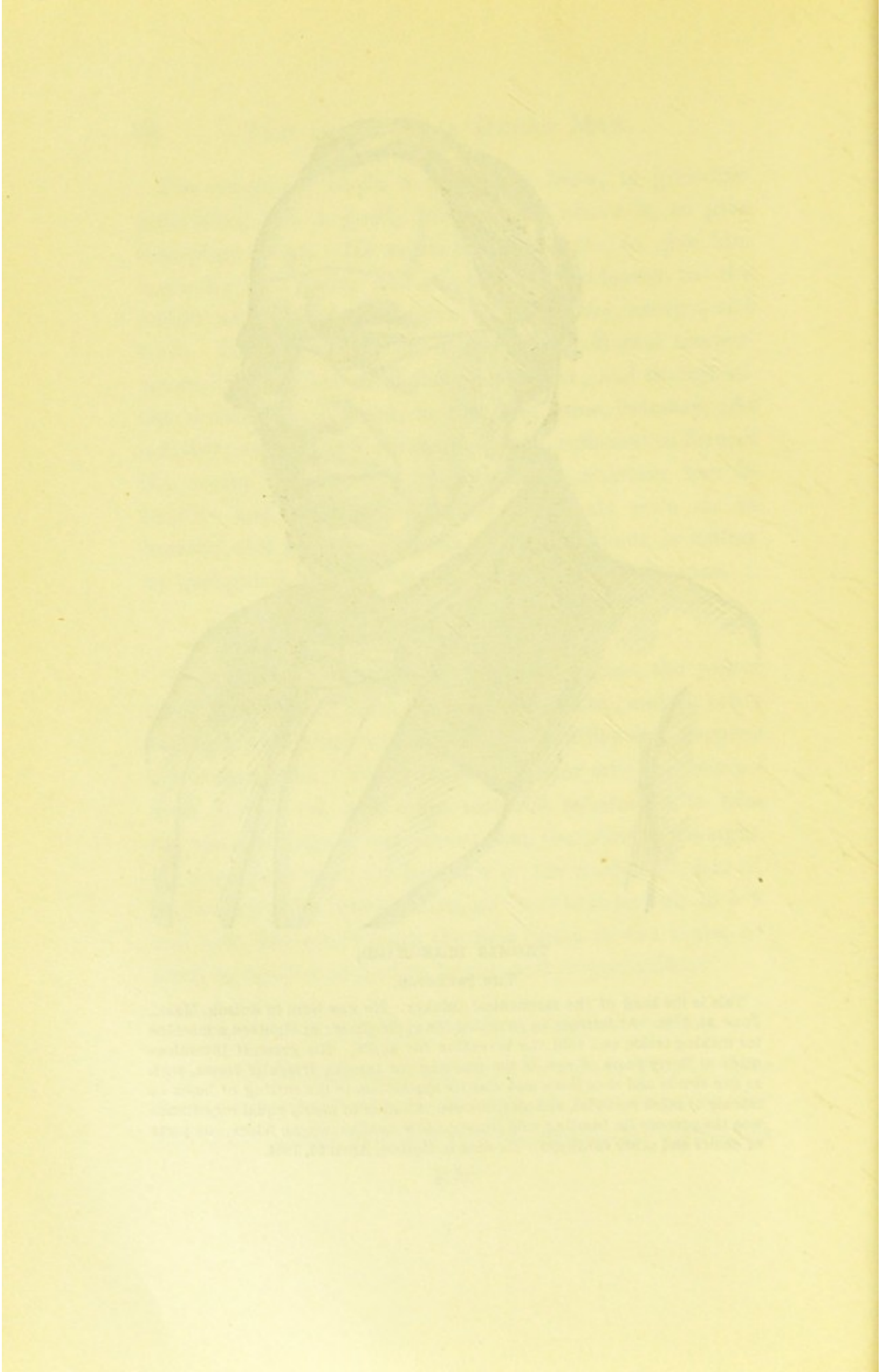
It is an unfortunate fact, that thousands blunder into business without any knowledge of their capacity for particular occupations, and stumble on through difficulties



THOMAS BLANCHARD,

THE INVENTOR.

This is the head of the mechanical thinker. He was born in Sutton, Mass., June 24, 1788. At thirteen he invented the apple-parer; at eighteen a machine for making tacks, and sold the invention for $5,000. His greatest invention, made at thirty years of age, is the machine for turning irregular forms, such as gun stocks and shoe lasts, and also its application to the cutting of busts in marble or other material, and also cameos. Another of nearly equal importance was the process for bending ship timber, plow handles, wagon felloes, and parts of chairs and other furniture. He died in Boston, April 16, 1864.



and disappointments to bankruptcy of pocket and of hope. Their lives are rendered miserable by ill-success and vexation. They find fault with their fortune, and some, in a fit of desperation, quit a life which has been to them only a scene of unrequited struggle. There are few persons of any intelligence who are not adapted for respectable success in some useful pursuit; and could they but ascertain, before wasting long years of fruitless apprenticeship, for what avocation they are best adapted, they might at once avail themselves of this most important information, and taking the flood-tide of circumstances, go on to success, if not to fortune. The world has need of all the energy and skill of its inhabitants, and if each one could find his true pursuit, and would follow it honestly and faithfully, failures would become exceedingly rare, while the sum of human happiness would be vastly enhanced—the average of life extended, and there would be probably a third more accomplished by mankind than at present.

EARNING VS. STEALING.

We have often thought that there were few men in the world so depraved that they would not prefer an honest to a dishonest pursuit; and if they could be provided with the means of procuring a respectable and honest livelihood, nearly all the crimes which disgrace humanity would be done away. He who has a sure, respectable, and honest trade, by which he can secure not only his daily bread, but many of the comforts and conveniencies of life, has comparatively little temptation to engage in the precarious modes of dishonest acquisition. If we were

to recommend, as a safeguard to the young, any single thing, it would be this: Give your son a business or trade by which he can gain an honorable maintenance and a respectable place in society. Do not try to make him a gentleman without labor, or teach him that he can be respected without intelligence and virtue.

MISTAKES IN SELECTION.

Phrenology* we regard as an essential aid to parents in the selection of pursuits for their children, and in thousands of instances we have had opportunity to witness the great advantages to be derived from its application. Many persons suppose that if a boy have large Constructiveness, he can succeed in any mechanical trade. This is a great mistake. It must be understood, however, that by success we do not mean mere physical or pecuniary success. Real success embraces other ideas. A man should be happy in following his trade; should feel proud and ambitious in respect to it, and try to perfect and advance his line of business. For example—a boy with large Form, Size, and Constructiveness could succeed in blacksmithing, so far as forming and finishing work are concerned; but if he have small Combativeness and Firmness, he will never engage in its prosecution with anything like pleasure. He might, however, succeed well as a locksmith, or as a gas-fitter, a maker of fine cutlery, or anything light, nice, and ornamental.

A young man, with brawny muscles and stalwart frame, with great force of character, pride, and energy, would prefer to be a blacksmith, or stonecutter, or a millwright,

* See Explanation of the Faculties and Temperaments, at the close.

in which he could wield his force and power, and work off his physical steam. He could not be confined to watch-making, or to mathematical instruments, or any other light trade, though he has all the requisite ingenuity for its successful prosecution. Some have such a combination of organs that they can readily take up a trade without instruction or apprenticeship, and in a short time become excellent workmen. Others have less practical talent, or the elements of mechanical skill; they require years of experience, but ultimately make good workmen. These latter should not be discouraged if they can not cope at first with those who require comparatively little or no practice or experience. Some require to have their avocation minutely explained at every step; but when this is done faithfully, they comprehend their business. Masters should understand this fact, and not lose their patience with such apprentices, nor fail to instruct them; nor should the comparatively smart ones boast over the others because of their success in this direction, while they may lack many noble qualities of intellect and disposition which go to make the man and the citizen, which the others possess.

Some persons are so organized, mentally and physically, that anything like hard work awakens dread and aversion. They do not lack the spirit of industry; they are willing to give attention, thought, and such effort as they can bestow, but they can not take hold of heavy, hard work. They could ride all day, and half the night—the steam-engine or horse doing the drudgery. They can think, talk, watch, wait, negotiate, and do light work. These

persons generally have light muscles, a comparatively small chest, and not very much digestive power. They make but little steam; the base of their brain is comparatively small, and most of their cerebral development is forward of the ears.

Another class like hard work; as it has been said, "their muscles ache with pure strength," and if they are confined to light occupations or sedentary pursuits, they fret, become discontented, and probably quit the business at the first opportunity. Such a boy, put to engraving, type-setting, watch-making, or tailoring, will straighten up a hundred times a day, and every fiber in his system will yearn for liberty and for labor. Therefore physiology —bodily development—is to be considered, in selecting a pursuit, as well as mental disposition and talent.

Trades Requiring Strength.

AMONG the trades requiring robustness of constitution, with strong bones and muscles, large lungs, and a broad base of brain, we would name blacksmithing—including carriage-ironing—bricklaying, carpentry, coopering, iron-founding, milling, millwrighting, tanning, stone-cutting, stone masonry, mining, farming, lumbering, and sea-faring. Each of these pursuits demands a similar general bodily

organization, because each requires bone and muscle, strength and energy, hardiness and health—in short, the power to generate vitality by converting food into nourishment, thus giving muscular force and constitutional vigor to perform the necessary labor. But the mental differences required for a first-class blacksmith, miller, or farmer might cause a failure in one or all if their vocations were exchanged.

BLACKSMITHING.

We regard the blacksmith as the prince of mechanics He is at once an artist and a mechanist. He who can mold a statue, having in his mind the image, while the clay is yet but a rude mass, and knows how to remove the excrescent parts, and mold the mass into the requisite forms, has the same talent which the blacksmith requires, who withdraws from the forge the flaming bar of metal and is required to mold it with his hammer into the desired shape. This shape must exist in his mind as the statue does in the mind of the sculptor, and though the fact of repeated heavy blows seems a rude way of working out his artistical thought, it is only so because his metal is less malleable than the plastic clay. We contend that whoever can be a first-rate blacksmith could be also an artist in clay and marble. But the blacksmith, in order to reduce the firm metal to the form required, must have muscle, strength, executiveness, resolution, thoroughness, power, and, if we may say it, the elements of fineness joined with the elements of coarseness; the elements of taste with the elements of strength.

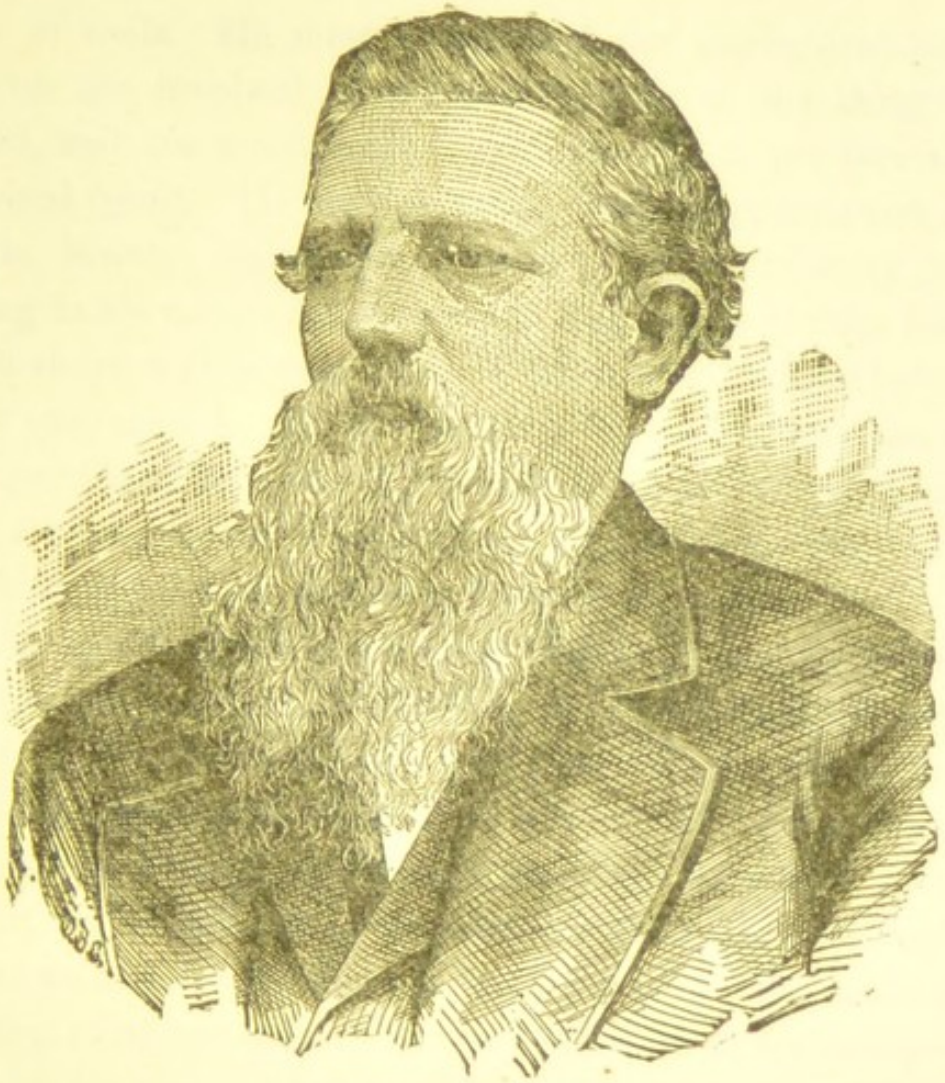
A first-rate blacksmith requires to be a first-rate man;

and though his face be blackened and his hands hard, he will generally be found with a fine, strong brain.

We are speaking, it will be remembered, of the first-class blacksmith. We have visited large factories where edge-tools were manufactured, and in the examination of a hundred or two of the forgers we have found them to be very superior men, capable of taking and maintaining a good rank in any field of industry or education. In such places the best workmen are required. Ample compensation attracts the best class. Competition weeds out the poorer, and presents as a result a class of men who are an honor to any age or country.

The faculties which the blacksmith must have, in order to excel, are, large Form, to give the idea of shape, and enable him to realize the form required in the iron which is hissing on his anvil. He does not, like the carpenter, map out the article he chooses to make, and hew off all the unnecessary parts, but molds the whole mass into the thing desired, or so much of it as is required, wasting nothing. He must have the organ of Size, which measures proportions and magnitudes, and so nicely is this faculty exercised, that rivets, nails, and other small articles that are made without measurement, will be found almost exactly alike in size and weight. We may say that the wood-turner also requires the organs of Size and Form in an equal degree of development and culture, but he does not require so much imagination or creative talent as the blacksmith.

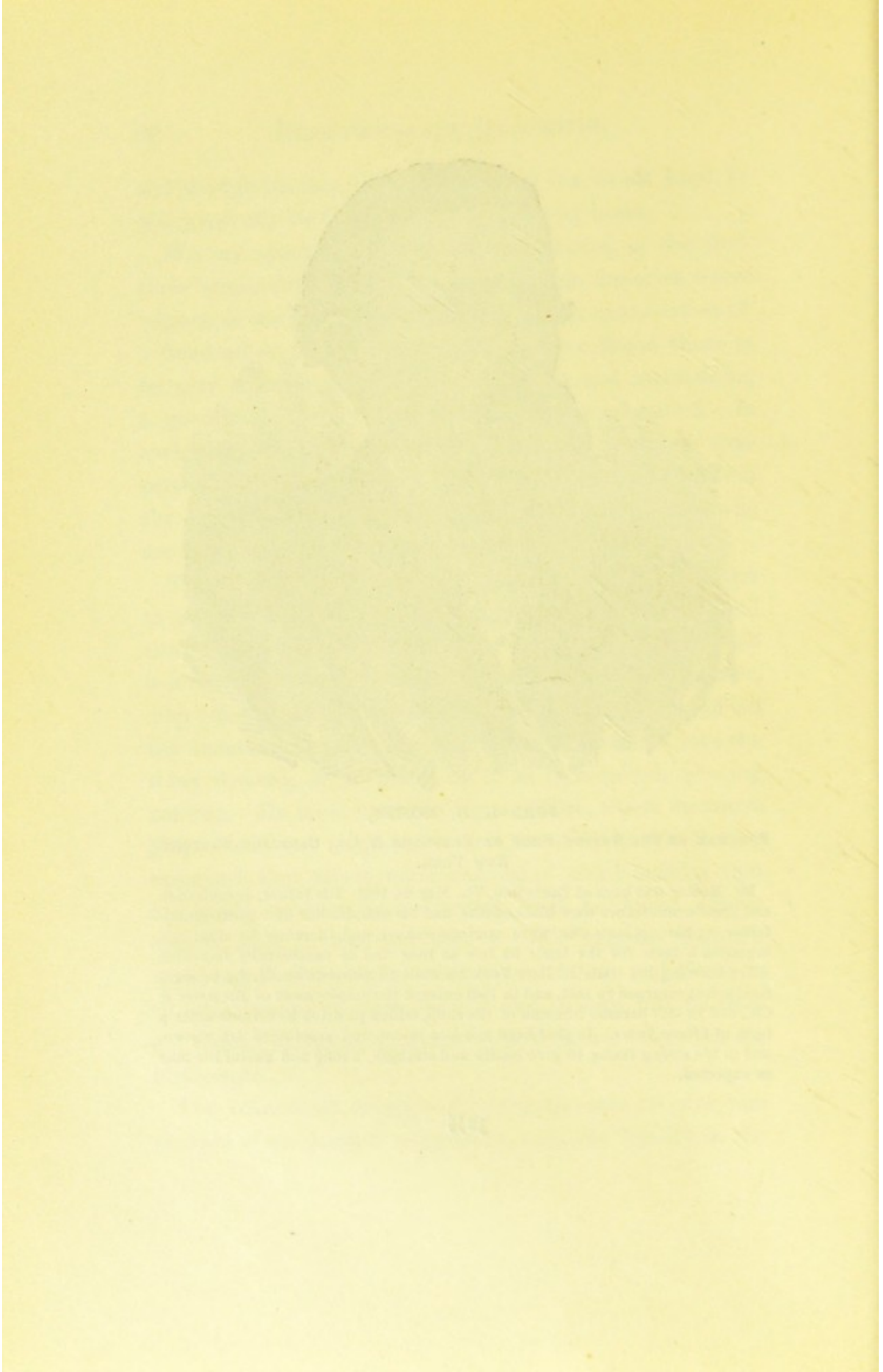
The blacksmith requires Constructiveness, to give him an idea of mechanical adaptation, and also facility in the



JOHN L. H. MOSIER,

FOREMAN OF THE SMITHS' SHOP OF BREWSTER & CO., CARRIAGE FACTORY NEW YORK.

Mr. Mosier was born at Derbyline, Vt., May 28, 1833. His father, grandfather and great-grandfather were blacksmiths, and his grandfather and great-grandfather, on his mother's side, were carriage-makers, and therefore he rightfully inherited a taste for the trade he has so long and so successfully followed. After learning his trade in New York he went to Morristown, N. J.; he went South, but returned in 1862, and in 1863 entered the employment of Brewster & Co., and in 1867 became foreman of the shop, which position he retains after a term of fifteen years. In that head and face talent and resolution are shown, and in his strong frame to give health and strength, a long and useful life may be expected.



ase of tools. He must understand the mechanical laws which are involved in the construction of the thing in hand, and the mechanical forces required to produce the desired result. He needs Ideality, to give appreciation of style, beauty, and harmony, and to aid in creating the thing in his mind's eye, before the iron begins to take form —in short, a clear conception of what is to be done before it is commenced. If he is making edge-tools, and has to temper them, he needs the faculty of Color, to appreciate the requisite shade or color of the steel when, by the action of heat, the temper has come to the right point.

The faculty of Imitation, also, enables a man to imitate his own processes until his whole body, as it were, becomes habituated to the doing of a particular thing. We believe that an experienced blacksmith, if he would work a month in making horse-nails, or knife-blades, or any other small affair, would become so accustomed to it, that he could make an article with his eyes shut, guided by the sense of feeling, communicated to him by the handle of his hammer, and by his sense of hearing—Imitation aiding if not lying at the bottom of this state of facts. In other words, the process becomes automatic, just as does the using of the knife and fork, walking, dressing one's self, and the like.

These, then, are the talents required by this most useful of mechanics. We say most useful, because he not only makes his own tools, but the tools of every other mechanic, or the tools by means of which every mechanic's implements are constructed. But the blacksmith requires, in addition to these talents, the disposition, as well as the bodily conditions, to qualify him for his work. These

talents might be possessed by the watchmaker, and, in the main, ought to be. But the blacksmith must have the spirit of courage imparted by Combativeness and Destructiveness; he must have determination, imparted by large Firmness. He must be what the Germans call a "schmeiter," hence "schmidt,"—in English, smith. Combativeness gives this disposition to smite. A man in whom it is large, likes to do all his work with a blow or a jerk. He will split wood or chop wood rather than saw it. One with less Combativeness prefers the drawing stroke of the saw rather than the sudden blow of an axe. Large Destructiveness gives that kind of efficient force and severity, a tendency to crush and batter, that the trade requires. The stonecutter, whose business is largely effected by blows, needs also Combativeness and Destructiveness. The carpenter, who likes to use the axe, the adze, and the hammer, will be found amply endowed with Combativeness and Destructiveness.

There are many minor qualities which tend to make the blacksmith successful or to hinder his success, such as Cautiousness, Approbativeness, Self-Esteem, Acquisitiveness, Secretiveness,—all the qualities that go to make up a judicious and influential character will of course aid the blacksmith, as it would a man in any other trade or occupation.

The blacksmith, especially the horse-shoer, should have a keen sense of hearing, because in driving horse-shoe nails he is chiefly guided by the sound of his blows as to whether the nail is being driven into the sensitive part of the foot or is turning out of the hoof at the proper

place to make the clinch. When the hearing becomes much impaired, the horse-shoer resigns his post, or pricks many a valuable horse's foot.

Let no young man, then, engage in blacksmithing who has not an energetic physical constitution adapted to work hard. He should, next, have enough Combativeness and Destructiveness to give the disposition to use the power he possesses and strike while the iron is hot, and such a degree of firmness and steadfastness as will enable him to use his power persistently until the iron becomes cool. He should have a broad, deep chest, large bones, brawny muscles, a head broad in the region of the ears, wide at the temples, broad between the eyes, with a prominent brow, with strong if not coarse hair, and rather dark complexion. Such a man will be tough, efficient, enduring, and, if temperate, successful.

CARRIAGE-IRONING.

The carriage-ironer requires talents, and constitutional peculiarities resembling those of the common blacksmith; but one who has a special desire for niceness and taste, and a tendency to get into one track or channel, and keep in it will succeed in the carriage-ironing business, who would not be able or willing to take hold of general blacksmithing, where there are no two jobs in succession alike. Carriage-ironing is what might be called factory work, where many things in succession are to be made according to a given pattern. In this trade dies are made for different parts of the work which are used to give form to particular things, and thus it saves, to a considerable

extent, the exercise of originality and skill. To a certain extent this is true in the forging of cutlery or fine machinery. But one who can be a first-rate general blacksmith will do better in this department than one who can work well by rule, and not by the eye.

IRON-FOUNDING.

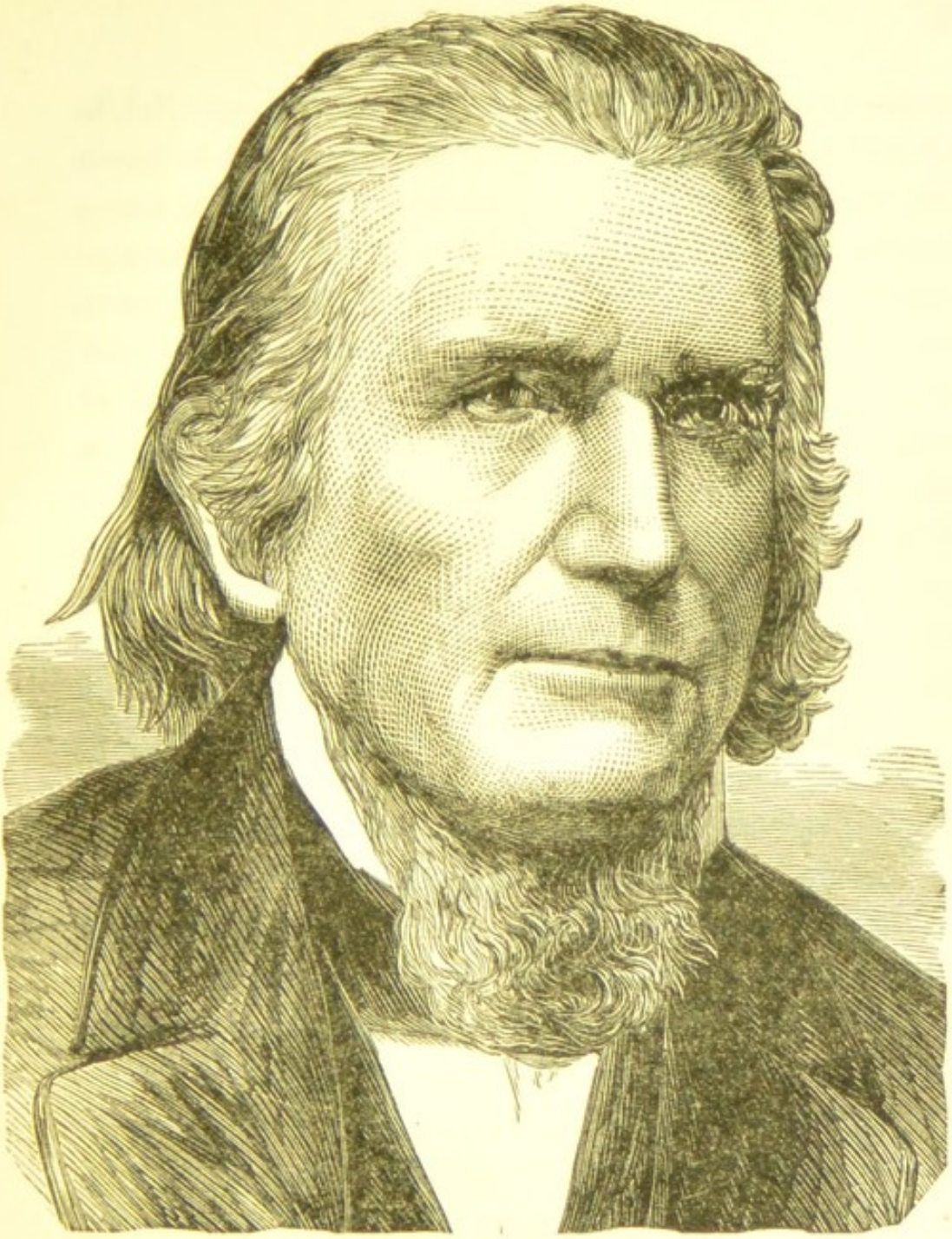
The iron-founder needs also a strong muscular system, and a great deal of constitutional endurance, especially if he has much heavy lifting, as one has in the kind of work that in a foundry is called light. When the work is very heavy, the lifting is done by ponderous cranes, or machinery, which makes the lifting to be done by hand comparatively little.

Iron-molding requires precision, delicacy of touch to prepare the sand molds for the final casting. It requires great caution, especially for large work, to strengthen the molds so as not to have the weight of the iron destroy them, and lose thereby a great deal of labor.

Good constructive talent, fair Ideality, large perceptives, and a strong base of brain are required in this trade. If one is an iron-melter, he requires some knowledge of chemistry and mineralogy. Brass-founding, and the casting of small work, requires more activity, and less strength,—rapidity, rather than power of action.

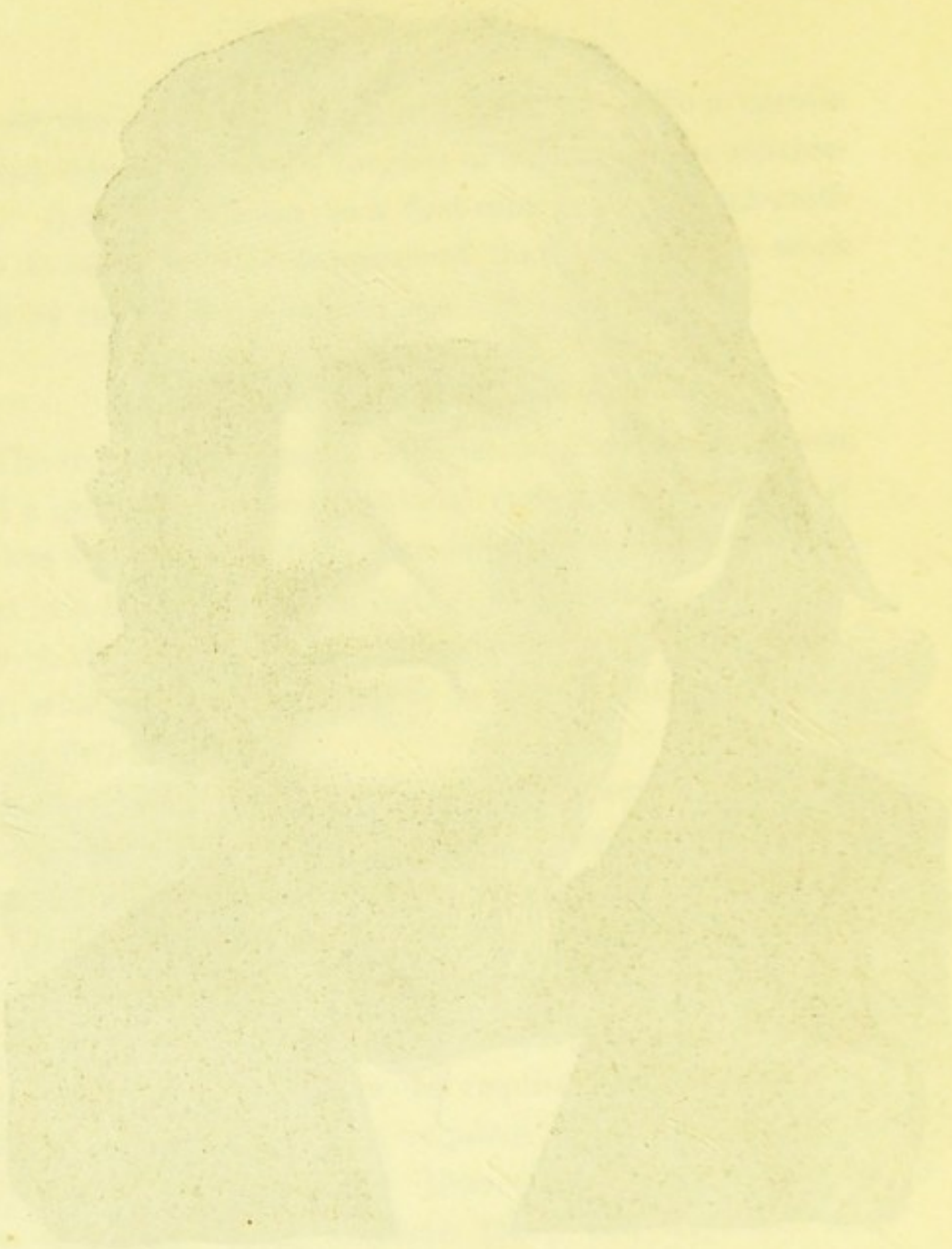
THE MACHINIST.

The machinist requires good constitutional health and vigor, but it is not absolutely necessary that he should be a very strong man, though it is better that he should be



HENRY BURDEN, MACHINIST.

Here is an original thinker and eminent inventor, born in Scotland, April 20, 1791. His first success in invention was a threshing machine. He came to America in 1819, and devoted himself to improvement in agricultural implements, inventing a plow and the first cultivator ever in use. In 1822 he invented a flax machine. He went in the same year to Troy, N. Y., where he became agent for the "Troy Iron & Nail Factory," and ultimately became sole proprietor. He invented a machine to make wrought nails, and the first machine for making horse shoes, which turned out 3,600 shoes per hour; and, though he took but twelve patents, they are among the most important in the history of the mechanic arts. His was a prolific brain, and did the work of ten thousand men, and his great inventions will bless the world for a hundred generations. He died January 19, 1871.



of full size and average vigor. There are some depart ments of this trade in which an extra amount of physical power is useful; but as men of this trade generally work in groups, it is not essential that all should be even of average strength. The head rather than the muscles is the great desideratum. All the perceptive organs should be amply developed with a full degree of the reasoning powers, and large Constructiveness and Ideality. Moreover, the machinist should have large Cautiousness, so that he will work carefully on account of the importance of the work on which they are engaged, and also on personal accounts. Many machinists get their fingers caught, and lose them. Some lose an arm or a leg by getting drawn into the machinery used in working at their trade.

To take a good rank in this vocation, one needs the drawing talent, so that he can make complete drawings for the construction of engines or any other machinery. If he have the talent to make the drawings, he will the more readily understand those which may be furnished him to work by. The machinist, in heavy work, requires largeness and strength of mind—a kind of intellectual courage to grapple with the ponderous work; but in the heavier kinds of work, such as turning shafts for steamships, the personal labor is not very hard, because the heavy pieces, weighing sometimes many tons, are lifted for adjustment by means of machinery called the "crane." When such a piece of iron is once placed in the engine-lathe for boring or turning, there are sometimes many days' work to be done without any change being required. But in turning car axles the manual labor is harder, because two men can lift one

of them, and adjust it in the lathe. The machinist, like the iron-founder, works easiest who has the heaviest work to do. That which is called light iron work is hard for the men. The blacksmith who makes horse-nails is hammering almost all the time, and it is absolutely harder labor than it would be to make horse shoes, axes, or harrow teeth, because three quarters of the time would be required to heat the iron on the larger work. In the light work of the machinist the jobs are short, and the labor of lifting and adjusting the articles occurs frequently.

POPULARITY OF THE TRADE.

To be a machinist, one need not expect to become head of the business unless he have very superior ability. It is considered a popular or desirable trade, because the steam-fire engine or the machinery of a steamboat or locomotive being polished and handsome, and working so nicely, attracts the attention of boys, and leads them to feel a desire to construct them. And when they have become harnessed to a business, it is not very easy for them to retire. Since, then, so many bright, intelligent boys rush to this trade, the competition for high positions is very sharp, and one can not rise to rule a shop filled with such persons unless he has ability to rule anything, and rise anywhere. If he does become head man, he is all the more confined. Indeed, it then becomes imprisonment. The common hand can be off for a day without disturbing everything, but a foreman must be first on the ground and last to leave, and every sense and talent he possesses must be on the alert.

The machinist should also be patient, willing to submit to the rules and controlling power of his superiors; should be willing to work for a company that does not know him from a stranger, and that cares no more for him than for a stranger.

NOT EASILY ESTABLISHED.

We do not recommend young men to rush into this trade, because it is generally fully stocked, and the business is coming to be conducted by heavy firms, where a hundred thousand dollars are required to start it; hence one can hardly hope to become owner so as to be master of his own time and talent. Therefore, if a machinist have independence, love of liberty, and a disposition to be his own master, he will fret and chafe under the restraint of going to a shop by the bell, and being ranked as one of two hundred and fifty men, being practically like a single picket in a string of fence, or one of the cogs of a large wheel, with his individuality almost lost. Such a man should stay away from that business; he will make trouble as long as he stays in a shop, and be likely to go out of it in disgust at the very time when he should be laying the foundations of his fortune. If a young man had half enough money to start a machine shop, we should advise him by all means to start some other business, equally respectable and remunerative.

TIN AND STOVE BUSINESS.

will always be good, and will furnish to the good workman as much pay as a machinist of equal talent can command. We are aware that boys acquire a disgust for this

trade from the traveling tinker who cries "Tin-ware to mend!" and they fancy that the regular tinsmith is only a prosperous tinker.

EASILY SET UP.

There are many advantages in this trade, some of which we will mention. It requires but little money, say five hundred dollars, to start it in a small way, and at the end of one year after beginning, a prudent young man might safely marry and establish housekeeping on a modest and prudent scale. We believe that a trade which will permit a young man to start for himself easily, and insure the support of a family within three or four years from the time he ends his apprenticeship, is best calculated to build up good citizenship, and keep young men in the path of virtue and morality. Thus established, he can work alone, and customers will come to him for his wares. As his business increases, he will take an apprentice, then a journeyman; he begins to sell stoves on commission, and in ten years, with temperance, industry, and skill, he will be likely to have in his employment ten or a dozen hands, and a stove warehouse with a profitable trade. He does tin-roofing, he makes the boilers and furniture for stoves, constructs the pipe, and sets up stoves where they are to be used. Whatever is required in his line of business can not be done even by ingenious families. They must send to the shop and pay the tinsmith for doing the work

TIME FULLY OCCUPIED.

Another valuable feature of this and similar trades is,

that in dull times, or stormy days, when no orders come in, the mechanic can be working up stock into staple articles which soon must be wanted, thus filling up every hour of the time, so that when orders come rushing in, the pans, kettles, stove furniture, stovepipe, and leader-pipe shall be ready when wanted. This keeps a man with small Hope and large Cautiousness in good heart through days which otherwise would be dark, besides being ready with material to rush business when it comes, as it were, all in a heap. A business which must always wait for orders is likely to be either a feast too abundant to be available, or a famine too severe to be good for mind, body, or estate. Moreover, a tradesman who has idle time is very likely to get into bad company and adopt dissipated habits. We can not imagine that this trade shall by any means be run out, as some others have been by the use of machinery, and tinware is not likely to be superseded by anything equally light and durable.

WHAT IS BEST FOR POOR YOUNG MEN.

It may be said that this is a small business, and we reply that that is the best business on an average for young men, which can be set up in a small way, such as blacksmithing and carpentry, for be it remembered that only a few are competent to start a large factory, even though they have the means at command. They would not have the comprehensive talent to employ two or three hundred men. Besides, large fortunes are only to be anticipated by few, and the trade which a young man can learn before he is of age, and within two years get started, and in a

year or two more be settled in life,—a trade in which he can accumulate enough to educate his children and make himself comfortable in his declining years, must be regarded as an excellent field for a young man.

All can not be captains who would be soldiers, and all can not be at the head of rich establishments. The great working world must hammer out its success by individual effort, and this the tinsmith can do. We have known some, who, having talent for it, and beginning in the stove line, worked into the iron-foundry business, and made large fortunes. But if young men wait to find a business in which large fortunes are pretty sure, it will be like waiting for a decision in the English Court of Chancery—fruitless.

PLUMBING AND GASFITTING.

This business embraces practically two trades, though they are now generally united. Like tinsmithing, it requires energy, industry, practical talent, and financial judgment. The plumber and gasfitter should be a man of good judgment, for he has to take his contracts by estimation. He should be able to calculate within a few dollars what it will cost to supply a house with gas-fittings, or to do the plumbing. Then he can make a close estimate, and secure contracts where the competition is sharp, and be wise enough not to take business at too low a price.

He should also be a man of integrity, so that he will feel bound to do the work well, though the owner may be miles away, absorbed in his business affairs. He should

be careful to promise no faster than he can work. Sometimes plumbers pull up old work, and leave a house three days without water. They do it simply to secure the work. They sometimes promise to do a job of repairing, and it will be perhaps three days or a week before they make their appearance, greatly to the disgust and inconvenience of the family interested. This should be reformed altogether. Such men deserve to be neglected and driven out of the business, for there is nothing more annoying than a leaky gas-pipe, which half an hour's labor would correct, or leaky water-pipes, or pipes in any way out of order. A man who is honest enough to say, "I can not do this work for two days," and thus perhaps sends his customer temporarily to somebody else, will deserve the man's patronage when he is at leisure to do his work.

This trade requires a good deal of mechanical ingenuity, good taste, and good judgment in many respects, especially in delivering gas or water wherever it may be required with the least possible expenditure of pipe. Some men waste their profits by a lack of good calculation in this respect. A quick eye and a quick hand are required in this trade. In "wiping joints" on lead pipe artistic facility and quickness are required. If by slowness or awkwardness the workman make a failure, he may lose an hour's time, when ten minutes is ample for him to do the work in hand. So much of it is light and requiring exactness, that if it be not rapidly handled, much time is wasted. In lifting heavy blocks of stone into walls, in placing great beams in structures, in making a great casting in a foundry, or lifting a heavy shaft into a lathe to be

turned, slowness may be tolerated; but in putting up gas-fittings, a quick motion will double a man's value. In a light trade, where there are many little things to be handled and adjusted, one quick man will sometimes do as much as two clumsy, strong men; and this activity will of itself be a sufficient margin for profit.

BRASS FINISHING.

The brass finisher requires more artistic taste than mechanical talent. He needs a good eye for proportion, for he has to shape things of graceful form by the eye and the judgment. He must make nice curves, neat finish, and stylish work, and there are no prescribed lines or marks which he can employ as a guide to complete his work. Like paring off the sole of a boot, it has to be done by a sense of that which is graceful in form and proportion. The carpenter can draw his straight lines or angles, and cut to the line, and call it finished, but the last-maker, the axe-helve maker, he who makes gun-stocks, or finishes brass work, must have an excellent development of Order, Size, Form, and Ideality, and large perceptives generally. He needs also to be rapid in motion, and quick to see, and should have a fine and active temperament.

BRICKLAYING.

The bricklayer, though requiring less power than the blacksmith, stone-mason, or stone-cutter, requires a mathematical mind. His work belongs to the domain of geometry. He has straight lines and particular angles to consider. He must judge of the straight, the angular, and

the plumb. He has arches to construct, but the carpenter generally builds the form on which the arch is laid. The construction of the arch form, however, really belongs to the mason, though, for convenience, the wood-worker builds it.

The bricklayer must also study the chemical laws of the composition of mortar, the strength of materials, and the law of pressure and resistance in reference to arches and their abutments. He needs especially to be quick in eye, and to have large Individuality, so that his perception of the condition of things will be quick and correct. He needs large perceptives generally, so that form, proportion, weight, or plumb shall be appreciated instantly. He should be active in muscle, rather than strong or brawny, so that every motion shall be prompt, ready, and decisive. He needs to lay out comparatively little strength at each particular effort, but he wants that muscular power at hand, that he may promptly repeat his motions a thousand times an hour. His temperament should be more active than is required for the stone-cutter, stone-mason, blacksmith, or hewer of timber, so that his mind shall work rapidly. As he has ten thousand decisions to make as to direction, levelness, and plumbness in a single day, the workman succeeds best who can decide these little questions most rapidly and correctly. We notice some masons who will deliberate and look, and not get a brick right at last. Others will give a rap or two with their trowel and the work is straight, level, plumb, and right, and their walls look trim and handsome. Others will lay their work badly, the whole wall being twisted, and each brick

having a direction of its own, irrespective of the others, looking as if it lay uneasily in the wall. One may see, in riding through a farming region, where an inexperienced wall-layer has been laying a stone fence; there is a kind of tumble-down look to it,—no two stones seem to have any harmonious relation to each other, and the whole wall looks cobbled up; while a wall evenly laid, in proper rows, even of common rough stone, will have points of harmony and propriety of appearance as if it only required a little mortar to make it a finished job.

The bricklayer requires large Weight, to understand the law of gravitation, so that he can quickly see when a wall or a single brick is plumb. Some men will run up a corner by the eye alone; another will be using his plumb-rule half the time, working hard and long to get his wall vertical. This faculty of Weight is also required to give him steadiness in climbing and working on high scaffolding without being dizzy; so this faculty, while it enables him to do his work properly, gives him a steady head in high situations.

The bricklayer, therefore, requires less Combativeness, Destructiveness, Firmness, and Self-Esteem than the blacksmith. He may have a more active temperament, because his work is done by quick motions, and he does not require to use a great deal of strength at any one time.

STONE MASONRY.

The stone-mason requires a sense of the perpendicular, the same as the bricklayer, but does not need so active a temperament, nor so prompt and positive muscular action.

His work is heavier: he needs more bone and muscle; he should have a true eye, a correct sense of strength and of the law of pressure; he needs large Combativeness, Destructiveness, and Firmness, and especially a large organ of Size, for he breaks stones to fit particular places, or selects those that are already of the right size. It is interesting to watch a stone-mason, and see with what accuracy his eye leads him to his decisions.

He should not have an excitable temperament, but a cool, steady disposition, that he may not fret and worry and strain himself by overlifting. The brick-mason may hurry, and he can hardly overwork; and we believe that of a hundred energetic bricklayers, there would not be one-tenth as many broken-down men as there would be in an equal number of stone-masons. Men can get tired handling brick and using the trowel, but they can not very well strain themselves. But the stone-mason, who sometimes handles stone weighing from one hundred to five hundred pounds or more, is very liable to overlift, especially if he has a light frame, sharp features, and an excitable temperament.

To be fit for his business, he should have broad shoulders, a strong, sturdy back, large arms and legs, thick, bony hands, a broad face, large features, a broad head, and square forehead. Such a man will have sound judgment, executive force, endurance, and power, without that excitability which leads to rashness and overworking. The very business leads a man to slow motions. The stone-mason moves like an ox, the brick-mason like a sprightly horse, and persons for these trades

should be selected with a view to the claims of the trades upon them respectively. When we see a thin-skinned, fine-haired, sharp-featured, sensitive man working as a stone-mason, we think of a light road-horse harnessed to a plow, or a heavy truck, each being equally out of place, and a candidate for being early broken down from strains and exhaustion. Many a man would work forty years, and retain his health as a brick-mason, when he would be used up in five years as a stone-mason; and many a great, square, heavy, slow man engaged in bricklaying would be unpopular because so slow, and be left out of employment, except when help were scarce and work pressing, who, if he were put into stone masonry, would be the man of men for that position; on the same principle that a heavy, strong truck-horse, being harnessed to a light wagon, where speed is required, would be fretted and worried by the haste and hurry, and perform very unsatisfactory service after all.

"The right man in the right place," is a good motto. Everybody knows the law of having the right horse in the right place, and men are wise enough, generally, to classify horses for the particular service required. Why should not men be classified with equal wisdom?

STONECUTTING.

This trade requires a strong development of the Motive and Vital temperaments; the first to give bone and muscle, the second to give strong lungs, good digestion, and a desire for physical exertion, with steam to carry it out.

The mental requisites for this occupation are Combativeness, Destructiveness, Firmness, and Continuity; the two former to do the smiting and give a willingness to exercise the strength requisite; the Firmness and Continuity to give steadfastness, strength of purpose, and patient application. He requires, also, a large development of the organs of Form and Size, to give a taste for shape and proportion, and an ample development of Weight, to regulate the necessary force of the blows, and to give a straight eye, as required by the brick-mason. Although the stonecutter has lines to work by, they are simply outlines; he has to be guided very much after all by his eye to work out the required shapes, and to know when his work is well done. No man with weak lungs should ever attempt this business, because the air-passages are apt to get filled up with stone-dust, and there is a tendency to what is called "stonecutter's consumption." Those who live much in the dust of grindstones, as in the grinding-room of axe factories, often get the pulmonary passages so filled with grit and steel dust combined, that the substance of the lungs after death will weigh almost as heavy as stone, and the air-passages are filled with solidified mineral matter, resembling branch coral. No man, therefore, should undertake stonecutting or grinding in an axe, scythe, or tool factory who has not a great deal of lung room to spare, for ten years of such service finishes a man. Twenty years ago five years' time was the average for using up axe-grinders. They earned great wages, to be sure, but such a recompense was no fair equivalent for such sacrifice. Capital does not always properly protect labor

Efforts are making by means of exhaustive currents of air to carry away the dust of stone and steel, and thereby save the health of the grinders.

COOPERING.

The cooper needs a robust constitution, strong shoulders and arms, and a good Vital temperament, to give ardor and industry, and a fair degree of endurance. He needs especially the organs of Form and Size, because he has to work by the eye. He does not lay a rule on in the shaving and jointing of his staves, but has to taper them from the middle both ways, and have the bevel or the edge vary according to the tapering form of the cask, so that the edges of the staves will make a tight joint inside and outside; consequently, the edge has to twist slightly, gradually changing its bevel, and one who has skill in this will shape these edges in such a way as to make the outside and inside of a vessel seem to be solid wood where the joints come together. A carpenter would not be able to make such joints. The cooper will thus shave and taper the staves for a cask by the eye only, and when set up, the two ends of the cask will not vary an eighth of an inch in diameter.

MILLWRIGHTING.

The millwright is a machinist and a carpenter combined —the constructor of ponderous machinery partly of wood and partly of iron, that does not require to be so very nice. He who constructs a steam-engine must be an art-

ist, as compared with a millwright. He ranks as the cabinet-maker does in comparison with the carpenter. His engine must run easily, and yet so snugly as not to make a noise in its revolutions. We have stood by the side of an engine of a hundred-horse power, in the U. S. Armory, and when it was running at full speed, driving a whole establishment, only the creaking of the leather belt could be heard, as there was no jerking, no pounding, and no friction that created noise.

Whoever proposes to learn any of these trades should be well endowed with the Motive and Vital temperaments, that he may have the strength, energy, enterprise, and courage necessary to fill his position well. Thin, nervous people should keep away from these vocations, for they will be third-rate in execution, and in the amount of work they will do, though they may have the requisite skill to succeed in doing good work.

CARPENTRY.

The carpenter, in addition to general strength, force of character, Firmness, and Self-Esteem, requires large Inhabitiveness, to give him a relish for houses and homes. He needs good Constructiveness, large Order, Calculation, talent for geometry and drawing, including Size and Form, but does not require Weight or the sense of propulsion and motion to qualify him passably for his work, though Weight is useful in setting work plumb by the eye and keeping his balance in high situations. The wagon-maker, the machinist, the millwright, the gunsmith, and locksmith must

construct that which moves on itself, and they require the faculty of Weight and Constructiveness, and a large degree of Ideality in addition.

The carpenter has now an easier task than formerly when all the planing, match-grooving, all the moldings, mortising, and tenoning for sash and doors must be done by hand; now he has little to do but put up the work. Up to 1835 there was hardly such a thing known as a planing, sawing, grooving, or mortising machine. What a slow and hard job it was to plane all the clapboards, floor-boards, all the stuff for doors, sash, casings, and moldings, after having ripped them out with a hand-saw! Then it required bone and muscle. No wonder the "joiner came and never went away" when a new house was being built.

CABINET-MAKING.

The cabinet-maker is a kind of artistic carpenter. He does fine work, makes close joints, and requires taste, Order, and a finer temperament than the mere carpenter, for he has to polish his work, and make it, as it were, air-tight, sometimes constructing joints that deceive even the eye, though it is said that blind people will find them by the touch.

MILLING.

In small "custom" mills the miller needs a great deal of strength, to handle the bags; and he should be ingenious, for he has to understand all the gearing and machinery of his mill, and, in the main, keep it in running condition

In a large flouring establishment, milling is more of a science, requiring nicer adjustments, the appreciation of complicated processes, and machinery to produce them; also certain chemical and mechanical laws which are not much required in the small country mills. In these large establishments, the lifting is chiefly done by the elevator. Still, a man in such a concern should be energetic in disposition, and have a good degree of strength and willingness to be industrious when occasion requires the use of active energy.

BUTCHERING.

The butcher requires not only a robust constitution and a great deal of strength and activity; he requires strong muscles, and a vim and resolution which amount almost to fierceness when aroused. We seldom find a successful butcher, and one who enjoys his pursuit, that has not rather large Destructiveness. If he were weak in this respect, he would break down when the calm eye of the ox or the sheep met his own, just as he was to deal the fatal blow.

The butcher requires ingenuity, skill, and facility of touch. If one doubts it, let him try with the long, sharp knife to separate the hide from the flesh, and see how he will cut the one or hack the other. A skilled butcher handles his knife very deftly, though it has a savage look, and, watching him, we discover a grace in his motions, and in the results. For a man to take off the hide and dress a sheep in two minutes by the clock, he requires not only practical skill, but great energy. For two men to slaughter an ox, and hang up the quarters ready for market in four

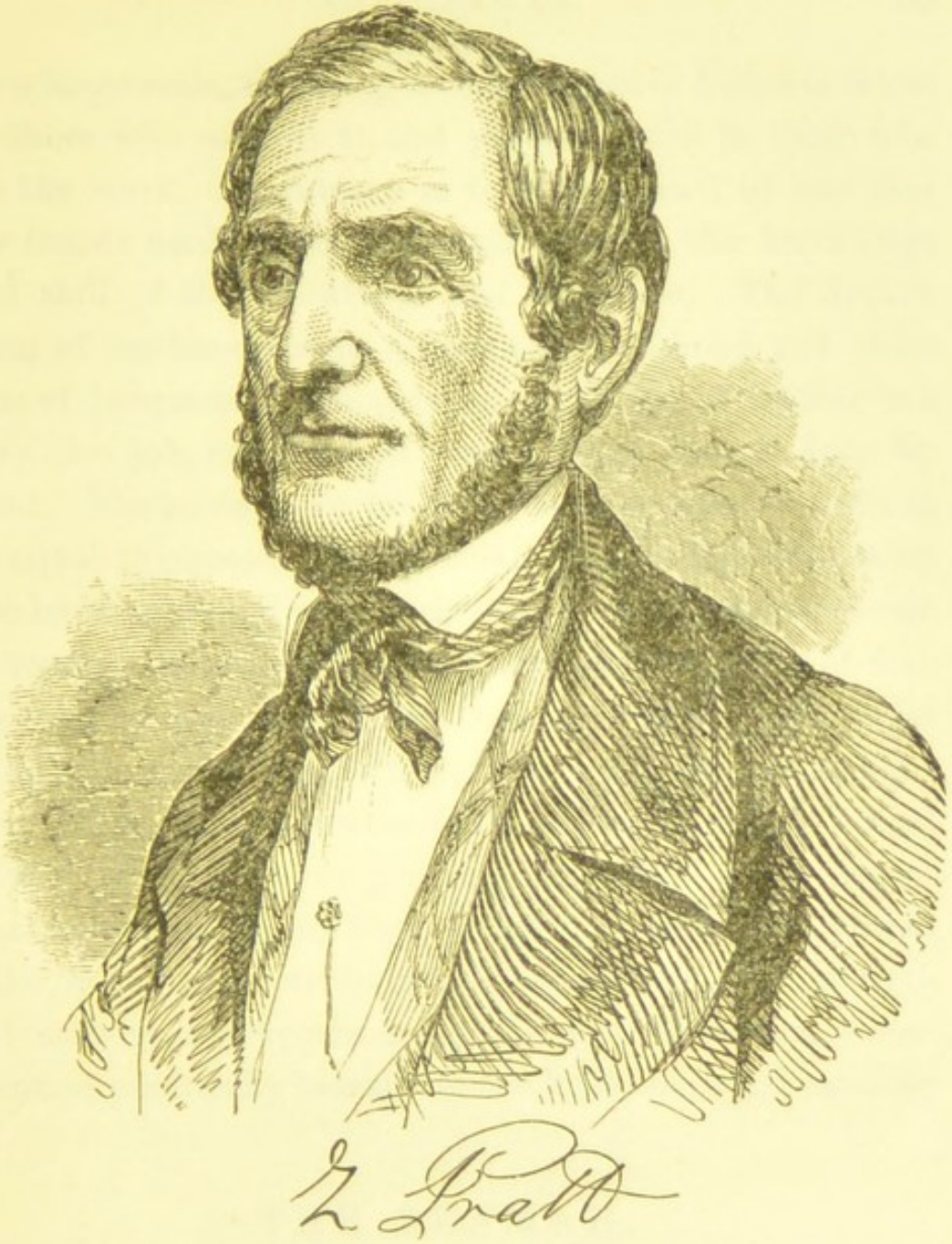
teen minutes, is quick work, requiring skill, energy, and experience; and as long as men require flesh meat, butchering must be considered a trade.

We said to a stranger under our hands, that having such a development of Form, Size, and Weight, if he were accustomed to buy cattle for slaughter, he would go through a yard containing a hundred oxen and estimate their weight so as not to vary ten pounds each from their true weight. He replied that he could do better than that, for the week before he had thus estimated a drove of 107 oxen, varying from 900 lbs. to 1,800 lbs. each, and it was found by the scales that his estimate was less than five pounds each from the weight. Not that he estimated each ox within five pounds, but it averaged nearer than that on the lot.

To cut up and sell meat one should have skill and strength; a correct appreciation of Size and Weight, to estimate the amount required. He should have patience and integrity and punctuality, and he will win and keep customers and secure success. For health and an ample reward for industry and good judgment this is an excellent business. We have never known a thorough, energetic, sensible, and temperate man to fail in it.

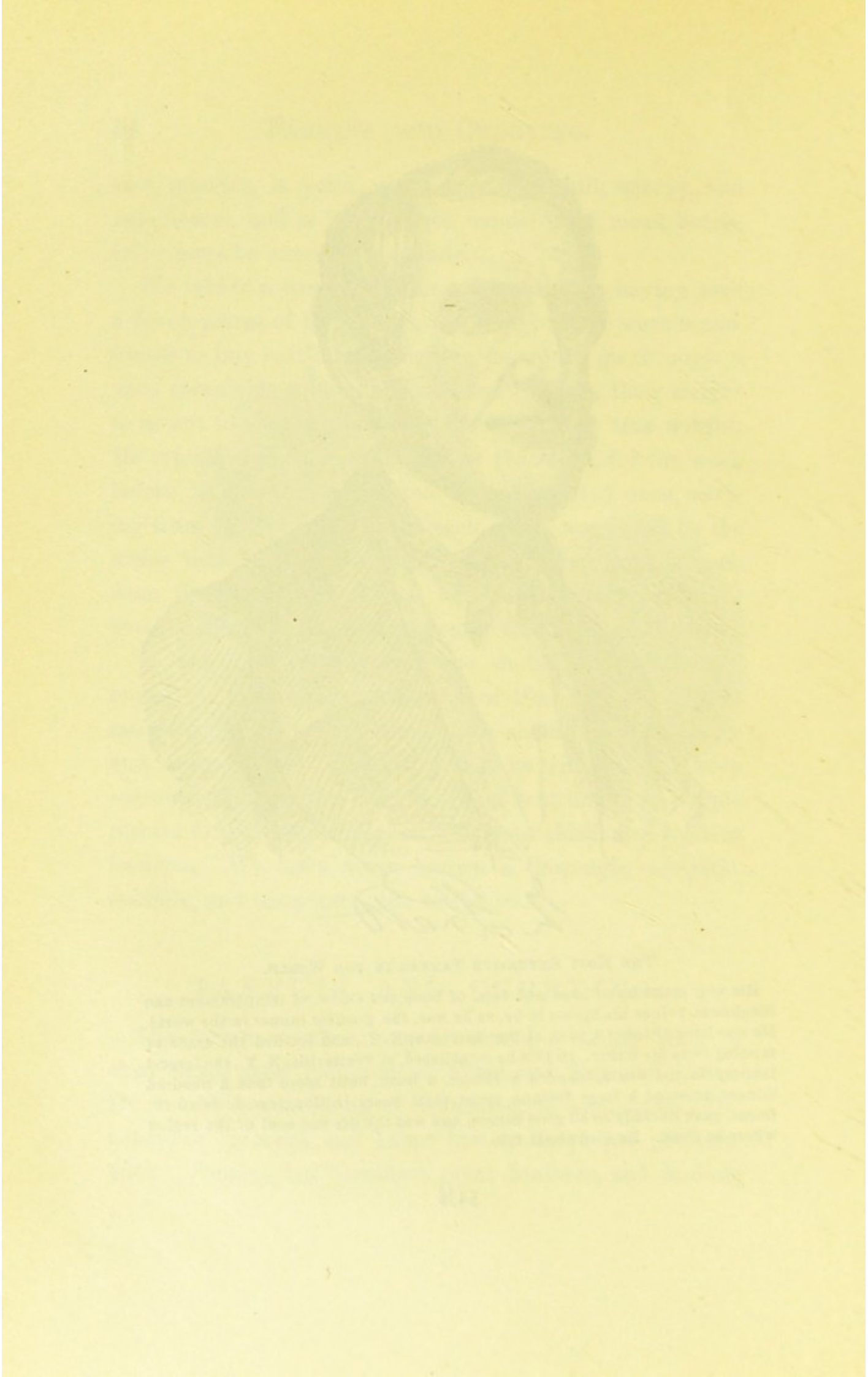
TANNING AND CURRYING.

The tanner requires long arms and a strong back; a clear head, good judgment of Form and Size and Color. He should be something of a chemist, to comprehend the nature of his work and adapt him to its proper performance. Tanning has become a great business, and is done



THE MOST EXTENSIVE TANNER IN THE WORLD.

His very make-up of head and face, of bone and sinew, of temperament and toughness, evince his fitness to be, as he was, the greatest tanner in the world. He was born October 9, 1790, at Stephentown, N. Y., and learned the trade of tanning from his father. In 1828 he established, at Prattsville, N. Y., the largest tannery in the world, founded a village, a bank, built more than a hundred houses, amassed a large fortune, spent eight years in Congress, fostered reforms, gave liberally to all good causes, and was the life and soul of the region where he lived. He died about 1870.



on a large scale, requiring a comprehensive business talent in those who conduct it, and practical skill in those who do the work. Machinery is so largely used of late that the tanner needs to have in good measure the knowledge and skill of the millwright and machinist. The department of leather-dressing requires skill of hand and clearness of judgment. The skiving or shaving of leather is a very nice job, and the best work of that kind is done by hand. The calfskin for boots needs to be shaved down to an equal thickness. The cowhide for carriage-tops must also be thus shaved with great care by hand, and the sense of touch to determine the thickness, and the sense of feeling to know how deep the instrument is cutting, the sense of sight to watch it carefully, require a keen, sharp, ingenious head. Only a few men in a hundred can do this kind of work well, and they generally command great wages. The organs of Form, Size, Weight, Comparison, Order, Color, and Constructiveness in a higher degree of strength and activity are required by the leather-dresser, whose vocation practically belongs to the business called tanning.

THE SEAMAN.

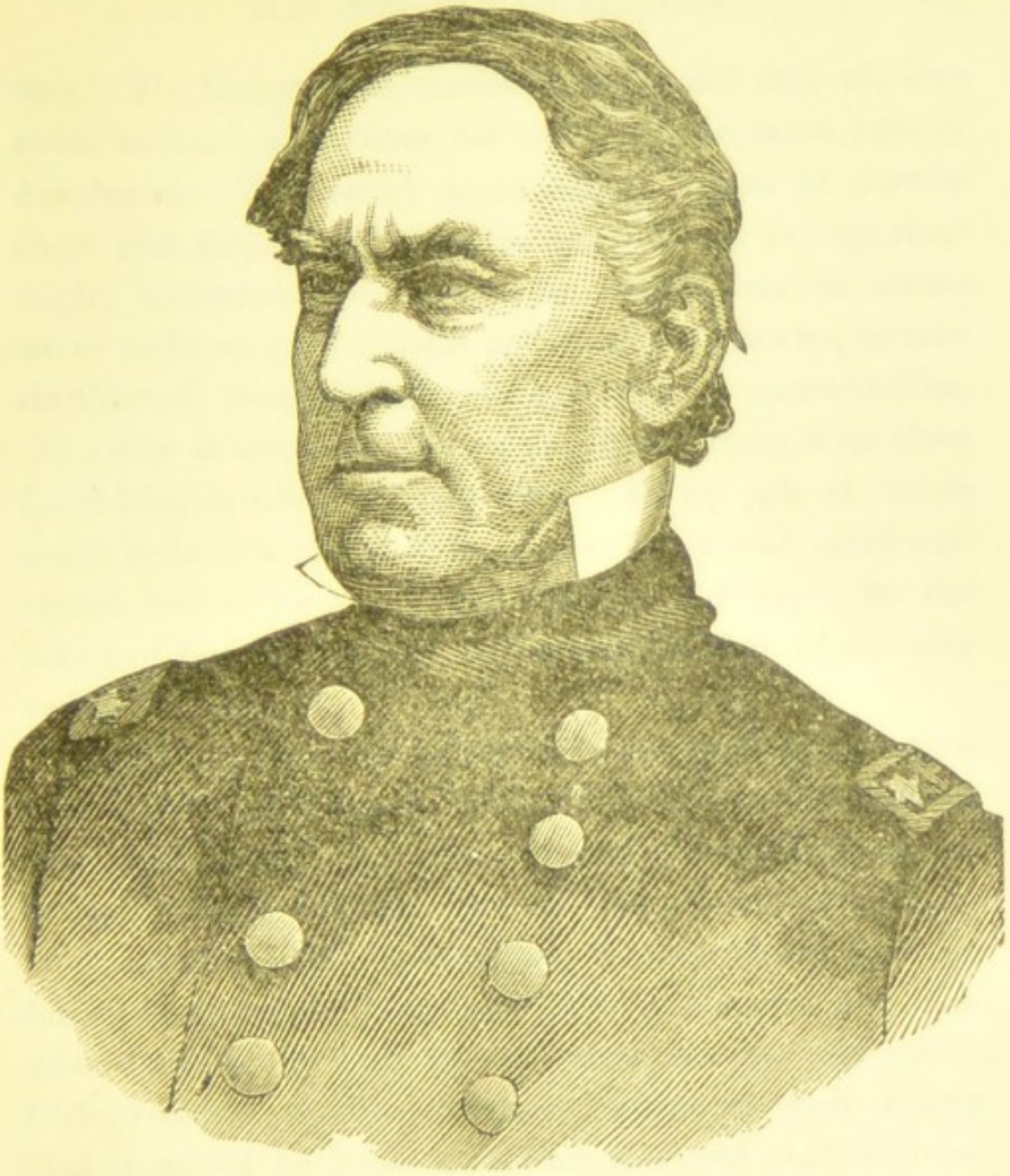
In reference to sea-faring, there is, in the minds of most persons, a certain wild, romantic idea. Poets have sung of the sea; of its might and its mystery, of its silence and its storms, of its beauty and its wrath. When the seamen quits the land and trusts his life and fortunes upon the bosom of the deep, and has only the vaulted sky and the planets and stars as subjects of permanency and trust,

he is hidden, buried as it were, from all his friends and associations. For months, and perhaps years, no word reaches his friends as to his safety, and some, alas! are never heard of more. Their death, and the place of their sepulture, is a mystery forever.

In connection with all that relates to the sea, there is uncertainty and mystery, and it is not strange that the stoutest-hearted seamen entertain feelings of superstitious fear relative to special days, and unlucky ships, the appearance of birds, and other omens of good and ill. Some of the finest stories that have been written are of the sea. Dana's "Three Years Before the Mast," and Captain Marryatt's sea stories, have been read by boys with more enthusiasm than anything else.

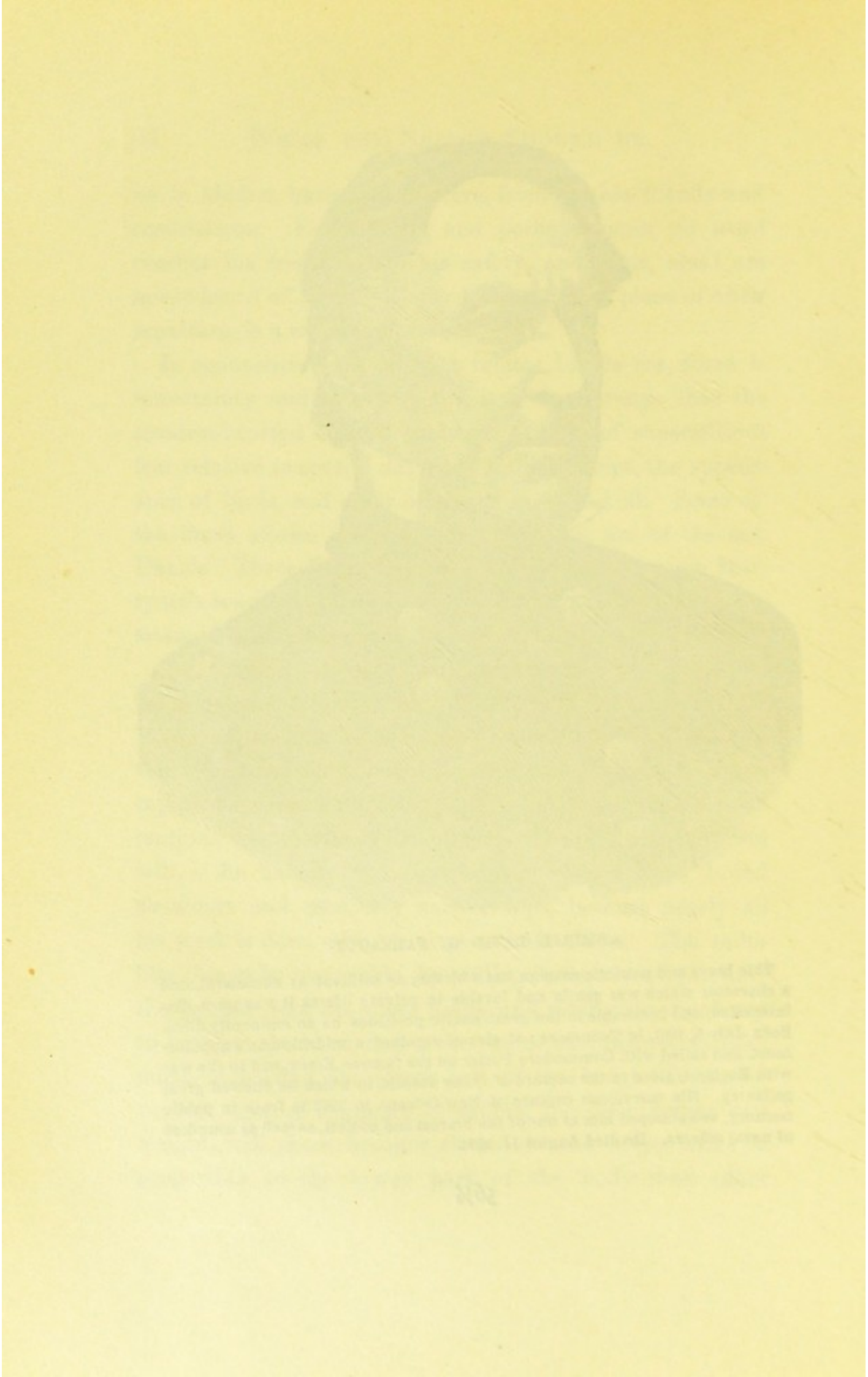
WHAT THE SAILOR SHOULD BE.

One of the first needs of the sailor is health, a substantial, tough, and enduring constitution. He should have tapering limbs, indicating agility and sprightliness of motion. One who is trained to the sea from boyhood will, if he have a fair constitution, always show broad shoulders and relatively narrow hips, because nearly all his work is done with his arms and shoulders. The sailor lifts things by the tackle, by pulling downward, lightening the burden from his lower limbs, and giving the tendency to broaden the chest and make the arms brawny, without much increasing the lower half of the body. It is proverbial that a company of sailors, for their height and weight, will show broader shoulders and larger arms in proportion to the lower part of the body than other



ADMIRAL DAVID G. FARRAGUT.

This brave and patriotic seaman has a history as brilliant as successful, and a character which was gentle and lovable in private life as it was pure, disinterested, and honorable in the great public positions he so eminently filled. Born July 5, 1801, in Tennessee; at eleven received a midshipman's appointment, and sailed with Commodore Porter on the famous Essex, and in the war with England, aided in the capture of many vessels, in which he showed great gallantry. His marvelous capture of New Orleans in 1862 is fresh in public memory, and stamped him as one of the bravest and coolest, as well as soundest of naval officers. He died August 14, 1864.



men. The farmer, who carries burdens, and uses his legs about as much as he does his arms, will be more equally developed. We would recommend no man of narrow chest and flat breast to go to sea. A boy so organized might measurably overcome the defect, but he would never make so good a sailor as one of the brawny, square-shouldered, deep-chested, strong, natural constitutions. On a ship at sea, struggling with a storm, there is no place for shirks, invalids, or imbeciles. Every pair of hands ought to have a robust body, and a determined mind connected with it, for every man there should count for the safety of himself and others, as well as that of the ship and its treasures.

The sailor should have Combativeness and Destructiveness large enough to give him courage. He should have broad shoulders, a good-sized neck, a broad base to the brain, to give foundation for vital courage and earnestness of character; a full development of Cautiousness, to make him on the alert for danger of every kind at sea, and even when lying at the dock and preparing for sea. An incautious, reckless man would stow a cargo in such a way that it would be injured, or that it would shift and endanger the ship. In ordering repairs, he would treat the ship carelessly—which ought to be stanch in every particular—as he would a cow-shed on shore, thus risking his own life and that of many others.

The seaman should have Firmness and Self-Esteem, to give him steadfastness, dignity, and self-reliance. Nothing taxes Self-Esteem and courage more than with a ship to fight the angry ocean; for when the great waves come

rolling up, making a clean breach over the deck, and for the moment covering with water the hardy seaman who is lashed to the wheel, and he stands by the helm catching breath when he may, and thus for hours striving with the storm, it requires no faint heart or weak body for such a place. When a man loads a team for a distant market-town, he considers how much that team can haul up the steepest hill on the route; he does not load his team for the level stretches and easy grades, but for the steep hills. So when seamen are selected for duty, the character of each man, and the number of the men should be considered with reference to these terrific storms. Weaklings may do to sail upon placid summer seas where neither "tack" nor "sheet" need be changed for weeks together. He who has not in him the conscious strength and courage, the hearty healthfulness and vigor requisite for the worst, should stay ashore.

HIS MENTAL CULTIVATION.

The seaman, however, requires something besides mere physical courage, prudence, and bodily vigor and endurance; he should have intellectual capabilities, and a good degree of culture. There is no good reason why seamen should be proverbially rough, base, outcast men. True, in large cities, there are many temptations to vice and demoralization, and some men who are seamen ran away from home before their characters were formed, fell into bad company and bad habits, and now disgrace the name of seaman as well as the name of man; and when these roystering, ruined sons of the sea are going in

noisy groups, intoxicated through the streets, and become a terror to children and others, there are many quiet citizen seamen who are at home rejoicing with their families as sober, Christian men, saving their wages and building up an enviable prosperity. In many of the small towns along the coast of Massachusetts and Maine the most respectable of the citizens are seamen. On a Sunday, their brown faces, with the wife and group of pretty children, may be seen in the pews of the church. The best young men learn the science of the sea, and honor the profession they follow. In the large commercial towns the veterans of the sea, the victims of land-sharks and intemperance, may haunt the public imagination, as they are a disgrace in the public eye; but there is no reason why men of culture and first-class talent and morals, like the immortal Farragut, should not be common in this great field of industry.

It is not to be expected that all men who go to sea "before the mast" shall be scholars and gentlemen, for this is not relatively true in any other pursuit. But every man on shore or on sea should have a good practical education. Mathematics, astronomy, and navigation should be pretty thoroughly studied, and geography should be as familiar as one's right hand to him who "goes down to the sea in ships." Many a boy runs away from school, or anxiously seeks permission to go to sea, before he has established his education. Having an ardent desire to rise in his profession, and expecting to become master of a vessel, he ultimately finds himself an able seaman, so far as work is concerned, but destitute of the sciences which lie at the basis

of a knowledge of navigation. Unless by good fortune he meets some officer who is willing to instruct him, he remains before the mast for life, with a brain hungry to rise, and capable of acquiring knowledge, but not having the opportunity to do so, his life becomes relatively a failure.

Moreover, many a boy who runs away to go to sea, and thinks he has a real yearning for the seaman's life, finds at last that he made a mistake—it was only a desire to see something of the world, to visit places he has read about, that urges him to the reckless step he takes. Many of this class of boys, if they could be sent as passengers to Liverpool, London, or Havre, or could make a trip to Chicago, St. Louis, and New Orleans, would return contented and go to work on the farm, in the shop or store, or at his books in school. But denied this opportunity, he slips his hawser, or his halter, and wastes his life in roaming, dissipation, and vice.

The seaman should have large Constructiveness, for there is no occupation in which the work to be done requires more tact, sleight-of-hand, and ingenuity than the work of the seaman; and he who witnesses a rough sailor handling the ropes, making knots, fastenings, splicings, and the like, can not fail to be impressed with the manual skill and dexterity required in this pursuit. The sailor, moreover, should have large Perceptive organs, a full and prominent brow, with a comparatively receding forehead not from a want of tophead, but from an abundance of development in the lower part of the forehead. These organs give quickness of observation. A good seaman

reads the sky, the clouds, and the sea like a book. He discerns the signs in the heavens, and many a sharp-eyed seaman has shortened sail and made everything snug because he saw a storm "brewing" in the distance, which would not have attracted the attention of a landsman at all, and which, if pointed out and described, would not have been recognized as a thing to fear.

In whale-fishing and in exploring, men are kept at the mast-head on the look-out for land, for ships, and for the "blowing" of the whale. A strong, clear vision, with these large perceptives, which give the talent to perceive and recognize quickly, should also be possessed.

A STEADY HEAD—BALANCING POWER.

The seaman should have large Weight, for it is this which enables him to balance himself, and to go aloft without a swimming head. Some people become sick in lofty situations, and are utterly incapable of going up; but whoever has a large development of the organ of Weight can climb like a monkey, and not be giddy. The seamen who are obliged to "tumble up" aloft in the total darkness of midnight, when the winds howl and shriek through the rigging, and the blinding hail-storm is fiercely pelting, and they must go to the end of the yard-arm, perhaps a hundred feet above the deck, and take in frozen sails, find it no child's play.

Imagine men on the leeward end of the main-yard, that stretches out over the boiling sea, and as the vessel plunges and bows to the gale, carrying the end of the yard with the men clinging to it six feet under the crest of the wave,

and when they emerge going on with their work, thus ing drenched perhaps a dozen times before the task is completed! This is not holiday work, but it must be done, or the ship and all on board will be lost. A sensible seaman thus working for his own life, while he ministers to the safety of the ship, needs no prompting, but simply guidance and instruction. Nowhere else will men work so freely and hazard so much as at sea in a gale; shirking at such a time is death.

The seaman needs large Locality and Order, so as to remember the special locality of every rope and footline from the main-truck to the deck. Imagine such a feat as going aloft and shortening sail by a blind man; yet this is precisely what seamen's life and labor is in dark, stormy nights. Let those pale, cowardly, ill-developed saplings who think that going to sea is pleasant recreation, content themselves by staying ashore, where their weakness will be chiefly their own misfortune, and not, as it would be at sea, the misfortune of all on board.

THE NATIONAL SERVICE.

The national naval service differs somewhat from the commercial service; not in navigation; but there is generally more discipline, a greater number of men to do the work, and a higher degree of culture among the officers. But in addition to this there is the science of war, and, it may be added, the dangers and terrors of war. In the age of wooden ships, a battle at sea was a very different affair from what it is now. One would think it were bad enough to tempt the perils of the ocean, without tempting

also the belching broadsides of cannon as well. Before the age of steam, a single shot at a man-of-war might disable her sailing and put her at the mercy of the ocean or of the foe. But with ironclads to resist cannon-shot, and submerged steam machinery for propulsion, the war vessel can leave its foe, or stand the cannonading better than formerly, though the enginery for battering a foe is ten times more deadly than in the days of wooden ships. Half a century ago, the marshaling of two first-class frigates for battle had something awfully dramatic in it, requiring of the men dauntless courage and patriotism as well as great skill in maneuvering the ships.

CULTURE OF NAVAL OFFICERS.

Officers in the war vessels of all nations are noted for dignity, learning, gallantry, integrity,—in short, manliness. We think such qualities can hardly be developed from a bad source. There is something about life on the ocean which makes men generous, sympathetical, and magnanimous. Sailors have a mellow heart; they may have a tanned and rough visage, a brawny arm and bony fist, and perhaps use the latter oftener than is required, but back of these there palpitates generous, cordial affection, and a kind of good Samaritan impulse which are rarely, if ever, appealed to in vain.

PIRATES.

When seamen lose integrity, and make war on the human race, as some unfortunately have done, the word *pirate* carries with it dread and dismay; and so terrible

are their acts, such impunity being offered by the silence of the sea, that mankind have learned to think of pirates as of demons let loose. If the opportunities of bad men at sea furnish facility for impunity in crime, and by its mystery make it seem more terrible, there are in proportion more pirates on land who hunt for their victims with a stealthier step, and with equal malignity of purpose.

EDUCATION OF SEAMEN.

Some may ask, "Why does the common seaman require to understand the science of navigation?" The answer is simple. Every officer might be stricken down with sickness, or washed overboard in a storm, and it would be desirable if each seaman were able to take the ship's papers, and work her voyage home half around the world. This was the case with a large East India ship which lost every officer by cholera, where the captain's wife, Mrs. Blount, understanding navigation, brought the noble ship home to Southampton, England, about the year 1850. The heroic conduct of Mrs. Mary A. Patten, aged twenty years, wife of Capt. Joshua Patten, of Boston, must be remembered with pleasure and pride by many. They sailed from New York in July, 1856, for San Francisco, in the clipper ship Neptune's Car. When doubling Cape Horn the captain suspended the mate for neglect of duty, and had double duty to perform; becoming ill of brain fever, Mrs. Patten, understanding navigation, nursed her delirious husband, and took the ship in safety to San Francisco. The underwriters of New York presented her with a purse of a thousand dollars.

Trades Requiring Activity.

CLOTH MANUFACTURE.

THIS pursuit is divided into many branches. One who manufactures woolen cloth may confine himself to cassimeres, plain or fancy, and the trade differs accordingly. He may make broadcloth or heavy beavers; he may make flannel, fine or coarse; he may make carpets—which is a trade by itself, and that really contains three or four trades, differing as much as blacksmithing and tinsmithing or carpentry and cabinet-making. The velvet carpets of the finer and higher grades, the Brussels carpets, the ingrain,—all have different machinery, and require different management and skill. One set of hands can not readily go from one to another. Still, it is all cloth manufacture, viz., the construction of textile fabrics.

Then, again, the spinning and weaving of silk, satin, crêpe shawls, merino shawls, cambric, common muslin, duck for sails and sack-cloth,—how various! The management of a loom, whatever the fabric, is governed by the same general laws. However widely looms may seem to differ, the putting of filling into warp, and thereby constructing the fabric, has something in common in all looms.

Take the manufacture of broadcloth, for example There are several trades connected with that.

Wool-sorting comes first, requiring skill in a particular direction; a nice sense of feeling as to coarse and fine, governed, doubtless, by the sense of touch in respect to harshness, and by the faculty of Size in respect to size of the staple. We have known sixteen qualities of wool to be obtained in one lot. One fleece would give a considerable amount of first quality, and some of it would be coarse enough for the seventh quality, and another fleece would begin at the seventh quality, and run all the way down to the sixteenth. We have seen handfuls of wool taken, in the absence of the wool-sorter, from five or six of his sixteen bins, and he took each handful, and with one look and a pull with the hands instantly assigned it to the box from whence it came. This was tried with five or six different men in the same shop with the same result. This is one trade, and an important one, as it grades the wool for different qualities of cloth, and requires men of Mental-Vital temperament, and calm, quick, clear judgment.

DYEING.

Dyeing wool and cloth is another trade. The wool-dyer requires large perceptive organs, to give him talent for chemistry, and memory of the facts belonging to that science. He needs to have a large organ of Color, so as to appreciate the nice shades, and in looking at a handful of wool or piece of cloth which he is coloring, to readily see what is needed in the way of coloring material to bring it to the required shade. Without a large development of the organ of Color and fair Ideality, he can not be a fancy dyer. There are some plain colors that can be

made by fixed recipes. Even then a trained judgment is required in estimating the kind and amount of coloring matter for different kinds of goods. Some will take color easier than others, and display them to better advantage.

CARDING AND SPINNING

constitute another trade in the manufacture of cloth. The talents required for this branch are similar to those of the machinist. He has to run the machinery, and needs to understand its laws. In this trade, Constructiveness, Causality, and large perceptive organs are required, and in spinning, a sensitive touch and a very quick hand to mend the broken threads.

WEAVING.

The weaver claims his department as a trade. When one looks on and sees the beautiful pattern of the carpet or shawl thread by thread coming into being until the entire pattern is completed, and then the continuous repetition of the same, he will consider it an art as well as a trade, and regard the loom as almost a thinking machine. But broadcloth weaving, as done by power-looms, is very plain, straightforward work. A person can follow that who is endowed with fair common sense and a quick eye, with nimble fingers to handle threads and mend those that break. Still, the weaver should be capable of building the loom as well as of running it,—not by experience, but he should have the head, the talent which are required to construct the loom, in order to be a first-class weaver.

CLOTH-FINISHING

Finishing cloth is another trade. It has to be cleansed

and fulled. It must be napped, sheared, brushed, and pressed. In order to raise a full and fine nap without injury to the material, great care is necessary. This requires a nice sense of touch, keen criticism, and a good eye. The cloth-finisher must be a tidy man, for he has to quarrel with lint and dust and everything that can deface the beautiful cloth which he wishes to have shine like satin as it leaves his hands.

No man can be a good manufacturer or tradesman in any of the nicer departments of mechanism without large, well-trained perceptive organs, for these give a knowledge of qualities, conditions, and particulars, and sharp, common-sense judgment of things; and the larger and more active they are, the quicker the man will see the condition of things, and what is required to be done.

PAPER-MAKING.

In respect to this department of business, few people have any knowledge. It is known that rags, cotton-waste, ropes, old sacking, straw, Manilla-grass, and even wood are made into paper, but *how* is not generally known. Fine book-paper, and even letter-paper is often made from colored rags, dirty cotton-waste, which may have been used to clean machinery, and is so full of grease and gum that it would take fire by spontaneous combustion if left in a heap; old scrubbing-cloths, waste rags, canvas, sacking, and rope, that are picked up by the scavengers in the streets, can be so completely cleansed that it will look as white as curdled milk or *blanc mange*, when prepared in the form of pulp to be put into paper.

The cleansing process is performed by subjecting the stock to strong acids or alkalies and a high degree of heat by steam. This process alone is a great art, and is an important trade of itself. Straw is bleached in hot lime-water or other alkaline material, and the woody substance is thus softened so that it washes out, leaving the fiber for paper. Rope, sack, or cotton-waste in small quantity is used with straw for making paper, to give it toughness. Certain fibrous kinds of wood are cut into shavings, and these are subjected to a bleaching process, which releases the attendant useless material from the fiber, and this is made into paper. The paper for some of the New York dailies is made from wood as the chief material. Bank-note paper of the best kind is made from new linen cloth; and the splashes of long fibers of blue or red to mark it, which the paper of some banks always shows, are caused by cutting red or blue silk cloth in pieces three-fourths of an inch square and putting them into the pulp when it is nearly ground, and letting the engine pull it into threads and fibers; or silk threads of the required length are cut and put in and ground till untwisted and reduced to fibrous splashes. Water-marks are made in all Bank-of-England note-paper, generally specifying the denomination of the note, and in many other kinds of paper. This is done by working into the vellum or wire-cloth on which the paper is formed, with very fine wire, the outline of the required figures, and this produces a thinness of the paper over the figures worked in, and presents semi-transparent lines when held up to the light.

The engine or grinding-mill which reduces the rags to

pulp is adjusted with a cylinder two feet long and twenty inches in diameter, having knives or thin bars of steel resembling the blades of shears in its outer surface. This roll or cylinder revolves in such a way as to bring the edges of these knives in pretty near contact with a set of similar knives bolted together, and fixed in a bed below the revolving cylinder. These are slightly crooked, so that when the straight knives of the cylinder revolve above them, they together constitute a kind of shears. These are so adjusted that by letting the cylinder down gradually the fixed knives and the revolving knives act on each other like shears, and thus achieve a cutting operation. These, by being brought gradually toward each other, serve to bruise the rags or paper stock into pulp, the fibers of which shall be from an eighth of an inch to half an inch in length, according to the quality of the paper to be made. If one will take common paper, say Manilla paper, and tear it, the fibers will be exhibited. The grinding engine consists of a long, shallow vat or tub, which will hold thirty barrels of water. The roll or cylinder is fixed to revolve in one side of this vat. Two hundred pounds of rags or other paper stock, more or less according to the size of the engine, are put into this vat filled with water, and the revolution of the roll causes the water and rags to flow in a circuit around and around, thus subjecting every part of the stock to the grinding process until it is reduced to pulp of the desired shortness of fiber. Old paper is made over, even printed paper can be cleaned from the ink and made into delicate white paper. After this pulp is thus ground, it is drawn off into another vat and made thin by

adding water, so as to flow like milk, and it is caused to flow over the surface of a wire sieve, which is continuous like a belt, and passes like a panorama around and around, making a continuous sheet of paper; just enough of pulp being permitted to flow over the wire-cloth surface to make the required thickness of paper. The thickness of the paper is controlled by the stream of pulp which flows in by a faucet. The surplus water passes through the sieve. The embryo paper is taken off from the sieve with a cylinder called a "coucher," having a woolen cloth over it; then it passes between closely fitting rollers, and becomes pressed; passes around iron or brass rollers, heated by steam, which dries the sheet; it continues on, passing through paste, which sizes the fabric; it then passes between rollers which remove the extra paste and give firmness to the sheet; then goes around other heated cylinders to re-dry it; passes through other steam-heated "calendering" rollers that are pressed together very tightly, which gives a hard, brilliant, smooth surface to the paper; it then passes through the ruling-machine, and is cut up into sheets. Thus, in a distance of forty or fifty feet, a sheet of paper is pulp, and goes through all these processes of forming, drying, and sizing, and re-drying, and calendering, ruling, and being cut and counted. And this process goes on from Sunday night at twelve until Saturday night at twelve, without once stopping or the paper breaking. On fine, nice stock a machine will thus continue to run without a breakdown sometimes for weeks, and even months, only stopping for Sunday. The coarser papers have fewer processes, and the work is rougher.

A man to be a thorough paper-maker needs to be a chemist, that he may learn how to clean the stock properly, for the processes are quite numerous and complicated. He needs to understand machinery, and have a nice sense of criticism, both with eye and hand. When the paper is running off from the machine, an experienced paper-maker by letting the sheet pass between his fingers will judge of the thickness of the paper so nicely that he can detect a variation of four ounces in a ream of sixty pounds weight, whether it be too thick or too thin, increasing the flow of pulp, or decreasing it accordingly.

Paper-making is a great trade, and, of course, is useful; but, like the machinist's business, it circumscribes a man's liberty, and makes it necessary for him to work for others by the week, and his wages day by day is the measure of his prosperity; whereas, if one is a tinsmith, or blacksmith, or cooper, or carpenter, he can set up the business for himself, because it does not take a great deal of capital, and can be conducted in a small way profitably; while the woolen factory, machine shop, iron foundry, or paper-mill requires a large amount of capital, must have a superintendent of each room, and the rest of the men must necessarily be subordinates.

THE PROUD-SPIRITED.

When a young man with vim and energy comes under our hands, inquiring what he can and ought to do, we have to consider whether he is a man requiring to be governed and guided, or whether he is one of those proud, restless, energetic spirits that must be at the head of the

business, whatever the smallness of it may be. A man who is cautious, with moderate Self-Esteem, and not a great deal of force and energy of character, can run engines or a paper-machine, can be a cloth-finisher, a manager of carding or spinning machinery, and feel better to be thus under supervision than to be in a position that requires courage, fortitude, self-reliance, and boldness of decision. Many have a proud, independent disposition, but lack talent to take the lead. These should content themselves with such a place as they can fill, though they generally are full of trouble to keep such a place as they are willing to occupy. Some have more talent than self-reliance, and remain below their true places

DIE-SINKING,

like engraving, is an art, yet it is called a trade. No man should touch this work who has not large Imitation, Form, Size, Order, and Ideality. He needs first-rate eyesight, and large Continuity, to give him patience, for he must sometimes work for days on a field not larger that a silver dollar. A man of dark complexion, with the Mental rather than the Vital temperament, should follow this business.

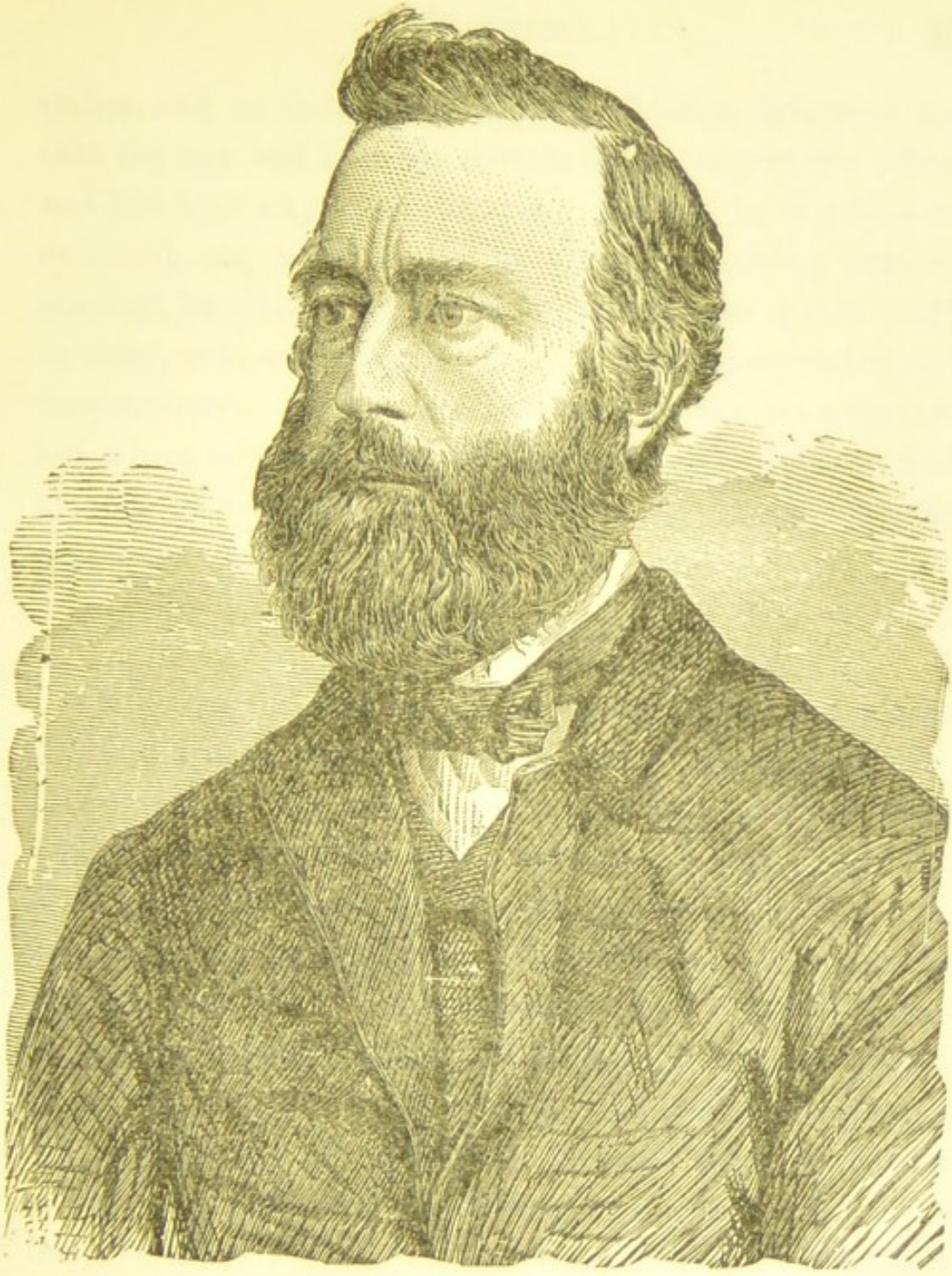
ENGRAVING.

The steel engraver, like the die-sinker, requires accuracy of eye and fineness of execution. In the main, his work is quite artistic. He needs quiet nerves, a strong, clear eye, and a very steady hand. A blue-eyed, sandy-haired,

round-cheeked, ruddy-faced boy, who would prefer to drive a horse, or play a game at ball, rather than to sit either at books or business, should never undertake to be an engraver, for he would run away from himself, if he did not from his master. He would almost "die daily," and feel like an eagle chained to a rock. An engraver should be a man who likes sedentary habits.

WOOD ENGRAVING

is different from that of steel or copper; the material is softer; the work is done more rapidly, and there is not so much danger of spoiling the job as in steel and copper work. The wood engraver must work by the eye and judgment rather than by rule. We have been informed, by an eminent wood engraver, that he has found out, by experience, that if a boy is fond of mathematics, and therefore feels the necessity to demonstrate everything in connection with his work, he will never succeed in wood engraving. So firm is he in this idea, that when a boy applies to him to become an apprentice, he inquires if he is good in figures and mathematics. If the boy blushingly confesses to a deficiency in this respect, the engraver considers it a favorable indication, and is willing to try him. To illustrate the point: a father brought his son to me for an examination. They looked sad, as if the world went ill with them. The father wanted to know what the boy could do best. The reply was, "Almost anything that can be done by rule. But a trade like wood engraving he would not succeed in, because that can not be done by rules and scales and gauges, but by taste and judgment." They exchanged



WILLIAM HOWLAND,

ENGRAVER ON WOOD.

Mr. Howland was born in Poughkeepsie, N. Y., April 29, 1822; learned and practiced wood-engraving for about thirty years, and did some of the best work of the time in that line. His own portrait here shown is his own work. He was for years a member of the 7th Regiment, N. Y., and went into the war in 1861 as a captain. He was a most worthy and amiable man, as well as a consistent Christian worker, and a tried and trusted friend of the author. He died in 1869.

smiles, and at the close of the examination informed me that the boy had been six months in an engraver's office, and had that day been dismissed because he would not, or could not, work by the eye; but in making tints or shading, he wanted a fixed guage or scale, so that it could be done, as it were, by machinery, or by demonstration and measurement. He was recommended to become a carpenter, where he could make his lines and work by them; and at once showed skill and judgment, and rapidly became successful.

PRINTING.

The setting of type should be done mainly by men who are not able to knock about in the rough work of life, or by women. It is light work, and that which is plain requires simply a quick eye, a quick hand, and a good English education, especially in orthography. The secret of successful type-setting is this: that when one type is being adjusted, the eye of the compositor shall look to the box containing the next letter, and fix the eye on a particular letter, so as to see which end up, and which side first it lies, and having got hold of it he need have no further thought, his hand will do the rest, while his eye selects a letter in the next box, and thus he will throw in the types as fast as he can pick them up. But if he give his entire attention to the type which is being adjusted, before he looks up the next, he learns to "duck and bob," makes many false motions, and does not work nearly so fast as one who lets his eye precede his hand. It requires large Individuality, to set type rapidly, and large Size, to give

the idea of proportion and distance, not only in reaching for the type, but in spacing and "justifying" the lines.

To follow the printing business, a person needs large Continuity, to give a quiet, persistent, plodding patience, without which he will become nervous, restless, and either quit the confining business in disgust, or accomplish little if he remain. As this pursuit requires an abundance of light, printing offices are usually at the top of the building, which must be full of windows, giving to the printer an abundance of air and light, which promote health. Printers are generally intelligent, and a steady man who is adapted to the business may retain his health and earn good wages. Working nights on morning newspapers soon breaks down all but those who are very tough. The Mental-Motive temperament is best for this trade.

Stereotyping requires a quick eye, sharp criticism, carefulness, rapidity of motion, and in some departments of it considerable physical strength, especially in shaving the plates.

The printer ought to be of a calm, patient, and unruffled disposition; for the whims of authors, bad manuscript, bad grammar, and sometimes worse sense, with unreasonable alterations of proof-sheets, overrunning of matter, and then being scolded for extra charges, are calculated to call into exercise all the Christian graces if they are possessed; or, if these are absent, something quite of the other sort. Writers for the press ought to spend three months at least at the case to learn the feasibility or possibility of required changes and sources of vexation caused by slashing alterations after columns or pages are

in type. An experienced type-setter will alter matter, changing phraseology in such a way as to cause little trouble to the compositor. Another would add a word or two, causing the overrunning of a whole page. Every editor or habitual writer should, for his own sake, as well as that of the compositor, first learn to be a compositor himself.

JOB PRINTING.

Thus far we have considered the printer as a mere straightforward type-setter on plain book or newspaper work. The job printer must be an artist as well as a mechanic to produce a handsome job. Constructiveness, Imitation, and Ideality are required to fit a man for such work. In cards, circulars, title-pages, and show-bills nice taste and critical judgment are required to harmonize different styles of letter and give a fine effect to the whole.

The process of printing or doing the press-work is really another trade, and those who use the hand press on plate printing or other fine work require decided mechanical skill and correct artistic taste. Machine press-work requires a good knowledge of machinery, with great watchfulness and prudence.

BOOK-BINDING.

Common, straightforward book-work is a trade requiring practical talent, fair mechanical judgment, rapidity of action, and tidiness. In the binding of fine books the trade becomes more an art. But for all kinds of work in this line, whether it be what is called job, fancy, or

staple work, one requires patience, attention, quick perception, order, activity, and a kind of energy which keeps the faculties at work to the best of their ability. The book-binder can work by rule when he has established his pattern or style, and has his guages set. When he has to make a thousand, or ten thousand, books exactly alike in appearance, the work becomes monotonous and almost automatic. The book-binder needs quickness of mind, rapidity of motion, artistic taste, and energy to secure success. In some styles of work it is difficult to have fresh, cool air, and though most of the work is not heavy or laborious, it can hardly be called a very healthful trade

PICTURE-FRAME MAKING.

The manufacturer of these articles of elegance and luxury needs, in the first place, fine taste respecting pictures and works of art; and ingenuity and artistic skill in making frames and adapting them to the uses required. If a man lack the faculties of Color and Ideality, and the sense of harmony and criticism, he will put the wrong style of frame to a picture, or an improper frame to a given sized mirror. But the picture-frame manufacturer and dealer in pictures should have as high a degree of taste and culture as any of the men with whom he has occasion to deal. Then he will please connoisseurs, — his best or most difficult customers, and be able to advise those who have less culture as to what is appropriate and becoming. The manufacturer of chandeliers and candelabra and other articles of elegance and adornment needs artistic taste and mechanical skill combined.

Mercantile Pursuits.

BOOK-SELLING.

THIS business requires a man of decided Mental temperament, with a good degree of the Vital. He need not have much of the Motive temperament, for it is not hard, heavy work, but he should have a clear, sharp mind, a taste for books and literature. The more intelligence he has, the better he would be capable of comprehending the contents and quality of a book, and of teaching or impressing these facts upon customers. If he is competent to write, it is well. If he were a poet or an orator, he would succeed all the better, because he has to come in contact with that kind of people who make books and enjoy books. If he could have all the talents which any of them can be supposed to possess, he could meet each person on his own plane. A man who stands behind a bookseller's counter, and regards books as so much mere merchandise, as if he were selling mustard done up in bottles, is not fitted for his position. A bookseller should be able to run through the contents of a book, and read here and there a page, and thus come *en rapport* with the book.

LITERARY CRITICISM.

To be a successful bookseller, one should love books for what they contain, and know how to talk them up, thereby

creating an interest in the minds of buyers. The most eminent publishing houses have members of their firms who are writers, good critics of book-making, and are thus able to scan matter offered for publication, and to meet authors and readers intelligently.

A man should understand literature and science in order to be successful in the book business, especially as a publisher, on the same principle as one should know any other article of merchandise. The cloth manufacturer is the best cloth seller. The tanner becomes the best shoe-dealer, and one who has served his time at carpentry is just the man to keep a lumber yard, for he understands carpenters and the materials they work with. The time will come, we fancy, when clerks will be received into book houses in pursuance of the acquisition of a good rank in scholarship. They ought also to possess enough of mechanical and artistic talent to understand the quality of the work constituting the make-up of a book including the paper, printing, engraving, and binding, and also clear, far-seeing mercantile capability,—in short, good business talent and managing ability. A publisher and bookseller should be a first-class man.

DRY-GOODS.

In the sale of dry-goods, one needs to understand that which he is selling. In the retail trade, we believe that women should in the main sell the dry-goods, for they know practically more about the articles to be dealt in than men do; moreover, a lady customer often wishes to ask for articles of particular kinds, or material for special things,

and would much prefer to deal with a woman than with a man. Sometimes one wishes to ask advice as to kind or amount needed for certain uses, and a saleswoman would know and a man would not, and it would be no embarrassment to ask her. Men ought to be ashamed to occupy a place which a woman could quite as well and much more properly fill. In the wholesale department, the customers, being merchants, understand goods about as well, perhaps better, than the jobbers who sell by the piece, and who must dispose of the styles and qualities according as they buy them from the manufacturers.

JOBBING.

The jobber's business requires power to read mind and control character, quite as much as it does to understand the goods in which he is dealing. He must mold and manage the man rather than dilate on the articles he has to sell. The manufacturer gets up the styles and supplies the market, and the jobber, who sells to merchants, must sell what the manufacturer has furnished, and must sell at such prices as he can afford, being regulated in this matter by the cost. But when the retailer takes his goods where they are to be worn, some patterns will not be likely to strike the fancy of many, and it requires great skill to dispose of the undesirable styles. The retailer needs to be a lineal descendant of Job in respect to patience, with a good deal of Lord Chesterfield's politeness, and not a little of the meekness of Moses.

SHOPPING.

If women sold the dry-goods, there would not be half

as much mere "shopping" done as at present. The customers then would go to buy goods, not to visit and gossip. Moreover, blandishments and persuasion on the part of fair customers would not be so effective nor so frequently tried as now in order to get goods cheaply. We recommend young men to avoid the retail dry-goods business. It is imprisonment, and one who has spirit will find it exceedingly irksome to bear all the hard, selfish criticism of the proprietor on the one hand, and all the caprices of his sharp, selfish customers on the other. The consumers of dry-goods generally know more about goods, and always think they do, than the masculine stripling who sells them. He knows the cost or market value perhaps better, but does not know half so well as the clear-headed, motherly woman who wishes to buy, the quality and absolute value of the goods in question. He thinks she is ignorant and green, and she *knows* him to be so. Nothing is more contemptible and vexatious than to witness the winkings and smart sayings of a number of dry-goods clerks when some persons are in whose dress or manners are not the work of yesterday. Good manners are very desirable on the part of clerks, but unfortunately not uniformly exhibited. But some are ignorant, and the unnatural confinement makes them nervous, short, and sharp.

FANCY GOODS.

The sale of fancy goods requires taste, activity, promptness, enterprise, patience, and politeness. The dry-goods retailer, and the retailer of fancy goods of every description, need a kind of poetic temperament, made up mainly

of the Mental and Vital, inducing mellowness and compliant agreeableness. He does not need great bones, and hard, strong muscles, nor an imperious will or stately dignity, for these would be out of place, and would give a kind of coarseness and positiveness to his character and manners that could not be in harmony with such a business. Unless men are slender, delicate, and effeminate, they should not occupy a place which could in nearly all cases be better filled by women.

HARDWARE.

Our ideal hardware merchant has an abundance of the Motive temperament, with iron in his very blood, which gives him dark hair, dark eyes, and dark complexion. Such a man will sympathize with iron, steel, and with metal of all sorts, as something hard, enduring, and strong. He does not want to handle satins, silks, rainbows, and gossamer. He would not know what to do with them. His wares, from anvils to the finest cutlery, have a certain solidity, hardness, and strength. He should sympathize with these, just as a good cook sympathizes with good living through an active appetite, and a knowledge of what is good in that line, or as the music-dealer sympathizes with music, or an artistic man with works of art.

QUALITIES NEEDED.

The hardware dealer should have a long, strong backbone, cropping out at Firmness, giving him steadfastness, endurance in feeling and purpose. He should have a fair

degree of Combativeness and Destructiveness, to give him that kind of resolution required for handling heavy goods, even in small parcels. He needs a good muscular system, because everything he handles is heavy. One who is dealing in draperies needs grace and a delicate touch, but he who han lles hammers, files, locks, iron, and steel-goods generally, requires a different touch and different sensations. Moreover, the hardware man ought to have mechanical judgment or talent sufficient to manufacture anything he deals in. If he have not, he will never understand them. He has to deal with builders, and with other mechanics whose tools he sells. The more he knows of their business respectively, and the use of their tools, the better he can buy, and the more intelligently can he sell them, and the more respect will he receive from his various customers.

SECRET OF SUCCESS AND FAILURE.

Two hardware dealers, located side by side, one having good mechanical talent and the other without, yet both having good sense and equal mercantile capabilities, will be found, at the end of fifteen years, to have run a very different race. The one who is by nature a mechanic will know what to buy, or rather what to reject, and he will have in his store a stock of "live" goods. The other will buy all sorts of new things which inventors highly recommend, and will consequently have a stock of "dead" goods. One half of the stuff he has is unsalable, and hangs like a dead weight on his hands. His profits are wasted in the unwise purchase of unsalable and compara

tively useless articles, while his neighbor, sound in his mechanical judgment, rejects everything which is not useful, and needful, and appropriate. The talents required by the manufacturer are indispensable to high success in the dealer.

To be a hardware dealer, then, one needs something besides mere mercantile talent. Pig iron, or mahogany logs by the ton, are merchandise; but when this ton of pig-iron has been sent to the factory, and comes back in the form of locks, cutlery, tools of all descriptions, in short, in a good variety of hardware goods, it is still merchandise, but the qualities which the mechanic has imparted must be comprehended by the hardware dealer, or he is not fit to be a merchant in hardware. When the logs of mahogany and rosewood, which in the raw state are also valuable as merchandise, come back from the factory in all conceivable forms of furniture and articles of taste and utility, it requires quite another class of faculties to comprehend the new elements of commercial value which the ingenuity and elegant taste of the manufacturer have added, and a want of these in the merchant will be fatal to his success.

The sale of raw material, such as cotton by the bale, wool by the sack, iron by the ton, or timber in the log, is one thing; it is quite another to sell clothing, hardware, and furniture. To sell these manufactured goods of any description, one needs a mechanical mind, so as to be able to comprehend the intricacies pertaining to them. Hence, as we have said, the best dealer in cloth or clothing is the cloth manufacturer; so the best hardware dealer is one

who has learned the machinist's, or locksmith's, or the tool maker's trade. One who could make everything he has to sell will at least understand it thoroughly, and then, if he have mercantile talent added, with good manners and good general judgment, he will succeed. Thus it will be seen that though some special talents are absolutely essential to the bookseller, hardware dealer, or dry-goods dealer, general judgment of men and things, good culture, and good address are by no means unimportant.

THE LUMBER DEALER.

The lumber dealer is not always a manufacturer of lumber. One man with his strength, energy, perseverance, and endurance, having prominent features, great bones and muscles, is the one who properly fells the trees, and rafts them through rivers and lakes to the place where they are to be cut into boards. This is pioneer business, requiring a large brain, strong will, comprehensive as well as practical judgment, and power to control men. A man who would be a brave soldier or an excellent seaman would be the one to do this.

To cut and prepare this lumber for market requires mechanical ingenuity to use the sawing mills, the planers, the groovers, or the molding cutters. He who is not capable of managing such machinery wisely, or using it with skill, should keep away from the business.

THE SALESMAN OF LUMBER.

Then there is the lumber seller; he needs large percep-

tive organs, so as to be a quick inspector, that he may see ten feet off, by the complexion and appearance of a pine board, whether it be rich, soft, mellow, and right for nice work, or whether it be tough and contrary, like spruce or hemlock timber.

Lumber is sorted into several grades, and one of these bright, positive, driving men, with a quick temperament and large perceptives, will handle a cargo of what he would buy as second-class lumber, pass it rapidly piece by piece in critical review, and assign now and then a board to the first quality, and so get out enough of the first or higher grade to make all the profit he needs to make on the whole cargo, the regular profits being extra and gain clear.

The lumber dealer should be familiar with carpentry with the uses to which boards of every kind and timbers of all sizes are adapted, so that he shall not seem selfish, or false in his statements when talking with builders. The retention of the good opinion of the customers is a great point gained. If a man through ignorance calls third-rate stuff first-rate, and thinks this or that will do for certain purposes when the user of the material knows better, he thinks the dealer is either a knave or a fool, and a man should be neither in any business.

THE GROCER

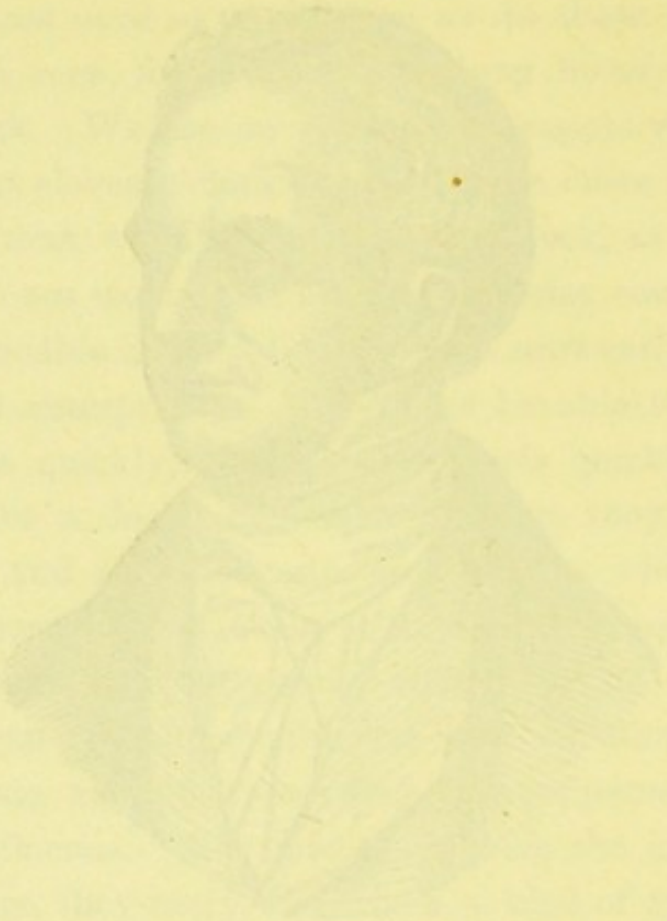
requires a good development of the Vital and Motive temperaments, so that he will be able to work hard and work quickly. He should have, relatively, more body than brain,

so that he will not need so much sleep as do those large headed bookish men, for grocers keep long hours — unwisely, we think. We see no reason why people should buy groceries at eleven o'clock at night, as in cities many do. If every man would close at nine o'clock, as some greedy, selfish ones would not, all the groceries could be bought at reasonable hours. Grocers must start early, and be driving and enterprising. They must be able to talk quickly, decide quickly, and do up parcels quickly, for when they have a dozen customers waiting they must work rapidly, and tell short stories. People who buy groceries frequently leave their politeness at home. In purchasing clothing, fancy goods, articles of style and elegance, a person's Approbativeness and Ideality—the faculties of taste and good breeding—are uppermost in activity and influence. But when going from the kitchen to buy groceries, they carry with them a kind of kitchen manners, sometimes, which are offensive to the dealer, if he be a man of taste and refinement. Hence, we say a grocer should have a pretty thick skin in one respect. He should not care much what people say in the way of criticism and fault-finding. He should be good-natured, happy, cheerful, free and easy, and at the same time gentlemanly. He should not answer back, or he will not be likely to succeed. We have known many persons who were, when dressed and in society, or purchasing articles for the parlor, the library, or wardrobe, quite ladylike, while at other times they would throw a shawl over the head, and in the dusk of evening run around to the grocery, and talk to the attendant as they would not think



HON. ABBOTT LAWRENCE.

Abbott Lawrence was born in Groton, Mass., December 16, 1792, and died in Boston, August 18, 1855. He was a merchant engaged in the sale of cotton and woolen goods, and after 1830 was selling agent for the manufacturing companies of Lowell. The City of Lawrence came into being about this time, and received its name in compliment to the eminent firm in Boston, which took their goods and distributed them in the markets of the world. In 1834 he was elected to Congress. In 1849 President Taylor offered him a seat in his Cabinet, which he declined, but accepted the post of Minister to England, which he occupied with credit till October, 1852, when he was recalled at his own request. In 1847 he gave Harvard University $50,000, and also left $50,000 for the erection of model lodging houses, the income to be forever applied to certain charities. He was a large and handsome man, and courtly in his manners, and society in London, after he left the embassy, used him as a model of comparison, especially for his successors.



of doing if nicely dressed, and purchasing goods which appeal to the sense of elegance and refinement. We will not stop to criticise ladies who forget to be ladies, but simply show that a grocer must bear these abuses, sustained by this consolation, viz., that when persons are buying things for the body or stomach, and not for the gratification of the refined elements of their nature, they are apt to forget that which belongs to good breeding.

The grocer needs all the Christian graces, and an excellent constitution, sound health, courage, energy, activity, and Acquisitiveness enough to do hard and thankless work for small profits. Such a man will make a fortune.

Grocers are very liable to become dyspeptics, partly from irregular meals, but chiefly because they are liable to be nibbling all day. When weighing up sugar, raisins, cloves, cinnamon and other spices; tea, dried fruit, crackers, etc., they eat a little of each, and thus keep the stomach in a feverish and unnatural condition, until it breaks down. This habit should be reformed altogether.

THE IMPORTER.

needs to understand political economy, the laws of exchange, trade, and commerce, and especially the laws of banking and finance. He need not go very largely into detail. He deals by the cargo, seldom or never breaks a case or a bale of goods, and sells to substantial firms, known to the market, whose paper will be redeemed at maturity; and a man who has talent for banking has one essential element required for the importer. He must

think of the prospect of productive crops; he must know the quantity of certain goods in the market; the prospect of home manufacture; the laws of importation, demand, and supply, and these plans must be drawn months, sometimes a year or more, in advance. He must have such comprehensiveness of mind as to be able to take in a broad field of thought, make large operations, and deal in heavy amounts. He must take into account the probabilities of war or peace, and a great many things with which the retail dealer has scarcely anything to do. The importer should have a large head, a broad, heavy forehead, and a cool, strong temperament.

FINANCIERING.

This pursuit requires a calm and equable temperament, which has strength as a basis for patience, perseverance, and uniformity of feeling and action. It requires clearness without much excitability. One should have enough caution to keep always on the safe side, guarding against "corners" and tight times, giving a tendency to keep a good balance in bank, and, as a driver would say of his team, to keep the business "well in hand."

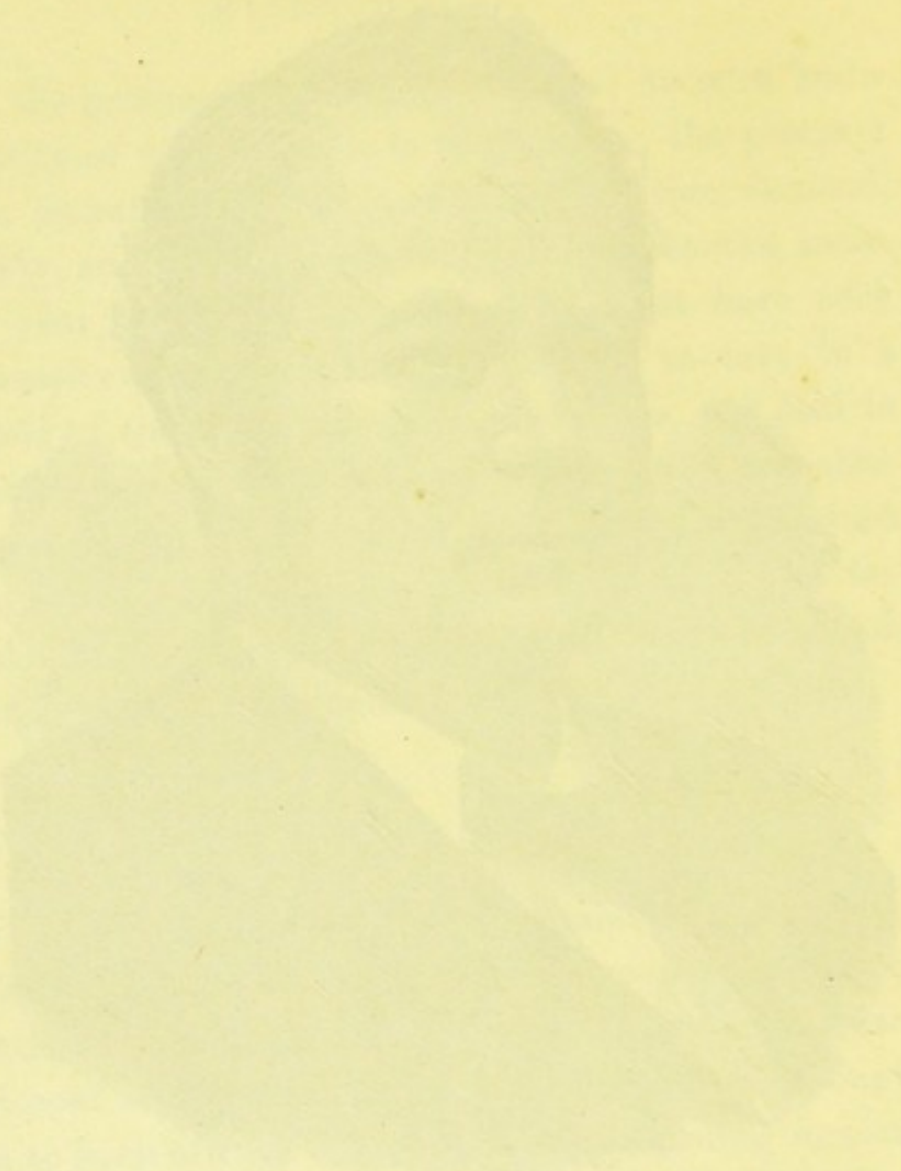
One should have a full degree of Hope, to modify the action of Cautiousness, and aid in imparting patience under depressing circumstances. A financier should have courage to face difficulties and act boldly in emergencies; Firmness, to give steadfast strength under trials; and Self-Esteem, to give self-confidence and independent action strong Causality, to comprehend consequences, plan wisely,



WILLIAM WINDOM,

UNITED STATES SENATOR FROM MINNESOTA, SECRETARY OF THE TREASURY UNDER PRESIDENT GARFIELD.

He has a large head, a good body, and excellent health; the massiveness of the forehead evinces strength of mind, and the width above and forward of the ears shows taste and talent for financi-ring. His rare success in funding a large amount of 6 per cent. U. S. bonds at 3½ per cent. was an a-tonishment to moneyed men. On his retirement from his post in the Cabinet, after the death of President Garfield, he was re-elected to the United States Senate. He was born in Ohio, May 10, 1827, was educated in the Academy of the vicinity, was apprenticed to the tailor's trade, and soon abandoned it for the study of law; at 23 was admitted to the Bar, and in 1852 was elected Prosecuting Attorney for Knox County. In 1855 he removed to Minnesota, and in 1858 elected to Congress, and served eight years. In 1870 was appointed to the United States Senate, in 1871 elected, and in 1877 re-elected, and now, also, he is serving his third term. In his make-up there are the elements of success, and his career has been one of success and honor.



and with reference to the future. He should have a good development of the perceptive organs, and an excellent memory, so as to take into account all the facts which belong to his business and retain them for future use.

The financier and importer have much in common. He should have Calculation large, that he may be quick and correct in figures, and have enough Acquisitiveness to give him a desire for gain and a sense of value, of profit and loss.

THE CASHIER

requires large perceptives, a very active mind, with Order and Calculation and many of the traits which belong to the financier; but the cashier needs to be more rapid than the planning financier. These two functions are frequently combined in the same person.

THE SALESMAN.

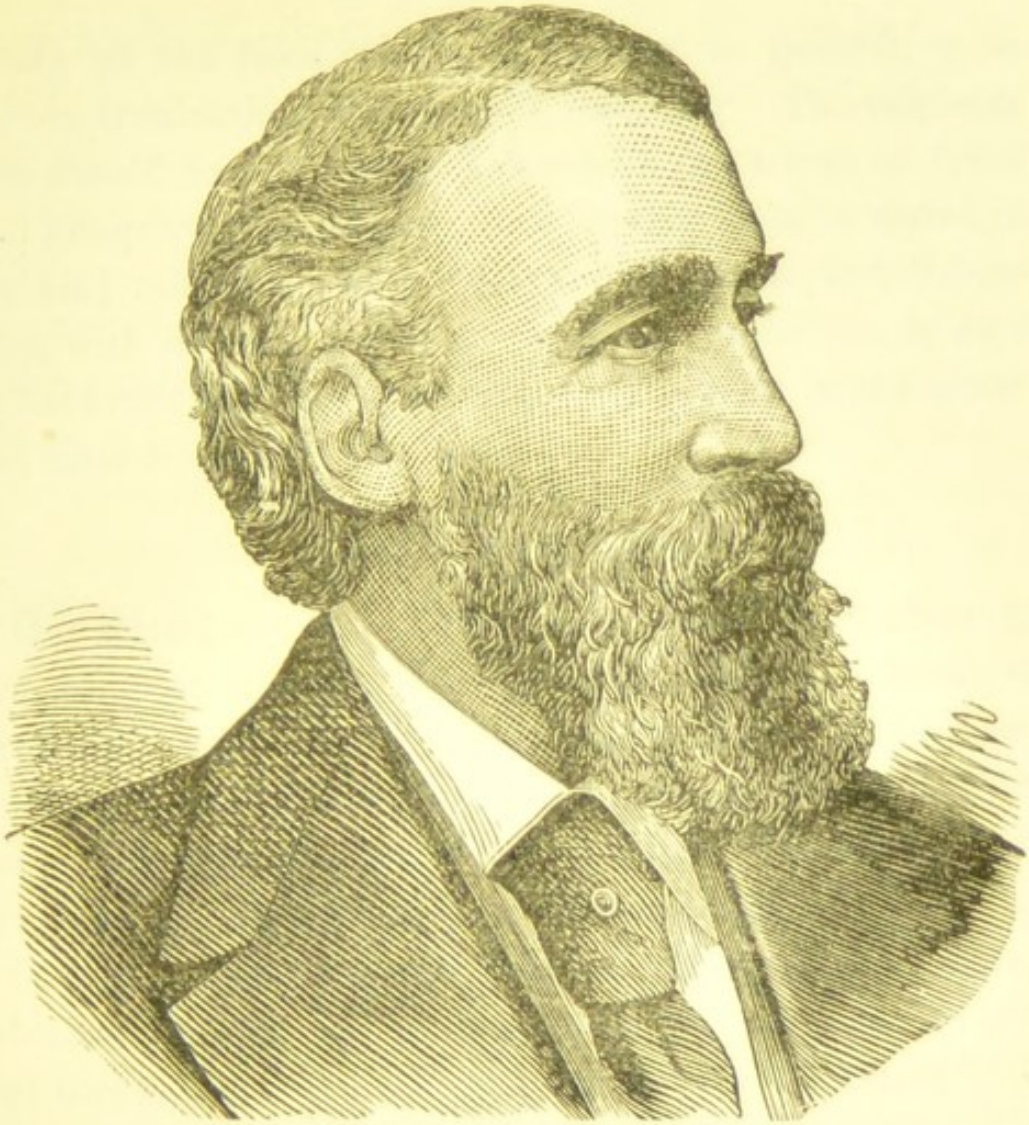
Of late years there has been a great rush of young men toward merchandizing, a fact arising partly from the supposition that it is easier than farming or mechanism; partly, perhaps, from another supposition, that it carries with it greater respectability, or that it affords a surer and shorter way to wealth than any other calling. Some succeed—many fail; those who are adapted to it succeed, and thousands of honest, well-meaning, industrious young men, after a vain struggle of years for position as salesmen, drift away into whatever business may offer itself, and thus life becomes to them, practically, a failure; for he who wastes the years between seventeen and twenty-five in endeavor-

ing to secure success in a business, and finds at last that he is obliged to take up with something else, is very likely to become discouraged and disinclined to devote such study and labor upon a new and appropriate business as will be requisite for success.

There are instances, however, in which men have entered upon a new career at thirty, and taken eminent rank; but such men, we fancy, have the developments which qualify them for almost anything. As some plows can turn a furrow but one way, other plows are constructed to turn a furrow either way; some men have a few faculties adapting them to certain specific pursuits, while others are able to turn a furrow either way, and succeed equally well. We have no doubt that a salesman would be all the better, as such, by having every faculty amply developed and well cultivated. Most men, however, are but partially developed, and to secure success in the midst of strife and rivalry, they need to use their strongest faculties in order to take and maintain a good position.

QUALITIES REQUIRED IN A SALESMAN.

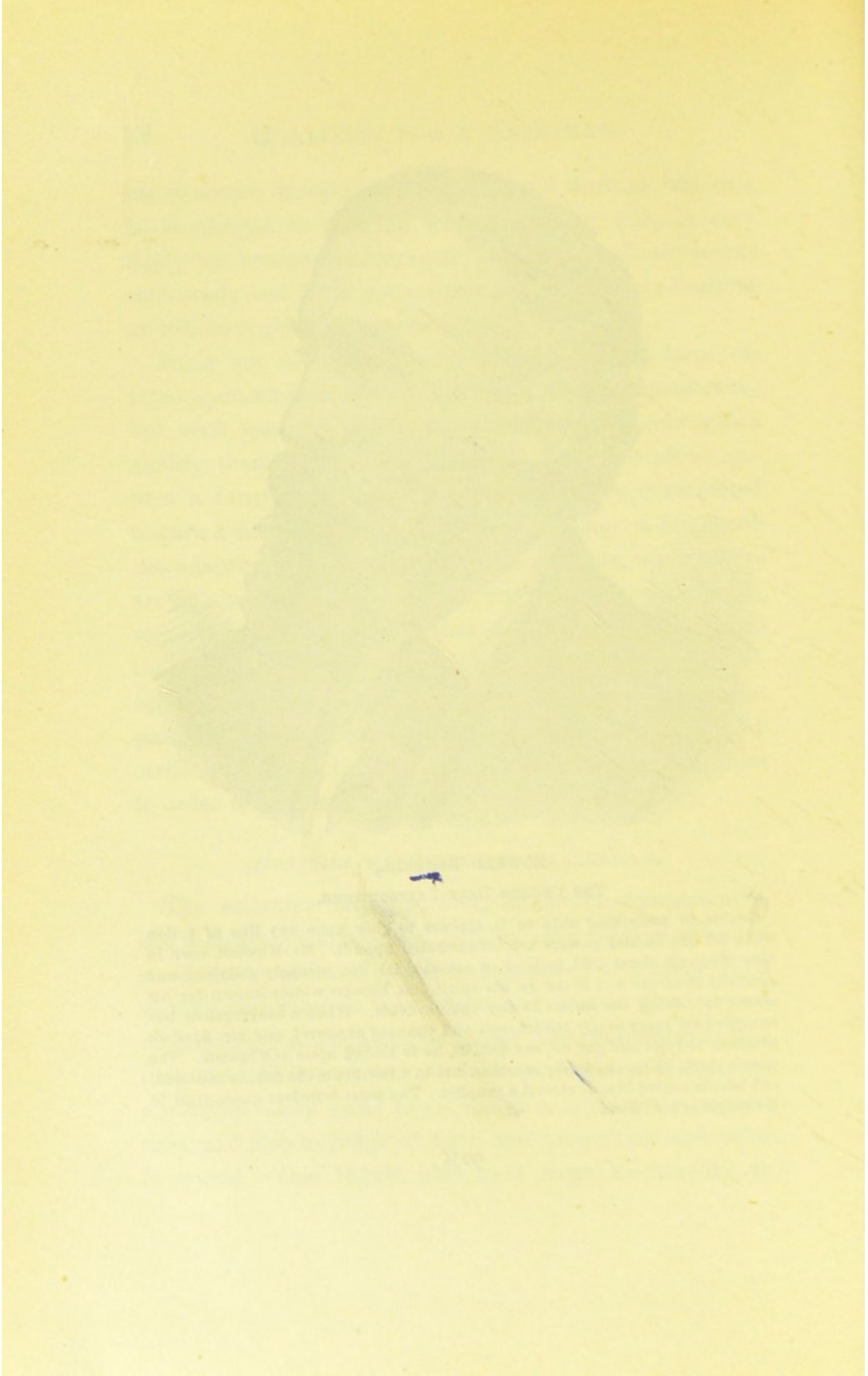
The salesman requires, first, an active temperament, and a clear, quick intellect, that he may be able to understand the qualities of goods and qualified to explain their virtues and value to the buyer; and ample development of Language is necessary to render the address easy and the power of description good; large Form and Color to remember faces so as to recognize a customer a second time, and also to judge of form and proportion and color in goods. One should also have large Eventuality, to



EDWARD KIMBALL,

THE CHURCH DEBT EXTINGUISHER.

Genius, or something akin to it, appears to glow upon any line of action when all the mental powers are concentrated upon it. Mr. Kimball, born in New England about 1823, trained to commercial life, strongly religious and specially generous and broad in his spirit, has become widely known for his efforts in raising the means to pay church debts. When a congregation has struggled for years to pay the interest and running expenses, and Mr. Kimball proposes to raise and pay off, say $80,000, he is looked upon as a lunatic. The people meet, he speaks thirty minutes, and in a few hours the debt is canceled, and people regard him as almost a prophet. The most hopeless cases yield to the magic of his efforts.



retain all the facts relative to business in general, or to former transactions with a given customer. The salesman also should have good moral development, a love of truth and integrity, remembering that honesty, even in traffic, in the long run, wins; while trick, and sharpness, and dishonesty, with as many prices as there are customers, is sure to bankrupt the man, if not in pocket at least in character but most frequently also in pocket.

INTEGRITY IN TRADE.

Our settled conviction, from many years' close observation, is, that whoever, having sound sense and business capability, with good address and a genial disposition, shall tell the truth and give honest measure for an honest price, will win customers and fortune. In the hardest street in the hardest city an honest, truth-telling trader will soon be found out and resorted to, certainly by those who are truthful, and generally also by those who do not feel themselves sharp enough to trade with tricksters.

FRIENDSHIP IN TRADE.

It is sometimes said "there is no friendship in trade." There was never a greater fallacy. A man who has a strong social nature has a magnetic attraction for people; and he who can give a hearty welcome, a warm palm, and a firm grasp to customers, will win them and hold them. Suppose a man has traveled night and day, among strangers, a thousand miles to a great market town. He has left his family and friends, and his heart is hungry. He remembers, perhaps, a salesman who is cheerful, and has

shown himself friendly; and when he crosses his threshold, his heart bounds with delight as, with a smile like a sunburst, that man takes him heartily by the hand, and in a moment becomes to him, as it were, a substitute for the family and friends that he has left behind, and it only remains to select the goods; they are already sold, and if the man be honest, and name only fair prices for the goods, why should not that man be a life-long customer? who could win him away or hinder him from bringing his own friends to be well treated, and become permanent customers? Suppose a salesman has five hundred such. They can not be coaxed away from him, unless goods are offered at prices below their market value by others. Suppose he travels at certain seasons of the year, seeking new customers. His intelligence opens the way, but his cordial, friendly spirit enables him to consummate his errand.

The cold, stern, stanch, dignified man, grim and severe in his manners, may be able to sell drugs to sick people, or articles of necessity, where there is little or no competition; but in a large market town such a man would freeze out his prosperity. Occasionally such a man is wise enough to get a warm-hearted, sympathetic, genial man to sell his goods, and thus he secures prosperity through the influence of his capital.

GENERAL MANNERS.

The salesman needs Approbativeness, to give him a desire to please. He needs a knowledge of human character, along with a spirit of agreeableness; and if he is selling articles of taste, works of art, or things of elegance, he

needs large Ideality, to appreciate and describe them. If he sells furniture, clothing, and especially hardware, he needs large Constructiveness and large perceptive organs, to give him mechanical judgment to understand and properly describe the goods he has to sell. No man should attempt to sell manufactured goods who has not nearly or quite enough mechanical talent to succeed in manufacturing them.

To sell books, one requires a literary taste, that he may appreciate the works he has for sale. Everybody supposes that the man who sells birds, dogs, or horses must be a fancier of those animals, that he may have a heart in the work, and be intelligent in respect to them; and that one who sells pianos, and other musical instruments, should have musical taste and culture. This law applies to literary and scientific works as much as it does in the sphere of mechanism. One should have a full degree of Acquisitiveness to be successful as a trader, that he may bear in mind the value of the small amount which may constitute his profit, and also that he may know that his customer will not bear too high a price. Men with little or no Acquisitiveness frequently will ask two prices for an article, thinking that their customer perhaps cares so little for his money that he will pay the exorbitant charge. We have noticed that spendthrifts are apt to charge enormous prices for their services; while a man who values a dollar for all that it is worth will do a good deal of work for a dollar, for he is so anxious to get *something*, that he will sell goods at a small profit that he may get a profit. If we desire to obtain anything at a low figure, we go to a

man who thinks much of a dollar, for we are sure that he will sell his goods as low as they can be afforded, to secure our patronage.

The salesman, then, needs intelligence, talking talent, knowledge of character, integrity, manly sympathy, and strong affection; and to sell goods, he needs the very qualities which are requisite to the production of the articles he has to sell.

BOOK-KEEPING.

When a young man, desiring a situation that is pleasant and profitable, looks through the range of business occupations, and finds one man sweating and begrimed with dust and dirt, toiling at some laborious trade, he instinctively recoils; but when he finds another, in a cool and airy office or store, neatly dressed, of gentle manners, with everything tidy, quiet, and respectable about him, perhaps waiting upon a customer, disposing of some article of elegance or luxury, or perchance standing at a desk, with ledger and daybook open before him, and everything around wearing an air of wealth and quiet respectability, he is instinctively attracted to it, and a desire is awakened in him to be a salesman or a book-keeper. He does not inquire whether or not he is well adapted by nature, education, and habit to either position. He does not stop to analyze the patience, the nerve-shattering labor, the headwork, the heartaches, the rivalries, the competitions, frets, and jealousies which may form a part of such an elegant life, as he imagines it to be.

So long as business is done, there must be book-keeping. It requires brains and integrity, and a fair degree of talent and culture to fill such a position. It is important and respectable, and good men, and only good men, should fill such a post. What, then, is required to qualify a man to be a good book-keeper.

TEMPERAMENT.

He should have enough of the Mental temperament to give a studious tendency, as well as clearness and activity of mind. There should be also a good development of the Vital temperament,—not that phase of it which gives a man broad shoulders and a deep chest with a small abdomen, but that which gives one a rather large digestive apparatus and a tendency toward the lymphatic, the quiet, the patient, the moderate. One who is not anxious to knock about and be here, there, and everywhere, but one who can bear confinement without weariness, and mental labor without nervousness. The plump, genial, easy-going man should be the book-keeper, yet he should have intellectual force enough to make him scholarly, thoughtful, and skillful. He does not need a large base of brain; the less Combativeness and Destructiveness he has the better.

BODILY REQUIREMENTS.

It has often been a matter of question with us whether it were proper for stalwart, vigorous men to keep books — to stand or sit at a desk making a record of transactions when they are so well qualified to strike out manfully and make transactions to be recorded. Why not give place to

the lame, the slender, or to women who have the requisite brain and bodily strength for this vocation, and go out like men and win manly success in more active pursuits? A strong man with vigorous health and limbs, and brain enough to keep accounts, can rise above the best achievements of book-keeping as a profession. Those who are engaged in it should look beyond it, and work and hope for a higher, wider, and more remunerative place in the business world. We speak not merely of copyists and scribes who have no talent for anything else, but of those first-class accountants who have clear minds and strong bodies. These can grow out of, and advance higher than to record other persons' transactions. He who possesses, in addition to the talents required by the accountant, those talents and forces which enable one to guide and control men, to wield large business operations, should make the contracts, mold and manage the customers, and let the record be made by others who can not, as yet, fill his place.

TALENT REQUIRED

In the matter of talent, the book-keeper should have an ample development of Calculation, for this is indispensable to perform the necessary amount of figuring with accuracy and dispatch. The book-keeper must not make mistakes, and if he have the genius to run up two or three columns of figures at the same time, and to work out rapidly in the head the calculations which are necessary in order to make extensions in accounts, all the better. He needs large Eventuality, that he may carry in his mind the history of the customers and the transactions of the house. If he

fail in this, he will be always neglecting something which ought to be done, or doing wrongly many things. He should have large Order, to make him systematic and neat. His organs of Form, Imitation, and Constructiveness should be large, to give him the mechanical talent requisite for handsome penmanship, and the disposition to combine and tabulate the business in such a way that the transactions of different months and years can be spread out on a given page, so as to show at a glance the aggregate and comparative business of many months and years.

Cautiousness should be large enough to keep the mind wakeful relative to dangers and mistakes; and if the book-keeper have large Causality and Comparison, to give the necessary generalizing judgment, combined with prudence, which is necessary to the practical guidance and management of business, he will be prepared to give a note of warning to the proprietors, who are absorbed in buying and selling, whenever the capital has become too much spread, or when "bills receivable" bear not the proper relation to "bills payable."

If one is merely a book-keeper, and simply makes a record of transactions without any comprehensive thought relative to the soundness of the business which his work represents, he will lack elements necessary to the highest order of success.

MORAL STATUS.

The book-keeper, moreover, should have enough Acquisitiveness and Conscientiousness, the former to give a keen sense of the law of profit and loss, so that if business

is going behindhand, or is conducted in a manner not profitable, he shall be apprised of it and give the alarm. It will also tend to make him sharp in making collections, and in seeing to it that his leniency does not damage the concern. His Conscientiousness should give him unqualified integrity of purpose, especially if he have also the position of cashier. With Conscientiousness and Cautiousness, to give prudence and integrity, and enough of Acquisitiveness and reasoning power, to appreciate what is fit and proper to be done, a man will not be likely to permit himself to engage in any speculations, or in any use of other people's money, even innocently, that might jeopard his reputation or the soundness of the house. Defalcations do not always begin with dishonesty, but with excessive Hope and deficient Cautiousness. One who has in his very organization the feeling, "touch not, handle not" other people's money for personal uses, has the right and only safe principle. Defalcations probably do not generally commence in rascality, but in that incautious, extra-hopeful riskiness which men sometimes permit themselves to indulge in to make money for themselves with the idle capital belonging to the concern that employs them.

MANNERS AS WELL AS MORALS.

The book-keeper should have large Continuity and Firmness, to give him patience and steadfastness. He should have Benevolence and Veneration, to give him kindness and respect, that he may be popular, conciliating, and placable. A man who has to make bills and receipt them, who has collections to make and moneys to disburse,

needs nearly all the Christian graces to fill his position acceptably. If, like a bull-dog, he stands at the strong box and snarls at every man who presents a bill for payment, he does injustice to his employers, injury to the business, and renders himself unpopular, and all the patrons of the house unhappy. Affability, courtesy, dignity, and deference on the part of a book-keeper will win respect, secure patronage, and lay the foundation of success.

HEALTH OF CLERKS AND MERCHANTS.

No fact is more apparent than the general diminution of health and bodily energy among our merchants, clerks, and book-keepers. This is owing partly, perhaps, to an improper mode of living, such as hastily eating a dinner and immediately devoting the entire mind and nervous energy to the prosecution of business; or, long-continued mental effort without proper food; deprivation of the proper amount of sleep; the habit of smoking, etc.; but we apprehend much of the difficulty may be traced to a want of proper physical exercise.

When a young man enters upon a mercantile career he is occupied for a time as an errand boy, and is, of course, regarded as a kind of servant for the whole establishment. While this relation continues, he has a ruddy face, a bounding pulse, vigorous digestion, and unqualified health; but as soon as he takes a higher position, and another lad is initiated into his old situation, his pride and ambition lead him to look upon the one occupying his former place as in college the Sophomore looks upon the Freshman, and he

consequently takes special pains to avoid all drudgery and to keep his eye in that direction which will lead him to a set of books, or to an equally active and exclusive exercise of his mental powers as a salesman. His chief study is to work with the brain, and not with the hands; to become a gentleman, and not a drudge. The consequence of a disuse of the muscles and the avoidance of that energetic effort which induces copious breathing, a free circulation of the blood, and good digestion, is a prostration of the youthful health and vigor of the body. The cheek becomes pale and thin; the eyes seem large and glaring; the hands, instead of being warm and plump and smooth, become cold, blue, and bony; the muscles become weak, the lungs small, and the chest flat. The waist and abdomen shrink away, especially under the pressure of modern pantaloons; the pulse becomes feeble, and general weakness of the entire system supervenes; and who will wonder if he feels a strong disinclination for any active, laborious effort? The brain and nervous system, of course, become excited, and he expends through them nearly all the vital energy which, in its present condition, his body is able to manufacture. The result is, he becomes prematurely old, and breaks down; and the mercantile profession is blamed for the ruin that is wrought. Now salesmen, and bookkeepers especially, should understand at the start that if they would maintain their health in following a pursuit requiring so little of physical energy, they must establish some system of daily physical exercise, for it is a law of nature that that which is not employed will become weak. The tree, even, that stands in the forest and is sheltered

from the fury of the blast, grows slim, loose-grained, and soft, and has but few roots; while the oak that stands alone on the hill-top and must resist every storm, from whatever quarter, becomes solid in its texture, stout in trunk, and abundant in fruit, lifting aloft its sturdy arms and bidding defiance to every gale.

Let clerks repudiate this false pride which lifts them above the work of the porter and packer, and take a turn at nailing up and rolling boxes, and pulling at the windlass, and they will find themselves improved in health and manliness; or, let them supply themselves with dumb-bells, and use them morning and night, or have a pair also in the counting-room, which they can use for five minutes at a time when the head becomes hot, the brain feverish, and every nerve seems to be on fire; and in three months' time many of them would gain ten or fifteen pounds in weight and fifty per cent. in real vigor and health, and be able to do even more business than before, and that with less of mental and nervous friction. Hundreds of merchants in our large cities who have risen from poverty to a position through unwearied and nerve-shattering effort, are obliged, on account of dyspepsia, nervous prostration, a rush of blood to the brain, palpitation of the heart, or some kindred derangement, to retire from business at thirty or thirty-five, and spend the remainder of their lives as groaning invalids, or go to early graves with their great destiny of life unfulfilled. They started to acquire position. This they have done;—to obtain wealth, this they have commenced to do, but have failed to achieve it. They expected to retire, but not with a broken constitution and a slender

fortune, but with robust health, and rosy cheeks, without a wrinkle or gray hair. This they might have done had they understood the laws of health and not been too proud or too intensely occupied to have obeyed them.

But, in using dumb-bells, we would caution those who are young, slender, and in their growing season, not to use those which are too heavy. Many suppose that the object in using them is to show how much weight they can lift, and how heavy ones they can wield. In the first place, those who need them most are not in a condition to use those that are very heavy; nor, after a trial or two, would they feel inclined to make the necessary exertion; besides, it would tend to fatigue and exhaust, rather than to give them strength. Who would put a colt before a heavily loaded dray if he wished to promote his growth and strength? still, he should have exercise, and as much of labor as his constitution will bear. This he could obtain attached to a light vehicle, and make up the sum of his effort in a more rapid motion. A young man eighteen years of age, and weighing perhaps a hundred and thirty pounds, and who is weak for a want of exercise, should never begin by using dumb-bells weighing over four pounds to the pair. If these feel too light for him, let him increase the speed of his motions.

Many young men have been induced to try this experiment of domestic gymnastics, and have, to use their own words, "become new men" in a very few months.

Something, surely, need be done to arrest the decay and premature death of our most enterprising young merchants, who are by nature qualified to become ornaments

in society and of the highest importance to the mercantile world.

We would not recommend the public gymnasium as the only, or chief, means of acquiring physical development; because it is expensive, and not always at hand, and requires going abroad, and set times for its attendance; but dumb-bells can be used in one's own room or at the store, and that, too, a dozen times in the day, in leisure moments; or when a throbbing brow indicates that the brain is being overtasked, and that the blood should be withdrawn to the extremities by means of a little vigorous bodily exertion.

Miscellaneous.

THE CONTRACTOR.

THIS business lies in the direction of manufactures or mechanism, and needs financiering talent. The contractor should have mechanical and manufacturing talent in addition to that of the financier. He also requires energy of character, to push the business to which he is devoted; large Self-Esteem, to give dignity; and Combativeness and Destructiveness, to give courage and strength of character, so that he may be able easily to control and govern men. He needs sharp perceptive intellect, and a temperament chiefly Vital and Motive.

THE CONVEYANCER

should understand the forms of law which pertain to real estate. He should have a calm temperament; never be in a hurry, but should be cautions, orderly, and deliberate; should be a draughtsman and first-rate penman, and have that method and tidiness about him which will enable him to prepare papers with care. He should have a good memory and large Comparison, so that he will be critical in his examination of titles in all their complicated details. If we add to this real-estate dealing, large Constructiveness would be desirable, for he who buys houses should know enough about mechanism in general, and carpentry and masonry in particular, to understand the value of a house according to the standard of excellence embodied in its construction.

INSURANCE BUSINESS

requires strong common-sense, kindness, patience, perseverance, integrity, self-reliance, friendship, a good memory, and large Caution, to set forth the danger of being burned out, or dying without an insurance on one's life, and leaving the family unprovided for. A strong social nature will enable the life-insurance agent to make the interests of the family, the disaster of leaving the wife and child without support, a paramount consideration.

This business requires a strong appreciation of human nature, a quick perception of the character and disposition of men, so that the operator will be able to frame his con-

versation and arguments in such a manner as not to offend, and at the same time carry the point.

THE CANVASSER, COMMERCIAL TRAVELER,

and Collector require very much the same talents as the insurance agent. He who can succeed in one can succeed in the other. Still, the collector needs a little more dignity and positiveness, which, though clothed with kindness, give the impression that there is imperativeness in the matter, and that it must be promptly attended to.

EXPRESS AND TRANSPORTATION

require in the persons engaged, ardent temperaments, force of character, great industry, determination, and decision, with large shoulders and lungs, prominent features, bony frames, and good digestion, with that kind of push and enterprise that does not quit until the work is done.

LIVERY BUSINESS.

To fill this position well, a man needs first-rate health, an ardent, energetic temperament, and a disposition to be active, enterprising, and thorough. He should understand men at a glance, and be able to read grand larceny in a stranger's face at sight, if the fact and motive exist for such a crime. It will not do for him to require reference every time a stranger asks for a horse and carriage. The man's face and bearing must tell the story. But one of the principal elements of success in the livery-stable keeper is to understand horses, so that he can buy stock

wisely, and feel a disposition to take care of it properly. Where this love of horses is very strong, every trait of character belonging to all of the twenty or forty horses which may be owned will be known to the proprietor. In fact, he will know the sound of every wagon, and the footstep of every horse, when at a distance they are approaching, even in the night. A horse lover only should keep the livery stable, for he will be tender and careful of his pets, and, so far as he is concerned, there will be no need for a "Society for the Prevention of Cruelty to Animals."

USELESS AND INJURIOUS PURSUITS.

Every man should do something to advance the common wealth and happiness of the human race. He should not engage in anything which has a direct tendency to debase the morals, impair the health, or lower the race in the scale of being.

ALCOHOLIC LIQUORS.

Among the most detrimental pursuits is the manufacture and sale of alcoholic drinks. If that traffic could cease, there would perhaps be much unhappiness for a while among those accustomed to use stimulants; but in five years' time, as a blessed consequence of abstinence from intoxicating drinks, mankind, as a whole, would be augmented in power, and the means of solid happiness increased at least twenty per cent. It is the writer's pleasure to remember that he has never, directly or indirectly to his knowledge, gained a penny by the traffic in



DANIEL MAGNER,

THE HORSE TAMER, TRAINER, AND EDUCATOR,

Was born in Waterford County, Ireland, in February, 1832, landed in New York in 1843, and was engaged for years in mechanical business, during which he acquired the habit of trading horses, and became noted for success in the control of vicious ones. This talent seemed to be intuitive. He gave exhibitions in horse training, and followed it as a business, giving lessons in horse management. In 1865 he exhibited before the Maine Legislature, broke four vicious horses in their presence, and was, by that body, commended to the people. The ablest horsemen in New York brought four of the most vicious, and he trained them to submission, to the amazement of all, and the simplicity and humanity of the treatment were above all praise. He should be at the head of a school for instructing those who use horses for pleasure or profit, and then Mr. Bergh's vocation would become comparatively unnecessary.

alcoholic liquors, and is not aware that any of his ancestors have ever in any way been engaged in the business.

TOBACCO.

The manufacture and sale of tobacco is an unmitigated curse to the world. We always advise young men to steer clear not only from the use of these articles, but to avoid engaging in their manufacture and sale. From the day Columbus discovered America to the present hour, tobacco has been an unqualified bane to mankind, sapping the foundation of constitutional health and vigor, lessening the power of body and mind, rendering those who use it—except such as are of a plethoric habit — twenty-five pounds lighter, and two or three inches shorter, than they would otherwise be; and, as we firmly believe, depressing mental and physical power twenty-five per cent., and shortening life in an equal degree. No man can afford to use tobacco; and, as we conceive, no man with the right information and proper judgment in the matter can afford to make money by ministering to so bad a habit. "Save me from blood-guiltiness," is a prayer that could be wisely uttered in reference to these pursuits. Although we know many amiable and some excellent men who are engaged in the manufacture and sale of tobacco, as we know many excellent men who are using the article, yet, from a physiological point of view, we see the evil necessarily growing out of the traffic in and use of these articles. We therefore advise all young men who have yet to select their occupation, to avoid these, and those who are in them, to wash their hands of them at once.

Occupations for Women.

One of the great evils of the present time is that women do not have laudable, useful, remunerative, and pleasant occupations. It is all very well for people to assert and reiterate that woman's proper sphere is in the domestic circle; but some, from choice or incidental influences over which they have no control, do not find themselves in a domestic circle of their own. Thousands of girls find it necessary to support themselves, or help a widowed mother to maintain the family. They are quite as competent, mentally, to learn any trade, as a man is. There may be some kinds of business in which woman's susceptible nature does not permit her to compete with men successfully, even in such business as she is strong enough to perform.

Woman is patient, as the knitting, embroidery, and other needle-work which she does, attests; and that patient application to sedentary occupations at once compromises her health and robs her of that courage and resolution which would be preserved and promoted by a more executive and active vocation.

TEACHING.

Speaking generally, we regard teaching as the best occupation for woman, because it demands good culture, and

that is desirable and useful after teaching shall be abandoned. It gives a woman—in the present condition of public sentiment—a higher rank than any other avocation which she can follow. More women are invited to desirable positions in marriage, from the school-room, than from any other department of industry;—partly because, perhaps, those who have brain enough to succeed in teaching, and body enough to give support to that brain, are superior in point of fact. It is an intellectual profession, and men of high business success without such education as they ought to have had, learn to respect the teacher more highly than one who has a finer training in the arts and elegancies of social etiquette. Teachers soon acquire a certain straightforward earnestness which attracts the attention of earnest men. Many a minister or successful business man will pass by a dozen elegant and carefully-cultured belles, and take one of the heroine teachers, and he shows his wisdom in so doing. Moreover, such a woman would not accept one of the weak-headed, inefficient men. Schooled in the realm of good sense, and strengthened in judgment by the sharp attritions of her professional position, she learns to despise sham and pretense, and to detect and shun the debased and the hypocritical. Hence, she generally marries well, or not at all.

MILLINERY

is generally the next most desirable vocation, or the one which women most naturally tend to adopt. This is well. We know several who commenced without a dollar, except

that which they earned, and placed themselves and their families in independent circumstances. This requires ingenuity, originating in large perceptives, large Constructiveness and Ideality, and large Approbativeness. If a person has a good social development, all the better. She will thereby be rendered popular. She needs Cautiousness and Acquisitiveness, to give her prudence and economy; and Firmness, Combativeness, and Continuity, to give her stability, energy, and patient application; and artistic taste, to select suitable articles, and to know how to combine colors and adapt them to form of face and complexion.

DRESS-MAKING.

It would be well for every young woman to learn dress-making, because it would enable her, while single, to earn an honorable living, and could be rendered exceedingly useful when settled in life, not only in aiding herself in the matter of dress-making, but doing such work for a family, especially daughters. Such a woman could hire a dress-maker to cut and fit while she and her daughters could do the most of the work, and save many a dollar which perhaps she could ill afford to pay out to have the work done elsewhere.

The dress-maker needs less Ideality than the milliner, but Form, Size, Continuity, and Constructiveness should be amply developed. It is more a real, solid trade, while millinery is rather an art. A fanciful, airy nature can do better at millinery than at dress-making.

SHIRT-MAKING.

This is a first-rate business, and should be mainly in the hands of woman. Men sometimes conduct the business, and employ a cutter, while women do all the work. A dozen young women who know how to run a sewing machine, and perhaps own one, could form a co-partnership, and get a good business woman to take care of the office, and in that way make themselves independent. Some few women are doing this successfully, and employing girls to do the work.

TAILORING

is also a good trade for women, and we know several who learned the trade in the days of girlhood, followed it successfully until marriage, and after twenty years of married life returned to it in widowhood, sustaining themselves and children handsomely and laying up money. To know how to make up boys' clothing, and how to keep men's clothes in repair by the "stitch in time," is of no small consequence to a family in the line of comfort, to say nothing of the economy or necessity of it.

PRINTING

can be done by women as well as by men. Certainly they can do the type-setting with quite as much taste and skill. We think at least one-half of all the type-setting should be done by women, if not eight-tenths of it. We have known among them some very active and successful type-setters, and we see no reason why the nimble fingers and delicate touch of women should not be thus employed.

WOOD-ENGRAVING

is practiced by woman successfully. The work can be taken home from the office and done at one's residence, for it has all to be done by the eye and hand of the engraver. Supervision, while the work is in progress, is not required. The proof determines what has been done, and how. Woman is endowed with great fondness for pictures, and naturally adopts something of an artistic character. Whatever is ornamental attracts her, and calls out her taste and skill.

Women as well as men need trades they can set up and be their own masters, little capital being required to make them profitable. Many of these vocations afford the female operatives only starvation rates of wages. We may mention a number of occupations at which women are employed in the large cities; but some of these can not be conducted by a woman. Artificial flowers, bead work, button-making, brush-making, bonnet frames, burnishing, cord and twine, gloves, hoop skirts, paper collars, shoe fitting, toys, type-finishing, tobacco stripping, upholstery, umbrella and parasol work.

WATCH-MAKING.

The delicate touch and nice appreciation which belong to woman's hand, head, and eye would do the fine work incident to the jewelry business. We have known one or two woman watch-makers. In point of fact, one-half of all the watch work done in manufactories is done by girls, under masculine supervision. But that is "factory work,"

and done at small wages. Let some leading woman of ability learn the business, and then take apprentices. The trade is well suited to her sedentary disposition.

DENTISTRY.

This profession or trade could be quite as well conducted by a woman as by a man. The extracting of teeth is now done under the influence of anesthetics, and is not so much performed by each dentist as formerly. The filling of teeth, and making sets of teeth, could be just as well done by women. We have known several women who have had a strong desire for that occupation, and only needed encouragement and a chance to engage in it.

Public sentiment allots woman the post of marriage and domestic life, and partly on this account, and partly from the expectation of a settlement and a competent support, woman seldom resolves to adopt a trade or profession, until time admonishes her that her future independence is to depend on her own exertions. Her brother, no more capable than she, knowing that he has to fight life's battle for himself, gives undivided attention and persevering energy to the pursuit of his choice, learns it thoroughly as a life-pursuit, whether he is to be single or married, and thus secures success. The same motives on her part would secure similar effort and success.

MERCHANDIZING.

If there is any doubt that women can sell goods as well as men, let us remember the grace and skill with which

they accomplish this matter at fairs. The depleted wallets of many a man will bear witness that woman's power of description, and her persuasive eloquence, are equal to the task of selling goods at high figures and in ample quantities. Besides, most of the goods that are sold in retail and fancy stores are understood quite as well by women as by men, for they use most of these articles. Why should a man stand and talk about lace handkerchiefs, dress goods, ribbons, and all the various elegant trinkets which go to make up a stock of fancy goods and, largely, woman's wardrobe? Woman should do the selling, and men should go about some more manly business.

BOOK-KEEPING

should be learned by those who are quick in figures and have a taste for writing. We have known marked specimens of feminine skill and success in this field of industry. We have often thought, and said, that no man should be a book-keeper who has not some bodily defect,—lameness, or some physical incompetency to struggle with the more laborious occupations.

GROCERY BUSINESS.

Who knows more about groceries than women? Who use them? Who purchase them? If woman stood behind the counter instead of in front of it, would she know less of the qualities and uses of that which belongs to the grocery, such as tea, coffee, butter, sugar, and the like?

We know some widows who have succeeded to their husband's business in this line, and have done admirably. There should be a man or two about the store to do the heavy lifting and working; but does not the servant girl roll out the ash barrel from nearly every house in the city? Does not she carry the coal sometimes up two or three flights of stairs? and could not she handle a tub of butter or a barrel of apples in a grocery store for better pay? Woman does in the housekeeping line a deal of drudgery, with meager compensation and no thanks. It is quite as onerous as that which might be called the drudgery of the grocery business, and much of the work in this line is neither drudgery nor hard labor.

MEDICINE.

The profession of medicine is coming to be a woman's occupation. Men may turn the cold shoulder, and well-housed women may lift their eyebrows in scorn, but women are bound to do more than half the medical practice in this country in less than fifty years. She is quite as well adapted to learn the sciences of chemistry, physiology, pathology, and materia medica as men are; and many a nurse is as good as a doctor. Woman has an aptitude for this pursuit, and we rejoice to know some whose medical education is beyond criticism, and whose services are so sought and prized, as to give an income of more than twenty thousand dollars a year; others, ten thousand; others, less but incomes ample for the support of a large family.

COOKING.

There should be schools for instruction in cooking; not schools for the preparation of hotel fare, and for great banquets, but schools in which the preparation of a plain family dinner should be taught. Every woman should know how to cook who assumes to be at the head of a family. We do not assert that she should follow it, that she should have no assistance; that she should not have a cook capable of and generally doing the whole of it. But if the cook should be sick, or vacate her situation, it certainly would be more disgraceful for a woman to be ignorant, and obliged to exhibit her ignorance in a pinch, than for her to know how to do the work which she may not be expected or required constantly to follow.

If some of the time and study now largely wasted on music, which will be abandoned in twelve months after marriage, were bestowed on learning to make the table a real blessing, at once attractive and a ministrant of temperance and health, many husbands would eat fewer suppers at club-rooms and fashionable restaurants, greatly to the benefit of their pockets, their morals, and the happiness both of wives and husbands. Let wives continue to leave cooking largely or solely to ignorant and selfish servants, perhaps not knowing themselves how to correct their errors, and execrable cookery, domestic unhappiness, and the tendency to outside dissipation in various forms will continue to flourish rankly and ruinously.

If it were understood that the mistress knew how to do cooking, she would not be half so likely to be abandoned by an angry cook, out of spite, or have a saucy demand made

for an increase of wages, as if she were ignorant and liable to be left at any time, but especially when company for a week is expected.

The ignorance of mistresses in respect to cooking is a wand of power in the hands of the hired queen of the kitchen. Learn how to do it well, and if misfortune compel you to practice it for life, you can perform it with pleasure and success; if you chance to be able, hire the chief part of the cooking and housekeeping done if you please, and thus knowing how, you can instruct the green, and command the respect and obedience of those who know how.

LAUNDRY WORK.

Not one woman in twenty, who does her own laundry work, knows how to do up linen properly. A shirt from a store will have a shine and finish which is never reproduced unless it be sent back to a laundry. Women should understand that secret. Girls do the work in these laundries, but some selfish man understands the secret and prepares the material, and the girls who do the work do not know the ingredients which give it the fine finish, but they do the muscular work and produce the desired result. Why not do the brain work and pocket the profit?

If women understood different kinds of business, so that they could earn an independent living, fewer would throw themselves away on worthless men, or pine in poverty as at present. There is a certain false sentiment in the community, that women must be ladies in the sense of elegant idleness and uselessness, to be petted and

fostered and flattered. As most women are taught by public custom to expect marriage as a means of support, there is a tendency to neglect the acquisition of any permanent and substantial business.

Needlewomen, from the close attention required, and from a want of exercise, early break-down in health. We know one who was an excellent shirt-maker, and though her constitution was excellent, it began to fail. She had learned the art of doing up the work as it is done in the regular laundries, and her customers ventured to ask her to do up their shirts, which she had made for them. They would get them washed, if she would starch and iron them. As they were not always well washed, she finally proposed to do the entire work. In a short time she ascertained that she could earn five dollars as quickly in washing and ironing shirts as she could earn one dollar in making them, and was regaining her former health and cheerfulness, and she had the good sense to abandon the needle and take up the washboard and smoothing irons. She was thus able not only to support an invalid husband, but lay up money with which to buy real estate. She accepted only shirts, and these from first-class customers, which commanded a good price, and she had enough to do to employ a stout assistant, and she soon placed herself in independent circumstances. So much for not being too proud to do useful and necessary work.

Wages or Salary.

YOUNG men who are clerks, or are otherwise employed at wages or on a salary, make a signal mistake in pressing the question of wages often and earnestly. A clerk, for example, who wishes to become a merchant, desiring to rise to a prominent and lucrative position, should, in the first place, seek the right situation, where men are honorable and conduct business on business principles—a firm that has good repute and excellent credit; in short, the firm should be what the young man himself is desirous to become in character, capacity, credit, and reputation. What he needs, therefore, after the temperate and proper supply of his bodily wants, is instruction and advancement in the science and real merits of the business. It is not salary, simply, that he should work for. The greater part of the compensation is the instruction received. Let this be illustrated by an apprentice to a useful trade. He receives sometimes sufficient for his food and raiment. Sometimes he has a hundred dollars in addition when he is of age. Sometimes the parents furnish the clothing, and the master the board. Sometimes, as in England, parents are obliged to pay a sum of money for the privilege of his learning a trade, and support their son besides, during his apprenticeship. The apprentice, then, is working solely for the trade, the knowledge, the skill, the information,

the mode of doing business. This is, to him, ample compensation for his time and labor. Apply this principle to the commercial clerk, and the question of salary takes a very subordinate position. The clerk who is always pushing for more pay, and earning as little of that which he gets as may be; who is tardy in the morning, and in a hurry to get off at night; who begins to black his boots and brush and comb half an hour before quitting time; and who requires half an hour in the morning to make himself presentable for the business of the day, will be dropped out of the corps of helpers whenever business becomes slack, or any plausible excuse exists for ridding the concern of the leeches.

Clerks should also avoid engaging in amusement and nonsense at every opportunity during business hours; should not linger long at their lunch, or seek occasion to gaze into the street, and thus kill time. Such persons appear to work only for their pay, and they earn it very poorly.

The true young man who is heartily in earnest to learn his business and fill his situation to the full, will maintain a decorous sobriety, be promptly on the spot in the morning, attend to his business sagaciously, and act as if he were there expressly to forward the business, rather than to acquire a certain sum of money at the end of the month or week.

LOW WAGES AT FIRST.

It were better for a young man to take five dollars a week at the start, though he might get six, and then by industry, attention, and integrity impress every one with

the idea that he earns much more than he gets. He may accept such advances in pay as might be cheerfully offered; but if he earn more than he obtains, he will acquire the reputation of being cheap and valuable help, and of giving more than he receives. He should seek at every opportunity to increase his knowledge of the business, so that he may be all the more useful. He may thus make himself so necessary to the establishment that it really can not well get along without him. Such a person's situation is permanent. We have this moment in mind a man who served a single firm thirty-six years, with a constantly increasing compensation to the last.

TOO MUCH WAGES A DAMAGE.

On the contrary, if one gets at the start all he can earn, and a little more, and presses for a more rapid increase of pay than his qualifications warrant, he comes to be regarded with disfavor, and his place is very insecure. Suppose a man does have a dollar or two a week less than he earns; suppose he is one year behind his merit in respect to the advance of salary, it is but a small sum at most, and that is nothing compared with the permanent security of his position. Besides, one who attends to his duties in season and out of season; one who watches every chance to forward business and benefit the house; one who is found faithful in the discharge of his duties, even when not particularly under the eye and criticism of the proprietor of the establishment, will grow up into a partnership almost as certain as age relaxes the energy and dims the eye of those who are his seniors in the business and

have facilities for promoting his prosperity. Many a sound, far-looking merchant is watching to find among his twenty or forty clerks some worthy young man who shall be invited to a partnership,--not in the firm, merely,—but his way facilitated to become more than a partner—a member of his own family, to inherit, with a favorite daughter, the fortune which years of care and sagacity shall have gathered.

The spruce young spark who thinks chiefly of his mustache and boots and shiny hat, of getting along nicely and easily during the day, and talking about the theater, the opera, or a fast horse, ridiculing the faithful young fellow who came to learn the business and make a man of himself, because he will not join in wasting his time in dissipation, will see the day, if his useless life is not earlier blasted by vicious indulgences, when he will be glad to accept a situation from his fellow-clerk whom he now ridicules and affects to despise, when he shall stand in the firm dispensing benefits and acquiring fortune.

HONESTY THE TRUE POLICY.

Let us say, then, to young men, Be faithful, work hard, take such pay as may be tendered thankfully, and fasten yourself to the interests of the business, so that it can not afford to part with you. Be true to those who employ you, for that is the way to be true to yourself. Postpone present acquisition with a view to larger and more permanent success afterward. It is as true in secular as in spiritual things, that "whosoever would save his life shall lose it; and he that loseth his life for my sake, shall find

it." In other words, he who seeks to serve himself when he professes to be serving another, will end in failure, while he who forgets his personal interests while serving the interests of those who employ him, will find in this very course his own ultimate triumph.

How to Obtain a Situation.

RESOLVE at the start to win success by faithful and earnest work; to be true to the vocation chosen, and by your own virtue and fidelity therein to raise yourself and your business to renown. Look not upon your vocation as a sponge to be squeezed, or as a selfish man may regard a livery horse he hires for a day,—but as a part of yourself, to be imbued with your own virtue, wisdom, skill, and power.

Visit, with some wise and venerable man, various kinds of business, that you may see them in their rougher and less inviting forms, so that the finished goods in the market may not mislead you as to the realities of the trade. He who sees the sparkling jewelry, the polished cutlery, the elegant silver ware, or the handsomely printed book would be surprised to know that in the shops wherein these shining things are produced, there is grease and grime, dust and smoke, aching brains and weary backs. People

expect to see the blacksmith with smutty face and hard, begrimed hands, but would hardly credit the fact that the making of gold watch-cases is among the dirtiest of trades.

After a thorough investigation of different pursuits, and a careful and honest estimate of your own qualities, and what you really ought to follow,—then start, fully resolved to find an opening, or to make one, in the chosen pursuit. Then having clearly in view the trade or vocation to be adopted, every good establishment of the kind in the town or county should be visited in turn until a vacancy can be found.

Do not apply to porters or boys, questioning them about a situation. They will not be likely to know of a vacancy, or if they do, they will desire to have it filled by one of their own friends. Find out who the head man is and go directly to him, and when he is at leisure, looking him squarely and honestly in the eye, tell him you have resolved to learn his business and grow up in it. Your choice of his pursuit will at once awaken in him a brotherly feeling, and he will be instinctively drawn toward you, especially if your appearance impresses him favorably. He may have several persons in his employ who are practically on trial, some of whom take no interest in the business, and are really looking for something different, staying where they are only for the pay. Knowing these facts, the proprietor readily accepts the proposal of the applicant, feeling assured that he will more than fill the place of the disaffected, who will accordingly be notified to look for something else in the way of business more in harmony with their taste and choice

Merely asking for a situation seldom secures one that is worth having. There are too many who go out looking for *something* to do, indifferent as to what it may be, just to earn enough for present support, careless and dreamy as to the future. Thus boys, and even young men, get situations in offices to run of errands and stay about the place to answer any calls which may be made; thus they become listless, vacuitous, lazy, and utterly demoralized, and they come to man's estate without a trade or profession, and become aimless sponges upon the prosperity of the community. They are "men about town," always in want, open to temptation by the vicious, or fall a prey to unmanly or wicked occupations. Thus they become vagabonds, political shoulder-hitters, pimps, and panderers to every kind of baseness which is the natural result of truancy from school, and entire ignorance of any honorable method of earning a support.

When seeking a situation do not propose to take an advanced post. Ask for a chance to *work*, beginning at the bottom. You may be considered qualified for something better, yet be placed at the foot to test your temper and fidelity—to ascertain if you will be "faithful over a few things" as a qualification to become "a ruler over many things." If you sweep, make fires, dust, do anything and everything promptly and cheerfully, you will be advanced so fast as you are seen to have fully mastered your allotted position. Grumbling at your lot and asking to be put forward will disgust your superiors, who are perhaps planning to obtain some one to fill your low place that you may be put forward. Men like to manage their

own business—dislike to have boys make suggestions as to their own occupation or pay. Plants are not put in large pots until, by healthy growing, they seem to have filled the small ones. If a puny plant were to tease the gardener for a large pot or open-air planting, he would wisely say, "Fill the place you occupy first, and thus show your adaptation to a larger one;" or in disgust he would jerk out the feeble starveling and put a vigorous successor in its place. Many a boy has lost his situation because he whined for a post of duty beyond his present capacity to fill.

He who, in store or shop, begins at the bottom and learns how to do everything, and is competent to every duty, has his position and ultimate success in his own keeping; and he will be sought after by many if it is known he is at liberty to accept of a new engagement. We have seen a faithful boy take a selfish man's place in a shop or store, having, of course, increased responsibilities, a more elevated position, and better pay than before. The selfish malcontent was quite certain the proprietor put a boy in his place to save expense, when, in point of fact, he, having failed to fill the place of a man, it was given to a boy who had more than filled a boy's place.

When one has a situation, it is very easy to keep it if he is really in earnest to fulfill its duties, and the faithful worker will always be retained in dull times; while those who by laziness and slackness seek to get along easily, will be induced to leave. We would have all aim high, but the true way to rise is to build strongly the foundation of future success by attention, industry, and faithfulness.

and if the person have talent, nothing can long keep him down. It is really for the interest of employers to have their assistants grow in skill, capacity, influence, and power. It is better to employ ten first-class men than fifteen medium men at the same aggregate amount of compensation.

When a man is out of a position it seems that nobody wants him. Those who are unemployed are apt to be regarded as stray waifs not wanted by anybody. Moreover, if a man not overstocked with hope and courage is unemployed, he soon comes to feel dejected and irresolute, especially if he applies for employment frequently and is refused. Therefore it is well to take some temporary business in hand as a stepping-stone to that which is wanted. A man of good mind and pleasant address once asked us to aid him in obtaining a situation. We handed him a monthly journal and told him to solicit advertisements for it at so much a line, on a certain commission, and this would make for him a good excuse to enter stores and have a word with the head man. If he could secure an advertisement, all very well; if not, he could propose himself as an assistant. He started out, and had not been gone three hours before he found a good position, and returned his agency with many thanks.

One who seeks a situation should not know too much, nor profess much. If he be young, he should say, "I can work, and am willing to do whatever may be required." One who is willing to begin at the bottom, and does not stipulate as to price, but leaves that entirely to the employer, makes a good impression, and awakens in his be

half a kindly, generous spirit, and his interests will not be forgotten.

A well-educated son of a United States senator tried for weeks to find a situation in Chicago, and failed. He told his name and connections; they inquired about his knowledge of business, and learning that it was meager, and as they did not want another gentleman in the concern, he was politely dismissed. They did not feel willing to put a handsome, well-grown, well-educated son of a senator to rough work about the store, and readily ascertained that they had no vacancy. He found, to his surprise, that being the son of a senator was no aid in getting a situation in business unless he thoroughly understood it. One day, greatly to the astonishment and chagrin of his sister, he came from his room dressed in a full suit of Kentucky jean, in the shape of jacket and overalls. Explaining his purpose, he sallied forth and asked for *work* about the stores he visited, keeping his family relationship to himself. In half a day he had a place at good wages for a working man, and in three months he was assistant bookkeeper. He had written labels for parcels, signed receipts, and on occasion made out a bill, and it was soon seen that the resolute worker had a brain as well as muscle, and he was rapidly promoted, and he concealed his social standing until he had won a good position.

We happened to know a young man who was born in Dublin and educated in its university, who landed in New York in 1830, and found, after vainly seeking a nice situation, his pocket empty and his wardrobe poor. He applied to the agent of Colonel Edwards, the great tanner at Hun-

ter, N. Y., for laboring work, and was forwarded with others from New York to the tannery to work through the winter for eight dollars a month and his board. He was set to wheeling bark from the shed to the bark-mill. As the farmers and others brought their loads of bark for sale, the bookkeeper came from the office to measure each load. Our modest Dublin man, hearing the dimensions of the loads announced, picked up a piece of bright bark and cast the contents of each load upon its smooth surface, saying nothing. The bookkeeper saw what he was doing, and asked him if he understood arithmetic, and desired to see the result of his work, when, behold, it was done in algebra. "Where did you learn that?" "In the university, sir," was the reply. This was repeated at the office, and in a few days his fine penmanship and knowledge of the science of accounts gave him a warm situation as assistant cashier and bookkeeper, instead of running a wheelbarrow where the thermometer was at or below zero. "He that humbleth himself shall be exalted."

Do not go out seeking a situation with a hopeless, sad, helpless look. Nobody wants a dead weight, a cheerless parasite to drive away all gladness and joy from the establishment. We like the spirit of the brave lad who asked at a place for employment, and when informed that his services were not required, replied cheerily, "Very well, gentlemen, if you do not want me, somebody else will." They liked his hopeful self-reliance, called him back, and made a place for him. Where many persons are employed, there is generally room for one more, especially if he be of the right sort.

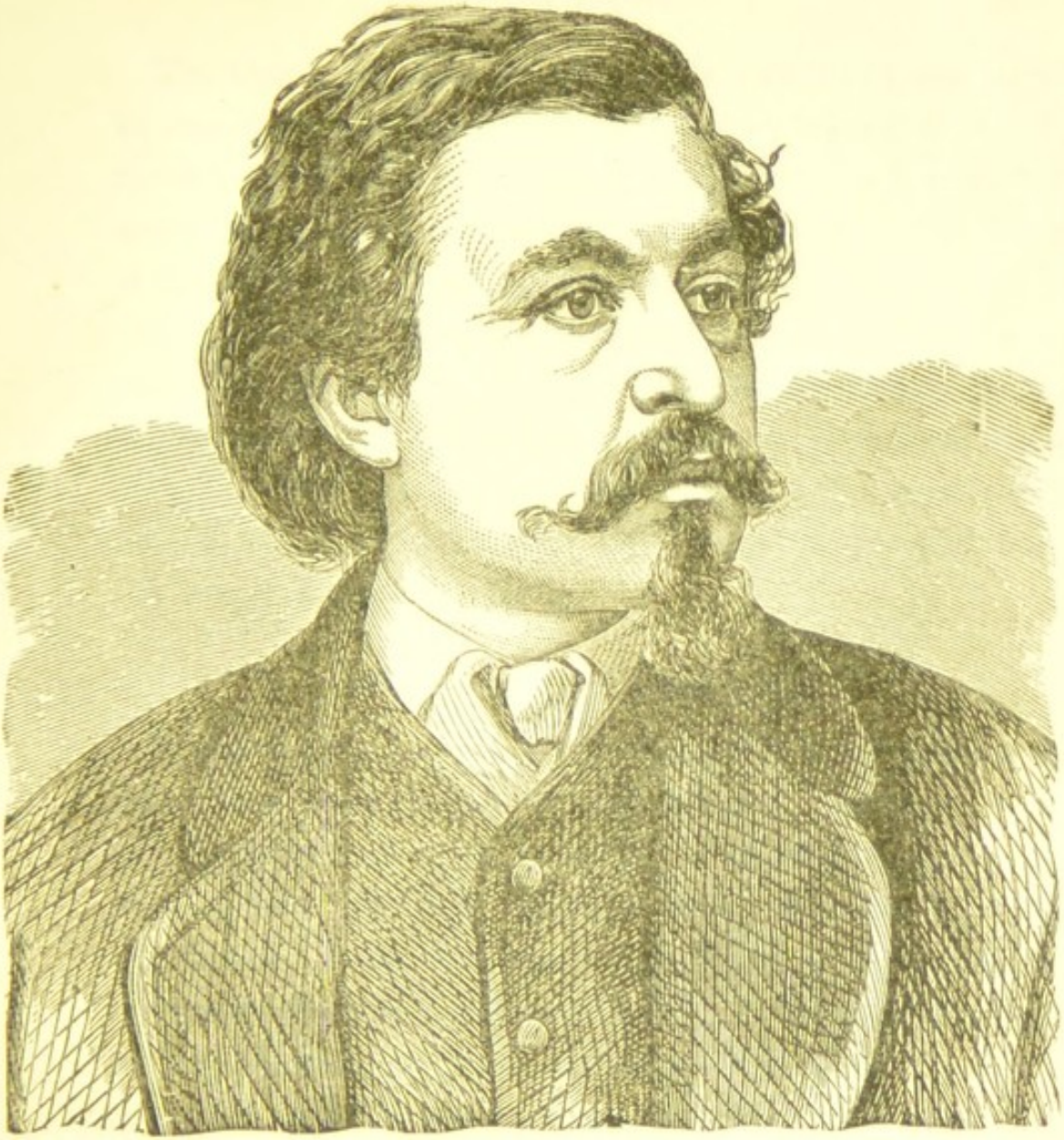
Professional Avocations.

THE ARTIST.

WHAT is it to be an artist? and what faculties are required to secure success in that vocation? We believe that all pursuits will be more normally prosecuted by men of good, sound, bodily constitutions than by those nervous, fidgety, half-built men who are partial in their development, and, of course, must be partial and fragmentary in their efforts.

MENTAL REQUISITES.

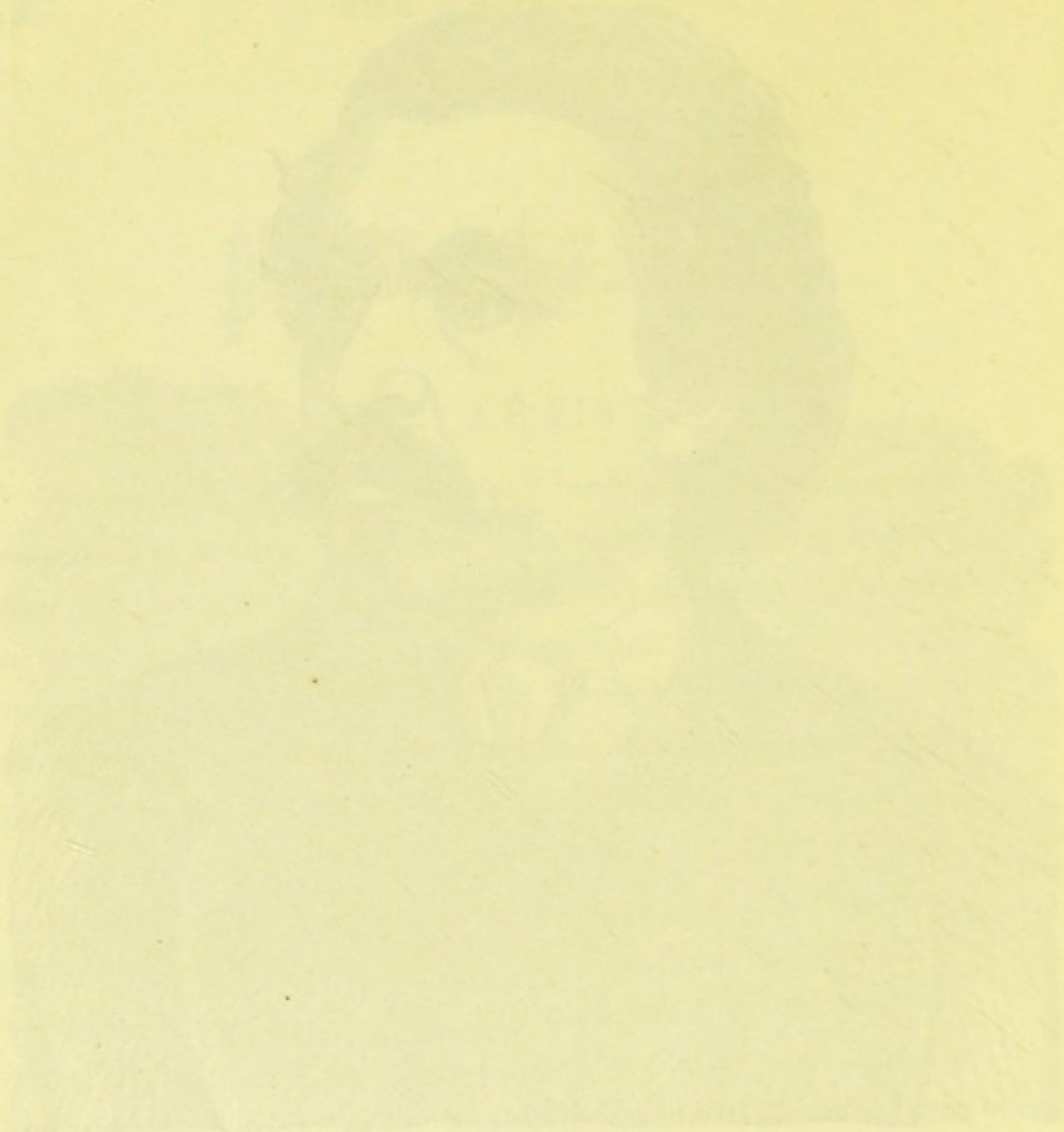
We say, then, the artist should have a poetic temperament—an abundance of the Mental or nervous, well sustained by the Vital, with a dash of the Motive, which gives frequently dark hair and eyes. The artist should have a high, long head, and breadth from the external angles of the forehead backward; in other words, the upper part of the side-head should be full and well expanded. The Mental-Vital temperament serves to give emotion in the direction of sentiment, while large Ideality and Constructiveness, combined with large Spirituality, tend to give creative fancy, imagination, power of construction, and ability to work out the image which the mind has created, and thus produce tangibly what the inspiration of sentiment has created in the mind.



THOMAS NAST,

CARICATURE ARTIST.

During the war, and ever since, the pencil of this remarkable artist, through *Harper's Weekly*, has been a power in the land. Lincoln once said: "Tell Nast to transfer his talent to me and he may take my place." During a heated political campaign Nast's cartoons are worth a score of the best stump speakers, or 50,000 votes in New York State. They did much during the war to keep up the spirit of the people, and they were said to be worth 100,000 men in the field. He works so rapidly that he can give public entertainments, drawing before the audience, as by a magic hand, the portraits of well known characters. Tweed said: "Print what you like about me, but spare me from the pictures of Nast. The people all understand them." He was born in Bavaria, September 27, 1840; came with his parents to New York in 1846. At fourteen he was employed by Frank Leslie as draftsman; in 1860 he went to Italy to sketch Garibaldi's campaign for London and New York papers; in 1861 he became permanently connected with *Harper's Weekly*.



The true artist does not begin his picture or his statue as one does the brick wall of a house, laying it out by metes and bounds and erecting it with line and plummet, according to fixed mathematical rules; but in the dream of the artist or the artisan the beautiful dome, with all its elegant finish, is instantly brought into being and spanned above his head. The statue or the picture comes to him like a dream, and the secret of art-power is to hold those images in the memory until the faculties of Constructiveness, Form, Size, and Order have wrought out and fixed the image in material form.

KNOWLEDGE OF CHARACTER.

In portraiture and sculpture the artist must possess an instinctive appreciation of character. Landseer loved dogs, understood their character, and could sympathize with them, and thus embody their character in their expression. Rosa Bonheur studied and understood, not the forms of horses and cattle only; she knew their dispositions, absorbed their consciousness as it were, knew how they felt, and learned to express in her work the inner spirit of her subject. Hence, everybody who knows animals well, readily appreciates her success. The man who looks upon an ox as so much beef, or upon a horse as being merely bulky and strong, would neither appreciate nor purchase one of her matchless pictures.

The same law holds good respecting successful art in human portraiture or sculpture. He who has a good knowledge of Phrenology and Physiognomy will compose a head and face in such a manner as to reveal the real

character of the subject. One of the best and most successful sculptors in America in posthumous busts, models his heads in conformity with Phrenology. If firmness, force, pride, and prowess belonged to his subject, he is careful to represent the organs of Firmness, Self-Esteem, Combativeness, and Destructiveness in strong development, and the world wonders how the very life and character of the man can be so embodied in the marble when the artist never saw the original, and had only photographs to work from.

An artist was modeling the head of a beautiful girl from a single, very small photograph, the only one the bereaved family had. The work was not satisfactory to the friends, and the writer was requested to inspect the work critically. Having during her life examined her head, and knowing her character, he at once saw the defect in the phrenological development of the head, and requested the artist to pile on the clay half an inch thick at Firmness, Conscientiousness, Self-Esteem, and Causality. This altered the whole aspect and expression of the head and face, and the parents were delighted with the resemblance to the original, and it was then put in enduring marble.

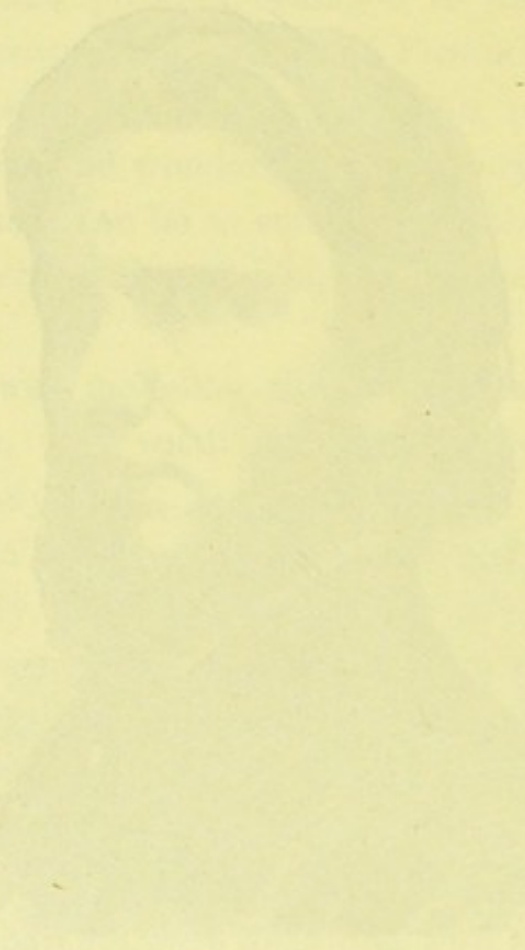
The artist who attempts to get along without a knowledge of Phrenology is not aware how great an aid he ignores. We have seen in the modeled bust of General Jackson a striking illustration of this principle. The face, the forehead, and the front hair were very correct, but the crown of the head was an inch and a half too low, and gave the bust an expression of diffidence, inefficiency, and yielding pliability and meekness entirely at variance with



FRANCIS B. CARPENTER,

PORTRAIT PAINTER.

This well-known artist was born in Homer, N. Y., August 6, 1830, and like many another aspirant for hard work, stupid criticism and expected triumph, was obliged to struggle against obstacles at the very outset; but determined to paint or perish, he worked in the attic on a portrait of his loving mother, until it was so good a likeness as to convert his father to the idea that painting might be better for Frank than farming—thanks to the dear mother. His career has been signally successful. He told the writer, many years ago, that in every picture he ever painted he had done his very best, whether it were to be paid for or not. Effort with such a spirit must secure success. He is best known for his great historical picture, "The Emancipation Proclamation," which was painted at the White House. It has been engraved and widely sold.



the character of the original. Nobody was satisfied with it, and only the phrenologist knew why it was worthless.

The mechanic who becomes an inventor is, in most instances, an artist by nature, if not by practice, in the beginning The most useful inventions have flashed in a moment upon the imagination of the inventor, although whole years might require to be consumed by the mechanical and mathematical faculties in working them out.

THE SCULPTOR

should possess a fine temperament with a good degree of the Motive to give strength and vigor. A bland, mellow, pliant character has less sympathy with statuary, with solid forms than with painting. We question whether success in statuary has been produced by persons having what would be called a soft temperament. The sculptor needs Form, Size, Locality, Constructiveness, Human Nature, and Comparison; while the painter requires large Color in addition, and, we fancy, a little more mellowness of temperament.

The sculptor must have large Weight, so as to pose the statue properly, to balance a group, especially a horse and his rider. If a sculptor fail to balance a statue in an easy and harmonious manner, or if a painter violate the law of Weight or gravity in a full-length figure, it gives one as much annoyance as it is said architects feel in looking at the Leaning Tower of Pisa.

ART NOT ENGINEERING.

The engineer who employs mathematics and certain

philosophical laws to build his bridge or construct his building, pursues his course with a plodding deliberation, building one part upon another, and thus in consecutive order works out his problem, guided by fixed laws. Not so with the artist. There are certain executive rules which artists can be taught for the better working out of their conceptions; but the artistic spirit must be possessed, the creative fancy must be present before the practical talents can be rendered useful in realizing the work of the artist. The great majority of artists, however, live an unhappy because an unnatural life; they live in a state of nervous excitability, and many trust to tea, tobacco, alcoholic stimulants, or opium to stir up the nervous system to its work.

ECCENTRICITY OF ARTISTS.

There is no reason why a poet or an artist should be negligent in his dress, quaint in his manners, and in many ways violate the canons of good taste and good sense; but he who supposes he must live on the wings of imagination constantly, and ignores all the facts of common sense and common life, will be warped and peculiar in his artistic or poetic manifestations. The artist who can cultivate a good body and stern common sense, who can come into intimate sympathy with common people in their daily pursuits and aspirations, and at the same time have all those artistic conceptions which give breadth and finish to the mind and its work, is indeed the true artist. The pictures which live are those which are based on some great want or principle of human nature. A

ROSALIE BONHEUR.

DISTINGUISHED PAINTER OF ANIMALS.



Born March 22, 1822. After receiving instruction from her father, who was a painter, she constantly studied living subjects. Among the most noted of her paintings are "The Horse Fair," "The Horse for Sale," "Horses in a Meadow," "The Three Musketeers," "Cows and Sheep in a Hollow Road," "Bucks in Repose." On the "Horse Fair" she worked eighteen months, attending the horse market twice a week regularly during the time. She has succeeded also in sculpture. She has been decorated with the Cross of the Legion of Honor.

SIR EDWIN LANDSEER.

This celebrated painter of animals, particularly dogs, in whose delineation he was unrivaled, died in London, October 1, 1873, at the age of seventy-one. He excelled in painting animals while a boy, and became a student of the Royal Academy in 1816. He began to exhibit his pictures when but little over fourteen years of age, and his earliest productions attracted attention, and gave great promise of future excellence. Among the best known of his numerous paintings are the following, all of which were exhibited at the Royal Academy: "A Highland Breakfast," "The Drover's Departure," "The Dog and the Shadow," "A Fireside Party," "No Place Like Home," "The Two Dogs," "The Old Shepherd's Chief Mourner," "A Jack in Office," "Tethered Rams," "Sancho Panza and Dapple," "The Angler's Guard," "Suspense," "Comical Dogs," "Young Roebuck and Rough Hounds," and "The Eagle's Nest." Equally celebrated are "Bolton Abbey in the Olden Time," "Titania," "Laying Down the Law," and "Wellington Visiting the Field of Waterloo,"



"Deer Stalking," "Doubtful Crumbs," "A Kind Star," "Flood in the Highlands," "The Shrew Tamed," "Windsor Park," "Squirrels Cracking Nuts," "Man Proposes, but God Disposes." The majority of his compositions have become popular engravings. He became an associate of the Royal Academy in 1827, and a Royal Academician in 1830. He was knighted by the Queen of Great Britain in 1850. His portrait indicates the man of thoughtful habit, together with a close and careful scrutiny.

work of art conceived in the realm of imagination and wrought out in that realm, may be brilliant, but will be cold as an icicle. The poets and artists who know how to appreciate rustic life, give us poems, pictures, and statues which the world, from the lowest to the highest of its children, appreciates; and such works are stamped with immortality.

The artist ought to be religious as well as moral. He should have strong social affections, so that his work may minister to that great element of human life. He must put love in the statue or the picture, as well as beauty; in short, the poet or the artist who can appeal to every feeling that is natural and noble in human nature is the true artist, and in proportion as men approximate to this high point are they artists. Artists are apt to be egotistical; they live so much in the realm of their own thoughts, that whether they are or are not appreciated, their selfhood seems to stand out conspicuously. Unfortunately, many of them become nervous, crotchety, eccentric, sarcastic, and at cross purposes with the world, chiefly because they live in a wrong atmosphere. They seek to live wholly on the wing, when they should often touch the solid earth of common life and common sympathy.

COMMON SENSE IN ART.

Art, in this world of fancy and romance, is common, and is daily becoming more so. It is common in two senses. First, in the sense of frequency; secondly, in the sense of mediocrity. But common sense is almost the rarest commodity in the world. COMMON SENSE results

from the harmonious, full development of all the intellectual organs, without a high degree of Mirthfulness, Imitation, Ideality, and Spirituality; in other words, common sense is the intellect well instructed by experience of common things without being warped by imagination, fancy, or fanaticism. ART is imagination, invention, and fancy developed by Constructiveness and guided by intellect. In order that such intellectual action should deserve the name of common sense, it should have practical instruction and experience in regard to the outer world. Hogarth has given many admirable illustrations of artistic effort in violation of all high artistic rules and of the laws of common sense; but we have seen a few things in art which showed a lack of practical experience in the world's affairs, and therefore of common sense, which we do not remember to have seen in Hogarth's ludicrous illustrations. Let us enumerate a few:

At a firemen's parade, in New York city, we observed that the ladders of one of the hook and ladder companies were painted wood color and grained, and the artistic grainer must needs show how admirably he could represent wood, and therefore he had given the ridiculous representation of ladders half a hundred feet long with miserable *cross-grained wood* for the side pieces. We are not certain whether the rounds of the ladders were painted, for they were not in sight, but presume, if they were painted and grained by the same genius, that they too were made to show crooked, cross-grained wood. The next truck that passed in the procession with ladders had them *varnished* upon the raw wood, and we observed that the grain of the



JAMES BOGLE,

EMINENT PORTRAIT PAINTER.

This gentleman was born in Georgetown, South Carolina, in the year 1818. Losing his father while young he was early obliged to make himself useful, and he entered a book store at sixteen and became expert in business, where he spent four years under the training of a careful and honorable man. His younger brother took lessons in painting under Professor S. F. B. Morse, and coming home in 1839 he found James at home ill from overwork and rheumatism, and commenced giving him lessons in drawing and painting. So apt a pupil as he soon became able to make good likenesses, and he traveled in the South for a time, and, turning northward, he settled in New York. Many of the leading citizens sat for him, and his pictures soon became noted among the best for the accuracy of the drawing and the speaking fidelity of the likeness. He was noted for painting a finished picture in three sittings.

natural timber was very straight. Now everybody knows, who has ever used a ladder, or studied how they are made, or ought to be made, that the very straightest of timber must be selected out of which to make them. The same is true of broom handles, hoe handles, rake handles, whip stocks, axe helves, and the like.

A few years ago an oil painting was for sale on Broadway, representing a horse hitched to a post pulling backward with all his might; his head and neck were straightened out, and his legs and body were in such a position as indicated the horse pulling with all his force and weight; but the halter, painted by the artist, instead of being drawn particularly straight, appeared so slack as to sag nearly six inches. If such an artist could wear a halter long enough, and be gently rapped over the head hard enough to learn that a horse, or *ass*, pulling at a halter would necessarily straighten it, both art and artist might be improved.

One of the principal express companies in New York had a card, half a foot in length, printed in various colors, on which was an engraving representing a long team of horses, one forward of another, with a baggage wagon loaded excessively, with boxes piled up higher than the wagon. Every horse appeared to be pulling with all his might; but, strange to say, the draw-chains from the head of the team to the wagon, though elaborately represented, and all the links minutely defined, hung along in festoons the whole distance, when they should have been drawn straight. We think if the artist could be made to hold on to the end of that chain and have the suggester, commonly called whip, applied to him for awhile, as it is to a

draught horse, he would find out that hard pulling would straighten the chain instead of leaving it slack. For such egregious blunders there is no excuse.

City artists sometimes make awkward and ridiculous blunders—for which we do not mean to pardon them, but for which we can see some excuse—namely, they draw and engrave a company of mowers swinging their scythes from left to right; or they make a shop full of blacksmiths, every one of whom is hammering the iron with his left hand; or, as we frequently see, the picture of a lady on horseback sitting on the wrong side of the horse. Now these three instances of left-handed pictures were drawn so that they looked right on the block or plate, but, of course, when the printing was done, it reversed it, and made the right-handed drawing a left-handed picture in print. The common reader may not be aware that the faces of types and of engravings are made backward, but come right when impressed on the paper. In all the pictures we have seen representing the woodman, we have never seen an axe properly drawn. It looks more like a butcher's meat-cleaver; sometimes it looks like a broad-faced hatchet or ancient battle-axe without any head to it.

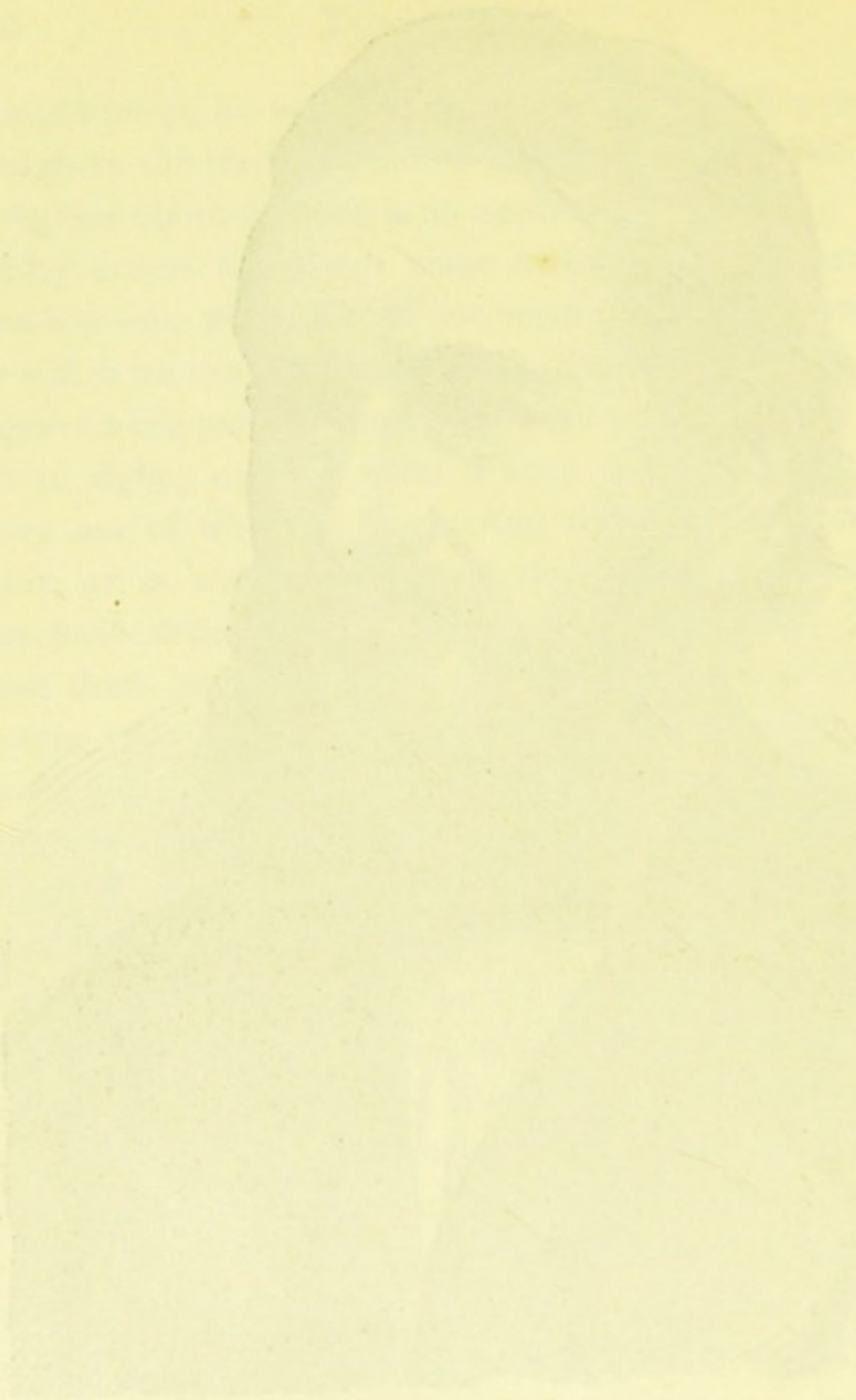
There is in market a very large, elaborate, and expensive picture. It is a plowing scene. The field of ground which is unplowed, and a part of it which is plowed, together with a plow in its furrow, are properly represented; but the "near" ox, which ought to be on the unplowed ground, is traveling in the furrow, and the "off" ox, which ought to be in the last furrow, is crowded away upon the plowed field some two or three furrows



LOUIS PRANG,

THE CHROMO-LITHOGRAPH PUBLISHER.

This pleasant face will be welcome wherever his beautiful colored prints have gone to decorate American homes. He learned wood engraving, and afterward engaged in lithography. The "Group of Chickens," "Reading Madonna," "White Mountains," "Sunlight in Winter," "Easter Morning," "Family Scene in Pompeii," "The Yosemite Valley," are among the best known of his chromos. He was born in Breslau, Prussia, March 12, 1824.



from where he should be. In this case, the plow, though drawn very directly between the oxen, is cutting its furrow quite on the left side of the left-hand ox, and, if we mistake not (as we have not seen the picture recently, for it gave us such a back-ache that we have since studiously avoided it), the driver is walking in the plowed portion of the field, at the off side of the team, where we never saw the driver of an ox-team walk. It is, however, a common error in pictures to put the driver of oxen on the "off" side of his team, and we presume such an instance in practice can not be found from one end of the country to the other, except, perhaps, with road-makers, who might sometimes find it convenient to have the team at their left hand. We have seen one or two engravings of milkmaids on the proper side of the cow, but where we have seen one such, we have seen ten representing the milker on the wrong side. Artists who undertake to represent horses pulling, or in harness, farmers mowing, blacksmiths hammering, horseback riding, or plowing scenes, would do well to observe these common facts of every-day life, and try to see them as they exist in practice; in other words, use common sense with their artistic talent. It certainly would look queer to put the head of an ox on the body of a horse, or the tail of a horse on the body of an ox, in art; but it would be no more untrue to nature and to reality than it is to put to an overloaded wagon a train of horses in the attitude of rapid progress, pulling with all their might, with their draw-chains hanging from one end of the team to the other *in easy festoons of slackness.*

We have heard the story of a painter who was employed

to paint a ship. When he came to the anchor, he inquired of the captain what color he should make it. The captain replied, "Paint it whatever color you please." Instead of painting it black, as iron in such form usually is, he painted and grained it the color of pine wood, but it looked so incongruous the captain ordered it painted black, lest, when thrown overboard, it should refuse to sink.

Artists rarely or never represent correctly an overshot mill wheel. Instead of the water falling quietly into the buckets in a smooth stream, and settling into the buckets nearly out of sight, and being thus carried toward the bottom of the wheel before emptying, the stream is erroneously represented as running right over the buckets in an unbroken current, and leaving the wheel in the same continuous manner, precisely as it would if the wheel stood still and had no buckets at all. One good look at such a wheel when in motion would instantly show the fallacy of such a representation.

Cart wheels which are made of sections or felloes are represented usually without any regard to where the joints of the rim are placed, and they are often shown as occurring at the entrance of the spokes, when they ought to be at equal distances from the spokes. An artist had finished a rural picture representing a litter of pigs, with their mother, eating at a trough. They were faultlessly drawn and colored. Every anatomical and physiological peculiarity of each pig was nicely observed in the treatment; they stood in a handsome row, trim and orderly, but he had left the pig *character* entirely out of the picture. An Irish farm laborer happening to be present, the artist, feel

ing confident he would appreciate the picture, asked him what he thought of it.

He instantly replied, "Faix, it's a purty nice picture, sir; but who iver saw siven pigs atin' pacibly wid niver a fut in the trough?"

TEACHERS AND TEACHING.

It is thought by some people, especially those who have but little education, and are obliged to work at some laborious calling, that all the professions are very easy; and they often say that the lawyer, the minister, the teacher, the physician earn their money with little or no labor. Such persons seem to think that the man who does not raise a bushel of corn, make a horseshoe, or work up trees into cordwood or lumber, is not a producer, and therefore is a pensioner upon the bounty and leniency of the world. We hold that the thinker, the brain laborer, and especially the teacher who instructs the young in all that pertains to literature and science, is as really a producer as he who uses his knowledge toward the accomplishment of business purposes. The teacher who instructs the pupil how to keep accounts, and qualifies him for commerce, banking, and other business, contributes as essentially to the acquisition of property as he does who keeps the accounts, plans the business, and works out the results. One might say that the grindstone is not a producer because it never cuts down trees, or hews timber, or mows grass, or planes boards; but the axe, the scythe, and the plane are useless without the sharp edge which the grindstone imparts. So

the human mind sent out into life without the sharpening influence of education can not with facility hew its way to success. Let the teacher then feel that he is the main spoke in the wheel of the world's success, and while doing his duty faithfully and nobly, let him stand erect as one of the world's noblemen.

SOUND CONSTITUTION AND HEALTH.

But what does the teacher require? mentally and physically, what should he have? First, an elastic and energetic constitution, with a predominance of the Mental and Motive temperaments, which give activity and compactness to the mind, strength and earnestness to the character. He also needs health, and the ample physical exercise which promotes health. A sickly, dyspeptic, nervous, half-dead man has no more business in the school-room, as a teacher, than a crippled horse has on the race-course, or a half-wrecked leaky ship has to go forth upon the ocean. The teacher requires a large and active brain, with a decided predominance of the perceptive intellect; the lower part of his forehead should be amply developed. These faculties enable him to acquire knowledge. He should also be full through the middle portion of the forehead, where the organs of memory are located, that he may treasure up and hold in reserve the knowledge which he wishes to retain. The teacher should have large Language, that he may be able to explain easily and fully that which he knows and is engaged in teaching. He should also have strong reasoning faculties, so that he can answer the questions of inquisitive pupils; that he may see the bent



THOMAS S. HUNT, F.R.S.,

EMINENT SCIENTIST AND WRITER.

Thomas S. Hunt, whose reputation as a chemist, mineralogist and geologist, and lucid teacher of these subjects, extends beyond the bounds of his own country, was born in Norwich, Conn., September 5, 1826- proposed to be a physician—but, having a stronger liking for chemistry, became in 1845 a student of Professor Silliman at Yale. In 1847 he was appointed Chemist and Mineralogist to the Geological Survey of Canada, a post which he held over twenty-five years, which he left in 1872 to accept the Chair of Geology at Boston in the Institute of Technology. He became a critic of Liebig and others, developed a system of his own, which is now recognized as the basis of modern chemical theory. Mr. Hunt has published in the *American Journal of Science* more than one hundred scientific papers. He has been honored with the degree of M.A. from Harvard, and the degrees of LL.D. and Sc.D. from the Universities of Montreal and Quebec, the French order of the Legion of Honor, membership of Scientific Societies in France, Dublin, Germany, and Royal Society of London. His is the head of a teacher and scholar, par excellence.

and bearing of his instructions, and be able to explain the philosophy of any point involved in his subjects of instruction. His back-head should also be amply developed, to give him strong social feeling. He should love children; and also be loving and fraternal. He should have Continuity, to enable him to exercise patience in the monotony which is more or less incident to teaching; but not so much as to make him prosy and oblivious to everything but the special point in question, because there is a great deal of variety necessarily connected with the vocation of teaching, and the mind must sometimes rapidly go from one subject to another. His Self-Esteem should be rather large, which will give him dignity and ease and weight of character, and enable him so to carry himself in the presence of his pupils as to command their respect, and thereby secure obedience without fret or friction.

STRONG MORAL SENTIMENTS.

He should have large Conscientiousness, that he may be just to all, and to himself; for nothing so undermines the authority or proper influence of the teacher as the exhibition of partiality, favoritism, or injustice in any form in the school. Large Veneration and Benevolence are useful everywhere, but especially should a teacher be respectful and impress upon his pupils a consciousness that there is a higher Power, and that reverence for authority is a virtue. If he have good Constructiveness and Ideality, he will be ingenious in his method of conducting the instruction of his classes; and with large Comparison, he will be enabled to make apt illustrations and thus elucidate

and enforce dry and uninteresting subjects of study. A full share of Cautiousness and Secretiveness is also requisite, for these give a man control of his feelings and expressions.

STEADY AND EQUABLE TEMPER.

A teacher should never show himself out of temper unless he wishes to create a Babel in his school-room, yet his Combativeness and Destructiveness should be fully developed; for he who is destitute of these will be soon understood by mischievous urchins who read mind better than we sometimes suppose, and will instantly take advantage of any weakness or defect of the teacher. The faculties of Combativeness and Destructiveness in human character impress boys as distinctly as large horns on the head of an ox impress his associates with a feeling of respect for him. Neither force of character in man nor the horns of the ox need be strikingly used, but it is best that they be possessed and their normal influence felt. The teacher should aim to cultivate a kindly tone of voice. If he have a harsh one, he should school himself into a modulated expression of it, and his whole manner should be such as to inspire respect mingled with a trace of fear. It is well, generally, for a teacher to speak in a low tone of voice, never raising it above the common conversational key. Scolding, sharpness, and loudness of voice are found rarely in conjunction with good order and good government in a a school or elsewhere. A teacher organized thus, and well instructed in all the branches he is expected to teach, will never be suspected by his pupils of any want of information or ability to instruct them.

A teacher with small perceptives, a poor memory, and a sluggish temperament will hesitate when pupils ask questions for information, and they will readily conclude he does not know his subjects well, and thus they will come to distrust and disrespect him. The teacher who has his knowledge at his tongue's end, and his answers ready as soon as questions are propounded, will be considered an oracle of knowledge. We know a lady teacher of Greek who never opens a book during lengthy recitations. She knows the whole text book "by heart," and her pupils have the highest respect for her rendering of the lesson, and for her as a teacher. If, like most teachers, she had to hold the book and labor and hesitate over the lessons, pupils would begin to argue and offer adverse opinions.

It will thus be seen that a teacher needs an excellent organization, mental and physical; that he needs all the Christian graces carried in a spirit of wisdom. How many teachers in a hundred would meet these requisitions! how many are there who fall below them who might greatly improve! and, from having indifferent success, might triumph, and become not only exceedingly useful, but highly esteemed, popular, and happy, as well as successful in a pecuniary sense.

EDITORSHIP.

The question is frequently asked, "What abilities should be possessed, and what books should be studied, to enable one to become a first-class composer and correspondent for a daily or weekly journal?"

To be a first-class editor or correspondent, one ought to know as much of the subject-matter on which he writes as can be known; certainly he ought to know more respecting it than those who read his articles.

NATURAL QUALIFICATIONS.

We may therefore say that an editor ought to have a comprehensive intellect, which signifies, first, a large development of the perceptive organs, which give prominence to the brow and lower part of the forehead. These faculties enable their possessor to gather knowledge rapidly and accurately; to see all that is going on, and to appreciate whatever is related. They give also the basis of scientific information or power to acquire the necessary knowledge for scientific subjects, that he may be intelligent in that direction. These faculties also enable one to acquire knowledge from books and retain it.

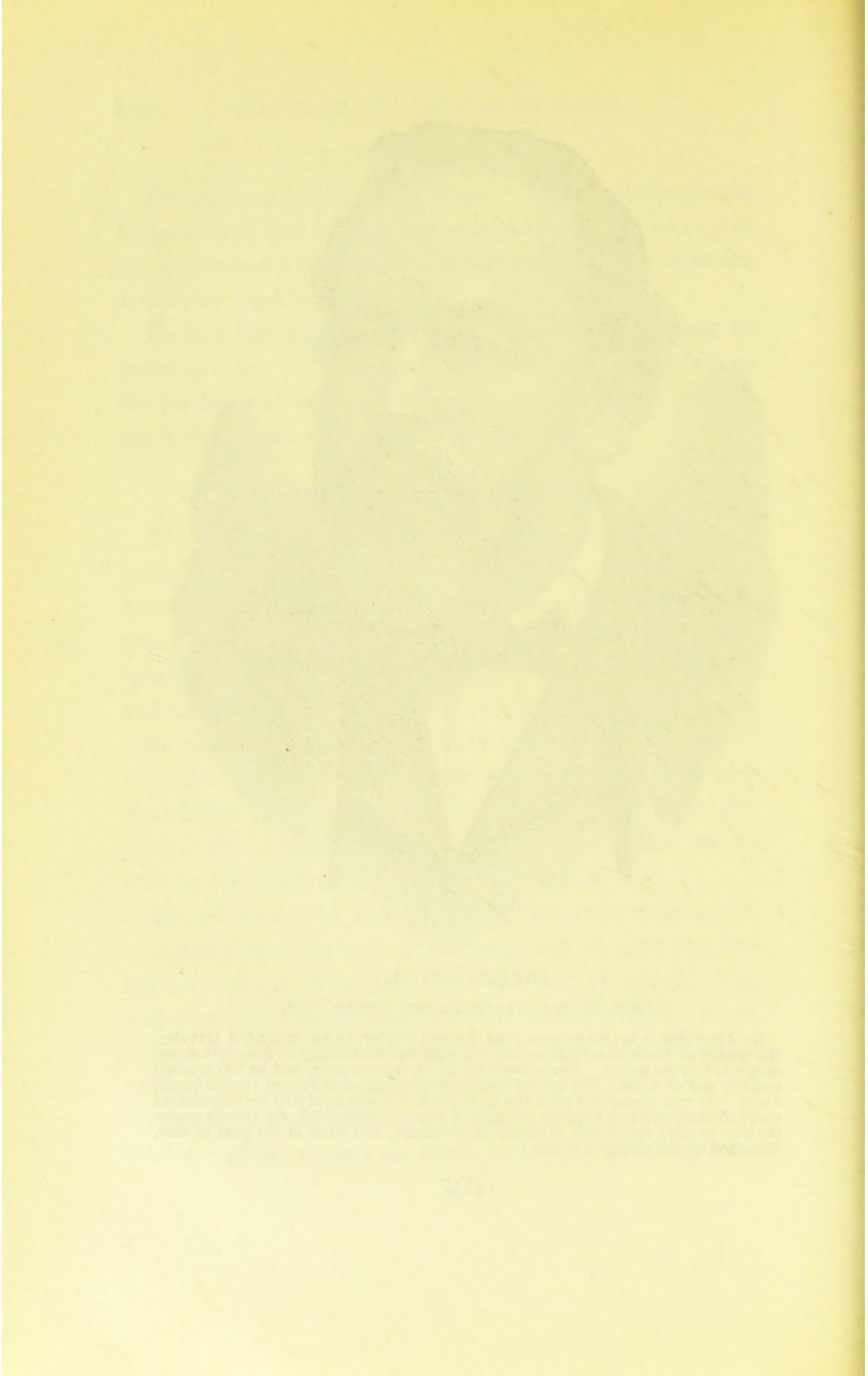
The editor should have, secondly, the reasoning or philosophical faculties well developed, that he may comprehend the logic of subjects and the law of things. The majority of American editors will be found with the lower half of the forehead more amply developed than the upper half. They are fact-gatherers rather than thinkers; and the result of their labor is very apt to contain much crude matter. Many editors are much more like the farm-rake,



BAYARD TAYLOR,

POET, EDITOR, TRAVELER, AND DIPLOMATIST.

No American is better known than Bayard Taylor, as an extended traveler. His power of close observation and his marvellous facility of description are surpassed by no writer. Every word he wrote seemed true, and he left himself entirely out of view. His poetry was easy, graceful, and full of tender moral force. He was connected with the New York *Tribune* as stated correspondent when abroad, and as a member of the staff when in New York, for twenty years. He was in 1878 appointed Minister to Germany, and died at his post in 1880, lamented by the civilized world.



which gathers up wheat and tares, hay, thistles, and thorns together, than like the winnowing mill, which separates the chaff from the wheat. As evidence that the generality of editors are mere observers and not deep thinkers, it may be remarked that if one of the editorial fraternity happens to possess large reasoning organs, and ventures to reach forward in the realm of ideas much in advance of his age, he is laughed at through many of the newspapers as being a "philosopher," a "dreamer," a "speculative theorist." If all editors and newspaper writers had large Causality and Comparison, they would not jeer and laugh at a man who was inclined to originality of mind, and boldly struck out into the untrodden realms of thought.

REVIEW EDITOR.

In one aspect of the subject, the editor is required to be merely an arranger of the matter produced by others—a digester, a critic, a compiler. One who edits a great Review is not expected, for he has not the time, and probably not the varied learning and information necessary, to write well upon all subjects which go to make up the contents of the Review. One man has spent his life in the field of chemistry, another in mining, another in metaphysics, another in mechanics, another in medicine, another in agriculture, another in political economy; and these several subjects can be presented by those who have made them a specialty, respectively, more clearly and forcibly than any one man can be expected to do. But an editor of such a Review ought to have a first-class head and generous culture, so that he may estimate the labors

of these special coadjutors; otherwise, if he were acting as a mere bricklayer, putting in place the productions of others, he would be likely to give to the world a good deal of crude matter.

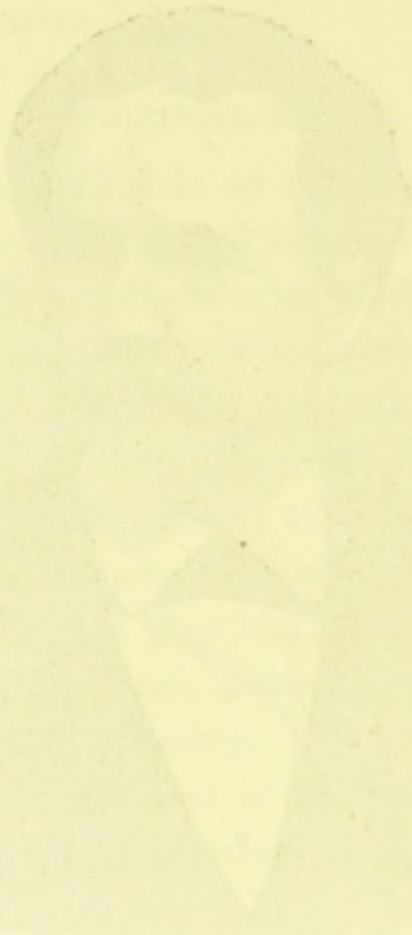
POLITICAL EDITOR.

A political editor needs an excellent memory to hold the general knowledge which is requisite to the editorial profession, that he may remember the history of politicians and legislators, the history of nations, of science, of literature and law, and also that he may remember what he himself has said and done years before. An editor should be able to carry in his memory all that he has ever written and published, so that he shall be consistent, and that one year's experience shall give him light for the next year's labor. But we would not make a man a slave to the past through a retentive memory. We would have him open to progress, to improvement, to new truths, and to reforms; but we would have his memory sufficiently tenacious not to forget the pit from which he had been digged—the old errors and ignorances in which he had at some time floundered. We have known reformers who forgot the ignorance and weakness from which they had emerged, and who seemed to delight in charging with wickedness and folly those who occupied the same position which, but a few years before, they had left. This is as ridiculous as it is for a man who, by accident or energy, has made himself rich, and then turns around and abuses and denounces "poor people" because they are poor. It is both ridiculous and pitiable to read the editorials of some newspapers;



GENERAL JOSEPH R. HAWLEY,

Born in North Carolina, October 31, 1826, removed to Connecticut in 1837, graduated at Hamilton College in 1847, studied law and settled in Hartford, Conn. In 1861 he headed the list as the first volunteer in Connecticut, served through the war with distinction, and returned as a General. Elected Governor in 1866; was twice elected President of the Centennial Commission, and to his energy, tact, and judgment is largely due the success of that great exhibition. In 1881 elected to the Senate of the United States.



to see how to-day subjects and persons will be petted and praised who, five years ago, were vilified and denounced. A better memory of the past should serve to correct such folly in the present. Besides, an editor needs conscience in strong measure. He wields a wondrous power, and can be a tyrant if he is so disposed. An editor who lacks conscience, and has excessive selfishness and severity, can slaughter reputation, can plant thorns in the pillow of innocence without incurring legal penalty, and without the power of undoing his own mischief. An editor, therefore, should be truthful, just, upright; he should have large Benevolence, so as to be tender of other people's feelings and interests.

MORAL COURAGE REQUIRED.

An editor should also have courage—no position needs greater; having a selfish world to deal with, he should be willing to utter the truth when justice demands that an unpleasant truth be spoken, and then to back it up. A want of courage in an editor is as bad as a lack of courage in a soldier; for while cowardice or treason in a soldier may cause the loss of a battle, a lack of courage or conscience in an editor may poison the public morals, and, perhaps, contribute to the loss of a battle as well. An editor should have large Language, that he may write with ease and facility; he should have good taste, that his style may be smooth and elegant, and that his writings shall not offend the tastes of his readers. We would not give him excessive Benevolence and Ideality; while lack of Combativeness, Firmness, and Self-Esteem renders the editor pusillanimous, and leads him to soften the truth

until its very back-bone is withdrawn; but there is such a thing as manly courage, unyielding determination, serene dignity, and unflinching justice, combined with kindness, affection, and proper consideration for the rights, prejudices, and even the ignorance of others.

Men of power should carry that power gently; one does not lose his vantage ground, who really possesses it, by trying a gentle method of accomplishing results. He who has a hundred cannon at his back can afford to be polite to an opponent, and request the favor of a compliance with his wishes. A general who is capable of backing up his demands, need not insult a foe when he requests his surrender. An editor who has the best of a controversy loses nothing by being modest; he who has a clincher for an argument can afford to suggest it, instead of rudely cramming it down his opponent's throat.

PRUDENCE AND POLICY.

An editor also needs large Cautiousness and Secretiveness, so that he shall not rashly adopt any course, or imprudently lead others into wrong by the expression of undigested opinions. There is quite as much wisdom in the silence which large Secretiveness imposes as there is in dashing courage which large Combativeness inspires; but with large Benevolence and strong social affection, the editor will be inspired by general good-will to the weak and the wicked, as well as to the good and the noble. This good-will will give him a tendency to put the best face on everything; to remember that the accused may have a good defense; that there is generally another side

to every bad story. A rash, unkindly man, as editor, will hunt the accused before he has time to enter his plea of "not guilty," or to "put himself upon his country" for defense.

As to the works which should be studied to aid one to become a first-class writer, we may say what we have often said to persons who were receiving private phrenological examinations at our hands, viz., that an editor, a lawyer, or a minister should know everything that can be known, in order to completely fulfill the duties of their respective offices. All literature, all science, all history will aid the editor, and the more he can have of general culture the better.

NECESSARY EDUCATION.

In the first place, he should be a good English scholar or a master of his mother tongue, whatever that may be; if he can have classical learning, all the better. He should be well read in the history of nations, and especially in the history of individuals; for if such history be properly written, it will open the character, and motive, and purpose, and effort of historical persons, as well as reveal the result.

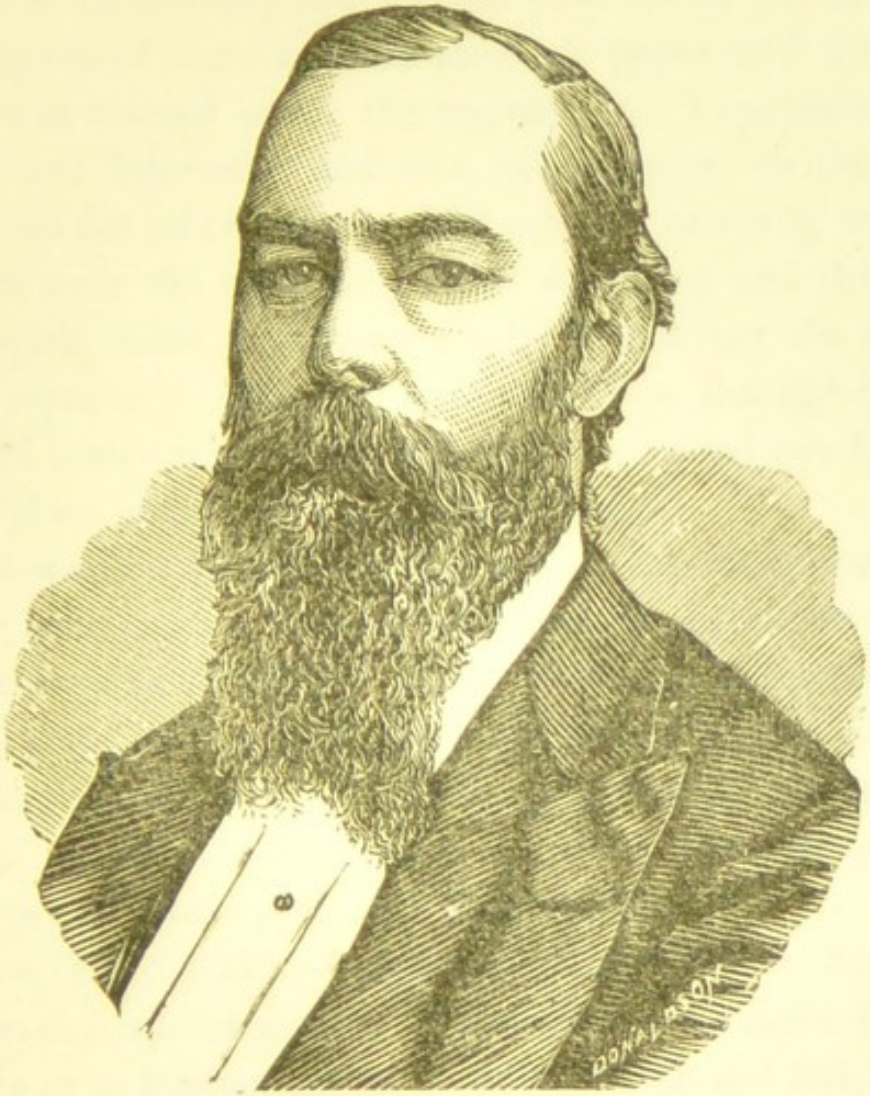
The editor should understand human nature physiologically, phrenologically, and theologically. It is not enough that he should study external things; he should study men, mind, the inner life of humanity, that he may know to whom he is talking, as well as what he is talking about.

Moreover, and finally, an editor should be imbued with a religious spirit, that he may ever remember that the noise and bustle, the excitements and strifes of to-day are

of less consequence than those subjects which, while they have their roots in time, have the life to come for their complete development. An irreligious witticism may raise a laugh and give its author a momentary popularity, but that witticism may sting the heart of innocence; may blunt the moral susceptibility of some weak brother who would otherwise lead a virtuous life. For if the editor be endowed with sufficient wisdom to do his intellectual labor well, and a sufficient amount of moral and religious feeling to desire the greatest good of the greatest number for time and for eternity, he will feel that his publication is like a voice that reaches to the ends of the earth, and not only speaks to the human race of to-day, but that it shall continue to speak when the hand that penned it is still, and it becomes a record for all time. A clergyman may chance to speak to five hundred people, a lecturer to a similar number, but an editor may speak to millions; and his thoughts may be copied for the reading of other millions, besides remaining in print for coming generations to peruse.

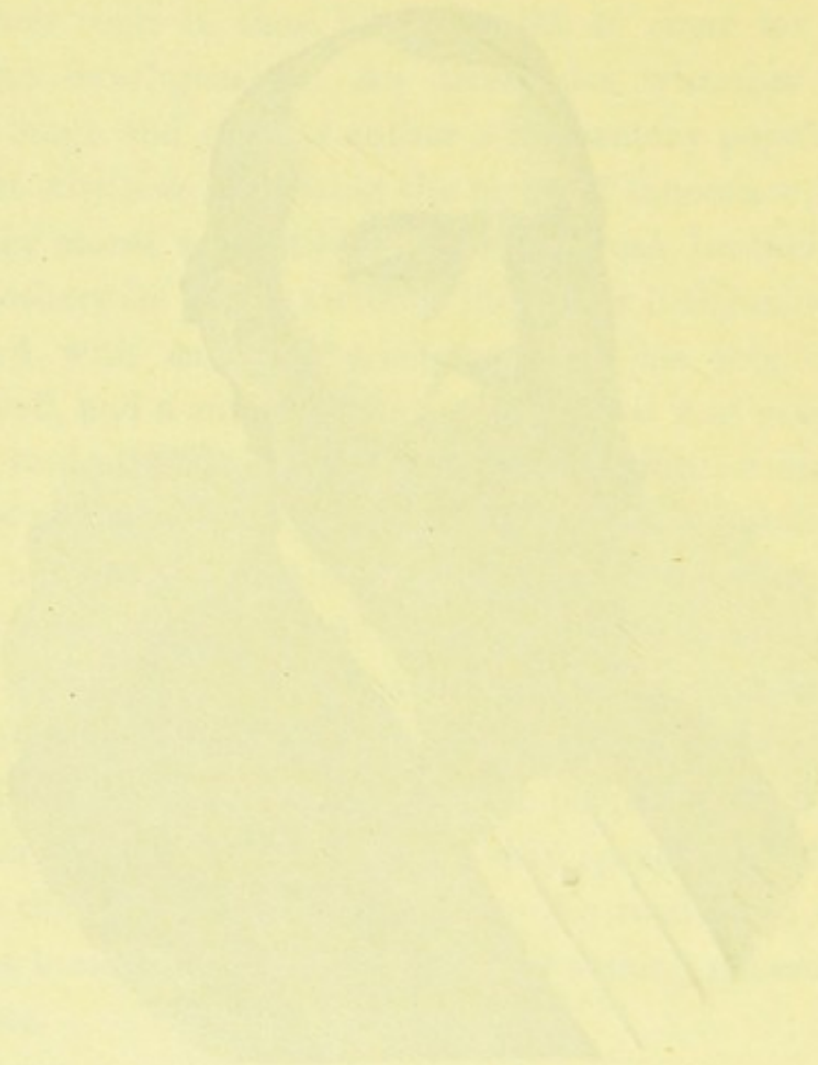
THE REPORTER.

In former ages—indeed, in the early part of our own age—the orator, if he would have his speech read by others, was obliged to write it out, either before it was delivered or from memory afterward. The speech, as written, might be stately and polished, but it lacked that electrical force which the excitement of the moment brings out in extemporaneous utterance. It is interesting to see the difference between a speech that is prepared in ad-



DENNIS F. MURPHY,

The official reporter of the Senate of the United States, was born in the city of Cork, Ireland, on the 7th of February, 1834. He was brought to this country when but one year old, his parents settling in Philadelphia. He completed his education in the Central High School of that city, and upon the introduction of the study of Phonography by Oliver Dyer, into the High School, became one of the members of a class consisting of about 350. In 1848, when not fifteen, he reported the Convention nominating General Taylor for the Presidency. In 1869 Mr. Murphy was made chief of the Senate reporters, and has held that position ever since. He is remarkable for calm, steady strength of character, so essential to health and the best success in that profession.



vance of its delivery and handed over to be put in type for the use of some favorite morning paper, and the real speech as uttered under the impulse and inspiration of a large and interested audience, and reported on the spot *verbatim* for other papers. Though the carefully written speech were the same in general substance and drift, its real spirit could be obtained only by reading the short-hand reporter's version of it as it fell from the lips of the excited orator with all the scintillations called out by the time, place, and incidental circumstances.

The world does not consider, and in the main does not know, how much it is to-day indebted to the reporter for its knowledge of affairs. Fifty years ago Congressional reports, and the reports of all legislative bodies, and of religious conventions, synods, etc., were meagre—mere abstracts; hardly the dry bones, indeed, of the proceedings and speeches were presented to the public.

Now, by the aid of shorthand and its twin brother, telegraphy, speeches made at ten o'clock at night in the Senate or in Parliament are presented fresh and full, in the very words of the speaker, in all the leading papers the next morning. The man intoxicated by passion or by strong drink is reported *verbatim* to his disgusted constituents and an astonished public. Burns uttered the the immortalized words:

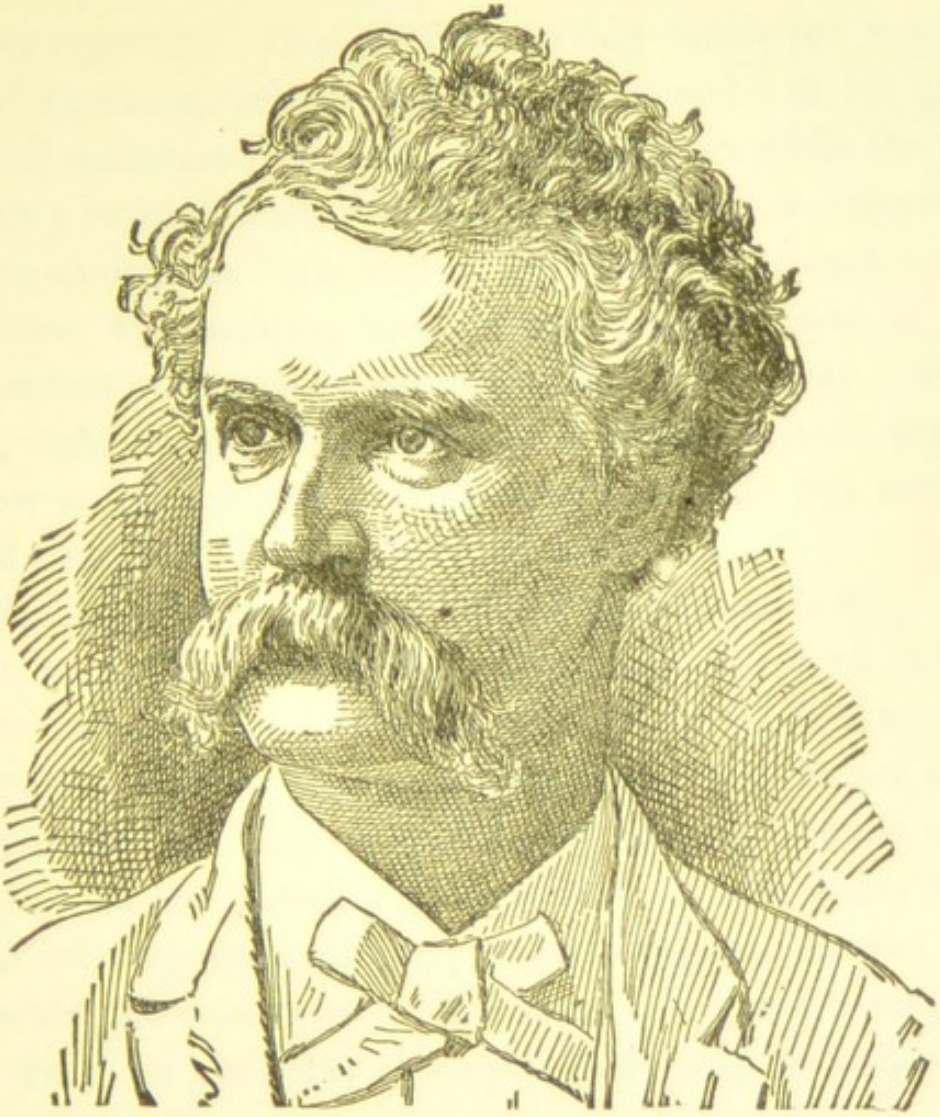
> "O wad some power the giftie gie us,
> To see oursels as ithers see us,
> It wad frae mony a blunder free us,
> And foolish notion;"

but the reporter makes a man's constituents see him as his

colleagues in the legislature and convention are compelled to see him; and though the reporter gives to the world a deal of chaff which is uttered in public assemblies, he gives also, fortunately, the wheat as well. If the public is disgusted by the report of the speech of the Honorable Bombastes Furioso, it is favored with the sound, eloquent, and statesmanlike views of those who do not misrepresent constituencies; thus a man is enabled to have the reputation to which he is entitled. If he be a braggart and a fool, a wise constituency will wisely elect him to stay at home; if he have in him real merit, talent, and worth, the world is made aware of it. The sayings and doings, then, of the world—those that are worth transmitting—are presented to us by the aid of the reporter, telegrapher, and printer, upon our breakfast-tables every morning. This triune fraternity (the most important member of which is the reporter, for how could it be transmitted unless it were reported, or printed except it were reported and transmitted?) deserves well in public esteem.

POPULAR REPORTING.

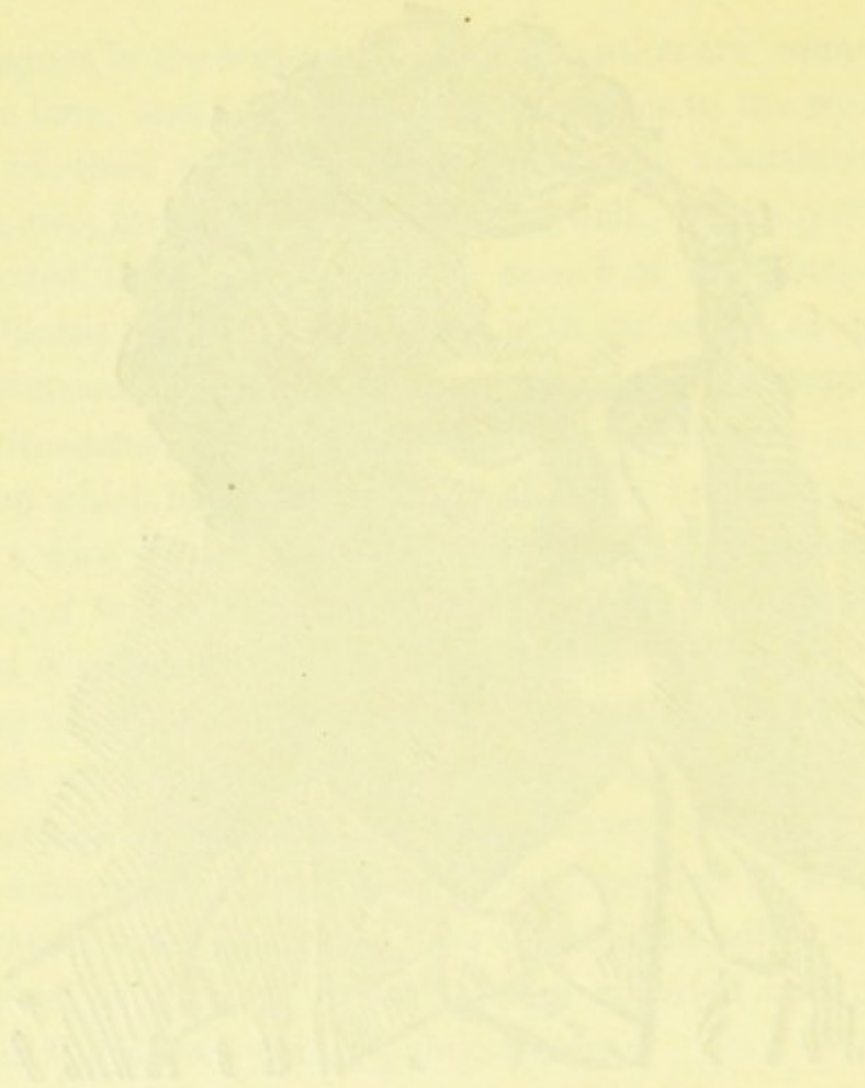
A bustling crowd of people who attend upon legislative debates, courts, or public lectures, and witness the entrance of the modest young men who quietly glide to their places near the speaker's stand, may, if they please, look upon them with indifference; but if they knew their worth, if they considered the service rendered by them to the public, and the elements of reform and progress which grow out of their labor, they would see, as it were, a diamond blazing on the brow of every one of those pale



EDWARD F. UNDERHILL,

REPORTER,

Was born at Wolcott, Wayne Co., N. Y., in 1830; has worked in mercantile establishments, on a farm, and in a woolen factory; in 1847 became a pupil of Theron C. Leland, in stenography. At the age of nineteen, was a reporter on the St. Louis *Republican;* developed a taste for literature, and became a successful humorous writer. Was a member of the Phonetic Council of 1850. In '53, was connected with the New York press; became the *Times'* war correspondent in '61. Since '62 he has been a professional reporter in New York City; drafted the first bill authorizing official stenographers, and so placed the profession on an equal standing with that of law. Is now official stenographer of the Surrogate's Court. He has brilliant talent, and is a most rapid writer, and capable of giving a good dress to speeches which need pruning.



quiet reporters. One of them having taken ten minutes of the great speech, another takes it up, and with his quick pencil continues the report of the discourse, while the first quietly retiring hurries to the printing-office or telegraph-office to copy and transmit his portion of the speech to the waiting type-setters; and in like manner eight or ten reporters in succession may carry their part away. Four, six, eight, or more long columns of closely printed matter show at daylight the next morning the result but not the real magnitude of the reporter's labor.

This is only an outward view of the reporter's life. The last one in the line may get the close of the speech at half-past ten; two hours may be required to reach the printing-office and copy out his report, and two hours more before he can inspect the proof; and at two or three o'clock in the morning he is permitted with weary body and burning brain to hurry home to repose. At ten next morning he repairs to the newspaper office, and is assigned to duty for that day or night. This may be called the simplicity of reporting.

LEGAL REPORTING.

If the reporter be engaged in Court, all the questions and answers of counsel and witnesses, all the remarks of the judges, all the conflicts of counsel must generally be taken *verbatim*. Formerly it was a slow process to take testimony, when the attorneys themselves must write down every word in longhand; but now the court proceedings march onward as if no delay were needed, for the nimble fingers of the quick-eared "stenographer" get

every word, so that he can swear to it if necessary Imagine a noisy session of a legislative body; appeals to the chair and calls to order are being thrust in, and there is the struggle of the member who has the floor, or thinks he has it, to inflict his heavy speech upon unwilling ears, etc. The reporter, one would suppose, needs more than his single set of senses to get all that is said, to know who says it, the order in which it occurs, and have it put down correctly in black and white.

OFFICE REPORTING.

Another kind of reporting is that which is done in an office such as a phrenological cabinet, where "character" from dictation is taken down at length and carefully copied out in longhand. Lawyers also employ reporters in their offices, to whom they dictate letters, contracts, depositions, and other legal documents. Commerce is having its eyes opened, and is employing shorthand writers to take dictations of letters and other business matters which are written. Sometimes seventy letters in a day are dictated to a shorthand writer, the phonographic notes being all the copy that is needed; thus a man who understands the intricacies of important business can talk to his customers as if they were present; and a young man or a young woman just out of school can take these dictations and give a fair copy to be sent by post. Thus an important man can virtually do in an hour's time as much letter-writing as he could accomplish by working hard all day. This saves his time, besides making the letter more mellow and fresh than a hurried business man can afford the time

and patience to make it with his own hand. Instead of the hard, stereotyped phrase, "Yours received, contents noted," he can, through a reporter, be as pliant, polite, and extended in his communication as he would be if he had only three letters a day to write. It may be affirmed that literary labor in general might be lessened three-fourths or seventy-five per cent. by the aid of shorthand writers.

HOW TO SAVE CLERGYMEN.

Clergymen are learning that having read and imbued themselves with the subject-matter of a sermon, one can, some bright morning, when the mind is strong, sharp, and vigorous, dictate a sermon in the quiet of his study, and do as much in an hour as he would be able to do in two or three days of hard labor. Having thus discharged his mind of his subject, he can ride, visit, work in his garden, recreate or rest, and thus maintain his health, and do a world of good to himself, his family, and his parishioners. The next morning, when his mind is again clear and fresh, his amanuensis lays before him a fair copy of his yesterday morning's dictation, or reads it to him, and he may erase or interline, or, having his amanuensis at hand, he can add by dictation a page here and there, to round out the subject and embellish his thought. The next morning a handsome copy of his amended dictation is ready for use in the pulpit. He may then dictate another discourse, and his week's labor, so far as the drudgery of sermon-writing is concerned, is done. It is safe to say that with a little practice a clergyman could do in one day's work all the labor required to write in full two sermons; and we ven

ture the assertion that a year's practice in this way would place a man in such relations to sermon-writing that he could produce results better by fifty per cent. than would be possible in the weary, nerve-wearing process of long-hand writing. When the mind is on fire with a theme, how it burns out the life to hold that burning thought till the slow hand can copy it! It is this that kills the sermon-writer. If the hot thought could be uttered as it would be in extemporaneous discourse, and the nimble fingers of the amanuensis could receive it and record it, and then at his leisure write it out, the minister would save his health with which to back up talent, and do double the work, and acquire twice the reputation, and live usefully twice as long, as by the old method. There is no more reason why the architect of a poem, an oration, or a sermon should submit to the tediousness of copying out his composition, than that the architect of a bridge or a church should be obliged, after the plans are drawn, to do all the work with his own hands. The architect sketches, while the laborers execute, and thus his brain furnishes work for a hundred hands.

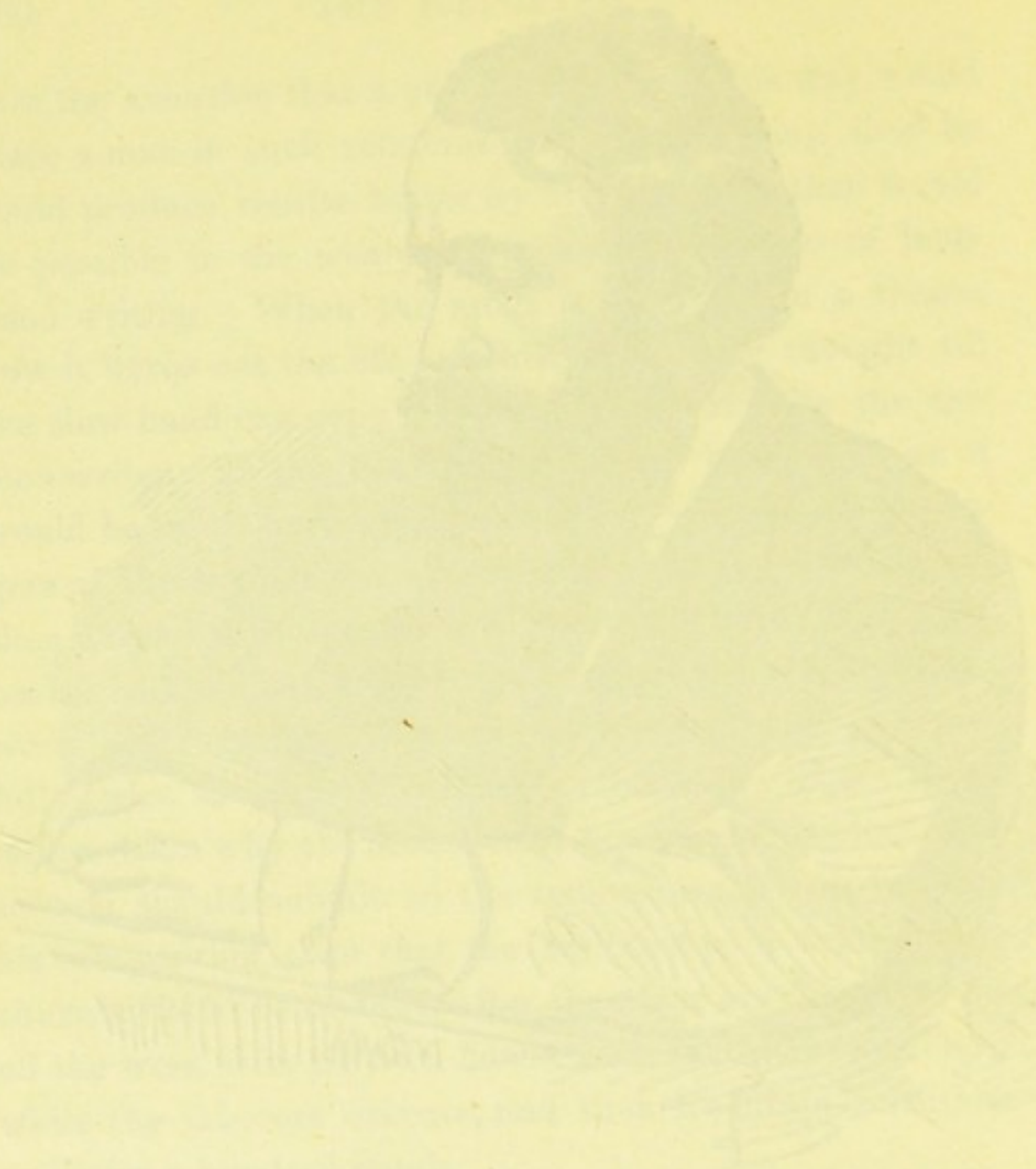
TALENTS REQUIRED.

Well, what of reporters? the talents required, and the prospect of advancement presented? We have considered already the value of reporting, and the questions come up, what talent is required? what culture? and what opening is made for success and achievement to the reporter himself? We may remark, first, that the more talent and culture the reporter has, the better. Charles



THOMAS ALLEN REED,

Reporter, of London, was born at Watchet, Somersetshire, England, April 6, 1825. Was an inveterate reader, and ambitious student, which led him to a knowledge of shorthand, and he learned Lewis's System, and attempted to report by it when but thirteen years of age. At this time, learning that phonography was a better method, he abandoned the old system and mastered the new. Mr. Reed is the most eminent reporter in Europe. He has averaged a speed of 185 words per minute on a test of several hours' writing. Is author of "The Reporter's Guide," "The Phonographic Gradus," "Pitfalls," and 'Leaves from my Note-Book." "*The Phonographic Reporter*," a monthly periodica., is lithographed entirely in Mr. Reed's style.



Dickens was a reporter for a newspaper, and for many years had his seat in the reporters' gallery of the British House of Commons. Starting with excellent ability and with only fair scholastic culture, he not only became a capital reporter, but grew out of mere reporting to be one of the first novel-writers of the world. He won fame and fortune. Fair success, however, may be obtained by a young man of average ability and good English education.

It may not be news to readers to say that some sensible and effective speakers are not good scholars; their speeches are ungrammatical, and, in this respect, need working into shape by the reporter; therefore he should be a good grammarian, a good speller, and a clear, rapid penmen. He ought to have an excellent memory, so as to forget nothing he learns. He should have large perceptive organs, to make his mind quick and sharp. He should have keen hearing, and a quick eye, and a wide-awake temperament—not too nervous—so that he may be on the alert to hear, and quick of hand to write.

EXPERIENCE WITH BEGINNERS.

In the Phrenological Office of Fowler & Wells the writer has trained over fifty young phonographers, and, if we may use the term, they have *graduated*, some at the end of one year, some at the end of five, from that establishment, competent reporters to take positions in the gallery of Congress, in courts, State Legislatures, or as amanuenses for clergymen, lawyers, physicians, literary men, generals, or members of the President's Cabinet, or the heads of State departments. At one time the United

States Chief Justice, the Secretary of State, the Secretary of the Treasury, besides the Governors of several States, and several eminent mercantile firms, employed reporters who commenced with us or have been employed by us at some time.

It gives us pleasure also to mention that Mr. T. J. Ellinwood—the reporter of Mr. Beecher's sermons, a task most difficult, yet most successfully performed by him continuously since 1858—was formerly a reporter in our office: and another, William Anderson, one of the first reporters in New York in a court of justice, and connected many years with one of the leading journals of New York as reporter; Samuel Barrow, employed by the Secretary of State; Edward Hayes, in the Treasury Department; Rollin Steward, by the Governor of North Carolina; George R. Bishop, with an eminent law firm, as a general law reporter, in New York; Edmund T. Davis, in a similar capacity, commenced with us. Some of the students have studied for other professions, using reporting as a channel through which to enter them. One is a clergyman; one a tutor in the law school at Yale, Prof. Johnson T. Platt; another, C. J. Hambleton, is a lawyer in Chicago; Sherburne Burnham, also in Chicago, is the official State reporter; James Andem, confidential secretary to a public man, and Dr. Edwin S. Belden, of California, began with us. Two are employed in insurance offices in Hartford, Conn., at handsome salaries; few clergyman, indeed, are better paid, even in cities. When it is remembered that phonography was the door through which all these young men have secured position and success, most of whom started with us at

small salaries because they were beginners, it must be admitted that we have been exceedingly fortunate in the timber we have had to deal with, and that phonography furnishes not only an excellent profession for the right kind of person, but that it is a stepping-stone to eminent position.

DESIRABLE QUALITIES.

To be a good phonographer, there are required in the person close attention, quickness of apprehension, faithfulness, integrity, rapidity, and, as we have said, a fair education. If a reporter be favored with high culture, brilliant talent, and constitutional vigor, he may ultimately become in legislation or law a speech-maker instead of a speech-reporter.

It is rather remarkable that so many of the young men who have gone out from us into the various exciting positions of reportorial life have been so correct in their habits, so upright in morals, as to become an honor to their friends and to those who have been instrumental in their entrance upon public life. With scarce an exception, we could mention the names of all our reporters with pleasure, pride, and affection. They have done nobly; they have succeeded admirably; they are reaping their reward.

TIME AND STUDY REQUIRED.

It may be asked, How long a time, and how much study is required for a person of the right talent to become a reporter? We think two hours a day for one year, with perhaps ten dollars' worth of instruction, would qualify a man to begin with a salary sufficient to support him in a

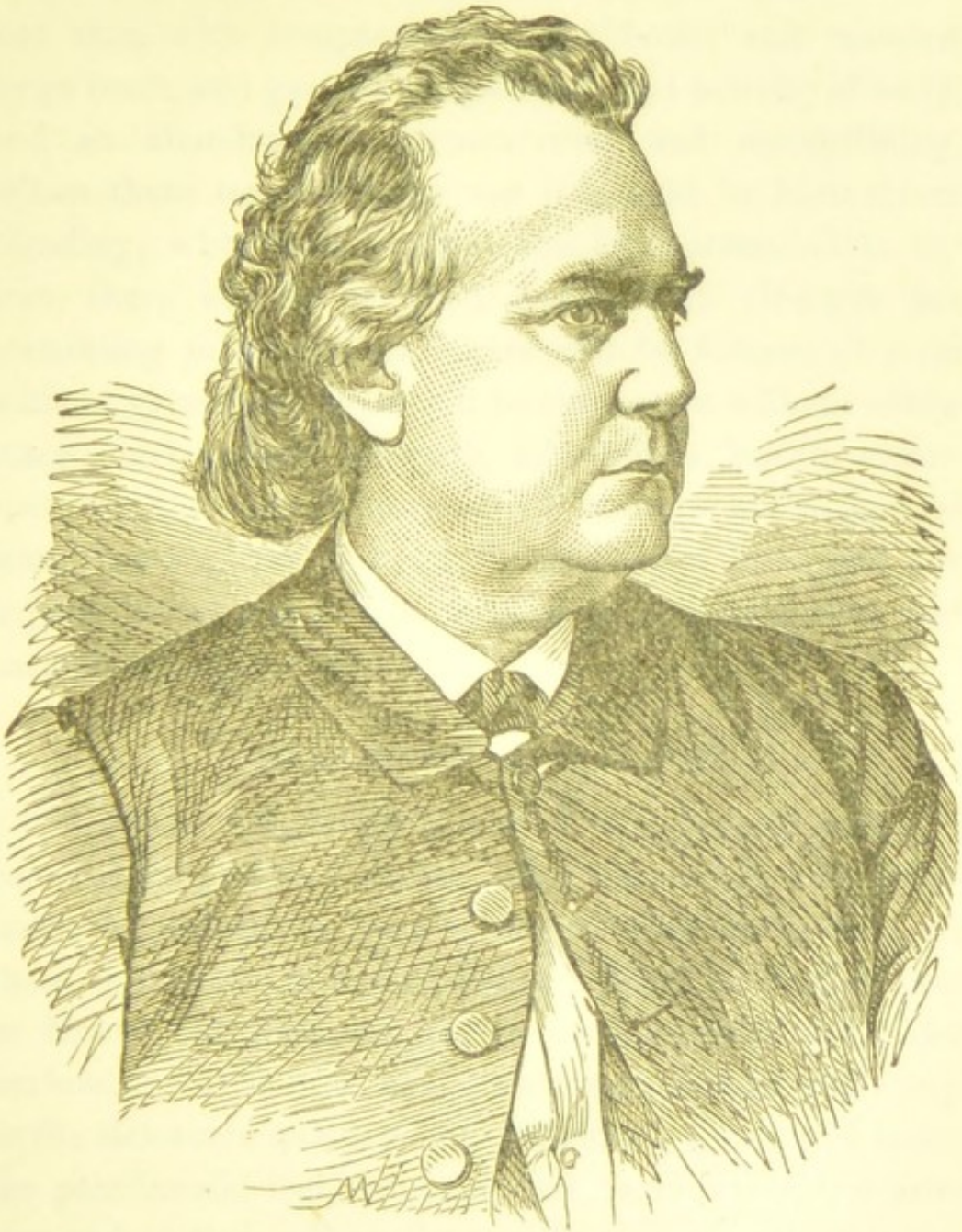
plain, temperate way. Once started, time and practice will do the rest, and he will rise with a rapidity proportioned to his skill. It is a better business than teaching, so far as pay is concerned; and with the same culture to start with it opens a far wider field for mental growth and manly development.

THE PHYSICIAN.

PHYSICAL QUALITIES.

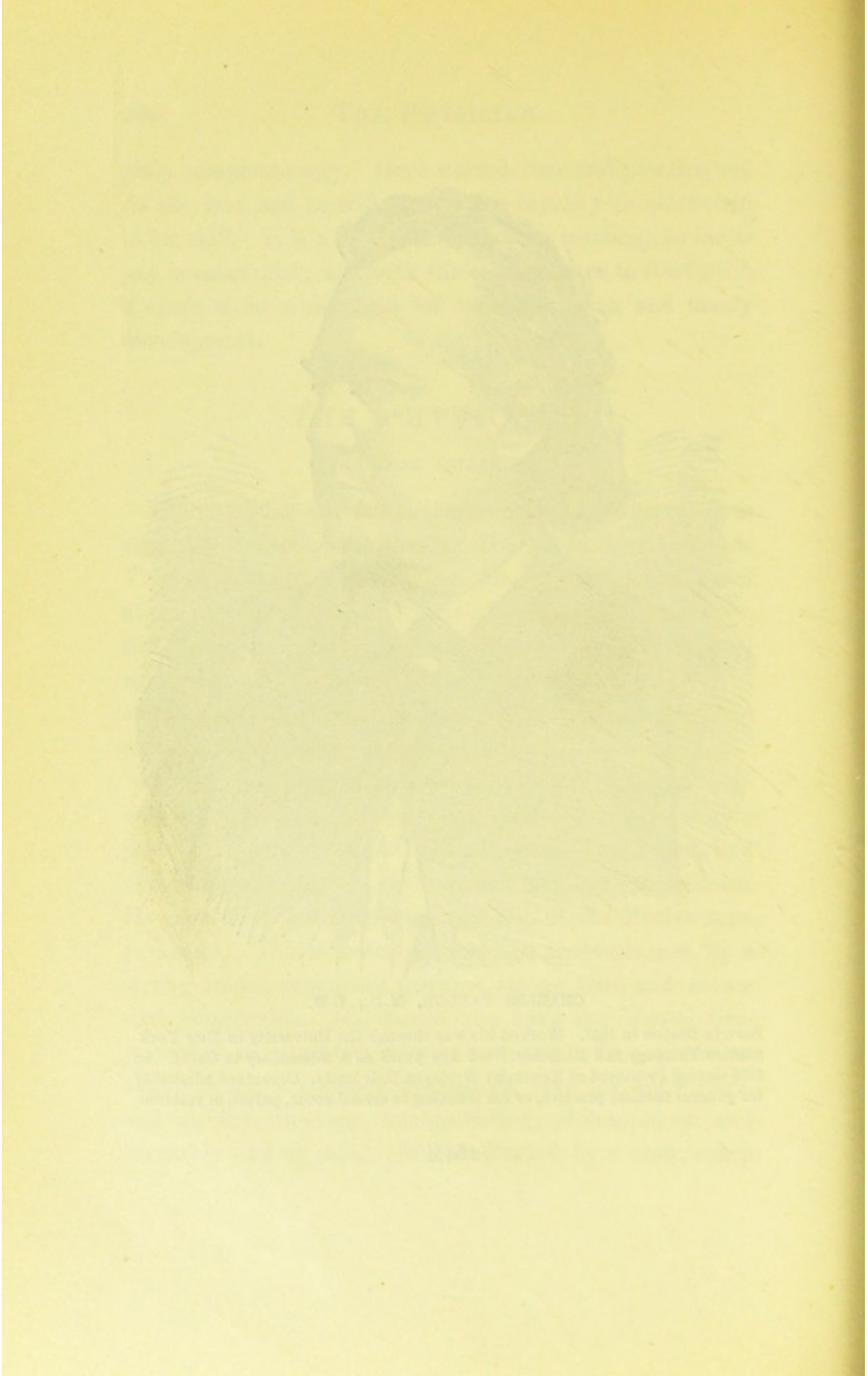
The physician should be endowed with an harmonious organization, and good health. He should have an ample Vital temperament, so that he can replenish rapidly and abundantly the waste and wear of his system. Moreover, this temperament gives cheerfulness, ardor, joyousness, and magnetic cordiality, which carries sunshine everywhere; and the physician should have an abundance of this to carry with him into the sick-room.

This temperament gives plumpness and a slight tendency to fleshiness; a deep chest with copious breathing power; it gives a rapid and abundant circulation, and makes a man hearty, zealous, and slightly enthusiastic. He should have an ample amount also of the Motive temperament. This is indicated, when in predominance, by a strong frame, prominent features, strong hair, and rather dark complexion. He should also have the Mental temperament in a pretty strong measure. This gives an active mind, a studious disposition, love for knowledge, and an investigating, fact-gathering, philosophical, and inventive cast of mind. It is indicated by a clear, sharp



CHARLES TAYLOR, M.D., D.D.

Born in Boston in 1819. Worked his way through the University in New York studied Theology and Medicine, lived five years as a missionary in China. In 1866 elected President of Kentucky Wesleyan University. Organized admirably for general medical practice, or for teaching in school-room, pulpit, or rostrum.



eye, well-defined but somewhat delicate features, fine hair and skin, with comparatively light bones and muscles, large brain, and general sprightliness and activity of body, and an abundance of sensitiveness and susceptibility. When these temperaments are possessed in harmonious blending; when each is about equally represented in the man, there will be a good frame, with strength not amounting to coarseness; there will be fullness of form without grossness; there will be refinement without effeminacy; and general strength, earnestness, health, endurance, and the basis of long life; in short, a well-organized man, like a piano with all the strings in tune, and the higher, lower, and middle octaves in comprehensive and harmonious relationship.

UNHARMONIOUS DEVELOPMENT.

The life of a physician is one of care, fatigue, patience, perseverance, and self-denial. Hence he needs a temperament that lies at the basis of and tending to develop all these qualities. If a man has an excess of the nervous or Mental temperament, he will become easily worn and anxious, irritable, erratic, and unhappy; and he will carry to the sick-room qualities and conditions which will make the poor invalid feel, not calm and comfortable, but anxious and excited. He will resemble a piano with only the higher octaves. If one has too much of the Motive temperament, with hard hair and rough features, there will be a lack of gentleness, refinement, and taste, so that the sick, especially the nervous and delicate, will be unfavorably affected by his presence He will be like a piano

with only the lower two octaves. If one has too much of the Vital temperament, there will be a lack of studiousness, a tendency to over-eat and live too highly, and thereby produce a muddy state of mind, an obtuse intellect and judgment, and a sort of grossness and vulgarity which will not be agreeable to persons of refinement and culture. He will be like a piano containing only the middle octaves, incapable of anything but monotonous mediocre performance.

OFFENSIVE CHARACTERISTICS.

Nothing is more unfortunate to the profession of medicine than qualities, constitutional or acquired, in the physician, which make him ill adapted to meet humanity in its more sensitive and delicate phases pleasantly. The physician should not, certainly in his own person, be offensive, yet he should have a world of strength; should be hearty, cheerful, able to bear his own burdens and sorrows, and have sunshine and joy enough left for a dozen sick-rooms. The physician, then, should be so organized, mentally and physically, as not to be repulsive to the refined, from grossness or coarseness, yet he should have strength enough to minister strength to the depressed and weak. It short, no man needs a better constitution or a more harmonious development than the physician, and the more nearly perfection a man is in organization, the better he is qualified to be an acceptable and successful physician.

DESIRABLE TRAITS.

We come now to the inquiry as to his mental peculiarities, and we might, in general, answer, that perfect har

mony and a strong development of all the mental qualities would be highly advisable in a physician; but as most men are not thus favorably organized, we specify some of the indispensable elements, with the reasons therefor.

In the first place, a physician needs a world of knowledge of a practical character. He should understand chemistry, botany, mineralogy, physiology, anatomy, and last, and above all, pathology. These sciences require in the student an ample development across the lower part of the forehead, viz., large perceptive organs. We have never known a successful physician with small perceptive organs, though such a man might be a successful planner of theoretical business, such as banking, and certain phases of commerce.

MEMORY.

Secondly—The physician should have a large development of the organs which give memory; the middle part of the forehead should be plump and full, that he may hold, as it were, in solution ready for use, all the knowledge he acquires from books, from observation, and from experience. There is no other profession in which so much scientific matter is required to be learned and kept fresh in the memory for instant use. To be a thorough anatomist requires the study of a lifetime. Physiology has a breadth of investigation and a minuteness of detail sufficient to enlist the best efforts of the clearest mind and the most retentive memory. Chemistry is a profession of itself; botany, mineralogy, and pathology demand careful study and a comprehensive memory. Then the departments of therapeutics and surgery—each of which

is an art as well as a science — require quick powers of observation, sharp criticism, and ingenuity. If the medical student can study both ancient and modern classics, he will find ample use for them, and it will not seem extravagant to assert the need in the physician's mental development of a first-class mind and thorough culture. The medical profession is no place for a stupid mind or a careless disposition.

REASONING POWER.

Thirdly—His reasoning organs, located across the upper part of the forehead, especially Comparison, should be amply developed, so that he can analyze, discriminate, and comprehend the philosophy of the causes involved in a given case; the patient's peculiar temperament, and other conditions and circumstances differing from anything he has seen before. Hence he must understand the philosophy involved in the facts. If he have only large perceptives, he will be very likely to apply former treatment of other patients whose conditions and circumstances were different, and thus fail of success. We have known some physicians who were excellent in counsel, but who were not successful in their own practice. Such had a large upper forehead, were theorists, were reasoners, but failed in observing the symptoms, conditions, and peculiarities of patients. They needed some other physician to observe the case and collate the facts, and when these were presented, the philosophical physician could make inferences and give sound advice. If the developments of the fact-gatherer and the philosopher could have been com-

bined in one man, he would have been competent to do the work of both, and would incline to seek counsel of none.

THE SOCIAL AFFECTIONS.

Fourthly—The physician should have strong social feeling; the backhead should be amply developed, so that all the relations of social life may be appreciated by him He should love children, and be able when he comes into a family to gain their confidence and win their attention and affection. No man, even with extra talent, can win his way as a physician who can not make cordial and lasting friends of his patients. The physician must be trusted, confided in, and relied upon in the most important and delicate relations, and if he can not be loved as a friend and trusted as a brother, his power for usefulness and success will be very limited.

DECISION, SELF-RELIANCE.

Fifthly—The physician should be a man of decision and self-reliance; his Firmness should be large, and his Self-Esteem sufficient to enable him to assume responsibility and not feel burdened by it. He should feel that he knows, and that his decisions are sound; then he will act promptly and calmly, with an unclouded judgment. If he lack self-reliance, he will always be timid, doubtful, and uncertain; will incline to try experiments and feel his way, and thus, while trying to become assured as to the propriety of his course, his patient may slip through his fingers. Thus many a man who really knows, yet has his doubts, will fail of success, whereas if he had self-reliance,

thoroughness, and stamina equal to his knowledge, he would bravely assume the responsibility, adopt promptly the proper course, and succeed, to his credit and the joy of all concerned.

FORCE, COURAGE.

Sixthly—The physician should have Combativeness and Destructiveness well developed. These give courage and efficiency; enable a man bravely to witness pain and suffering, and employ the means necessary to relieve, though amputation or other severe surgical operations should be required. It has been said that a physician needs a lion's heart and a woman's hand; in other words, he should have Combativeness, Destructiveness, Firmness, and Self-Esteem on the one hand to give lion-like stamina and power—with Ideality, Constructiveness, quick perception, sympathy, affection, and the gentleness which comes from refinement of temperament, to impart that which is expressed by the term "woman's hand." We have seen men who had power, vim, self-reliance, and persistency, who carried these forces with gentleness and admirable self-control.

PRUDENCE, DISCREETNESS.

Seventhly—The physician should have prudence, circumspection, policy, caution, and Secretiveness, with good common sense. Cautiousness will give him such prudence as the nature of his business demands; will obviate rashness; will make him anxious to do nothing wrong, and to do everything in the right way and in the right time. Large Secretiveness will enable him to keep his mouth shut at the proper time, and avoid gossiping relative to

patients or respecting his success; but especially does he want Secretiveness, to control his countenance as well as his expressions. If a physician see that a patient is sinking, and show it in his face and actions, the patient will be discouraged, the family alarmed; and one that by prudence, self-possession, and skill might be saved is thus hurried to the grave. But he who, seeing that the patient is becoming worse, yet hoping for a favorable turn, can put on a smiling face, with a happy good-morning, in a musical voice; he who can speak words of encouragement though he has to strain a point to do it, can frequently so inspire and magnetize the patient as to carry him over "the dead point," as engineers say. A sad, sober, solemn, gaunt, hungry-looking doctor will often lose a patient who would be saved by one of the joyous, hopeful, mirthful, cheerful men.

HOPE, WIT.

Eighthly—The physician should have large Hope and Mirthfulness and excellent talking talent, so that people who have the blues, who are sad and desolate, nervous and dyspeptical, may be cheered and comforted by his hopeful, lively manners and his witty remarks. Many a suffering patient has been saved from death by a good hearty laugh; and many a man by having his weakened Hope cordially inspired by a cheerful and hopeful physician has been sustained by it until nature could work a cure.

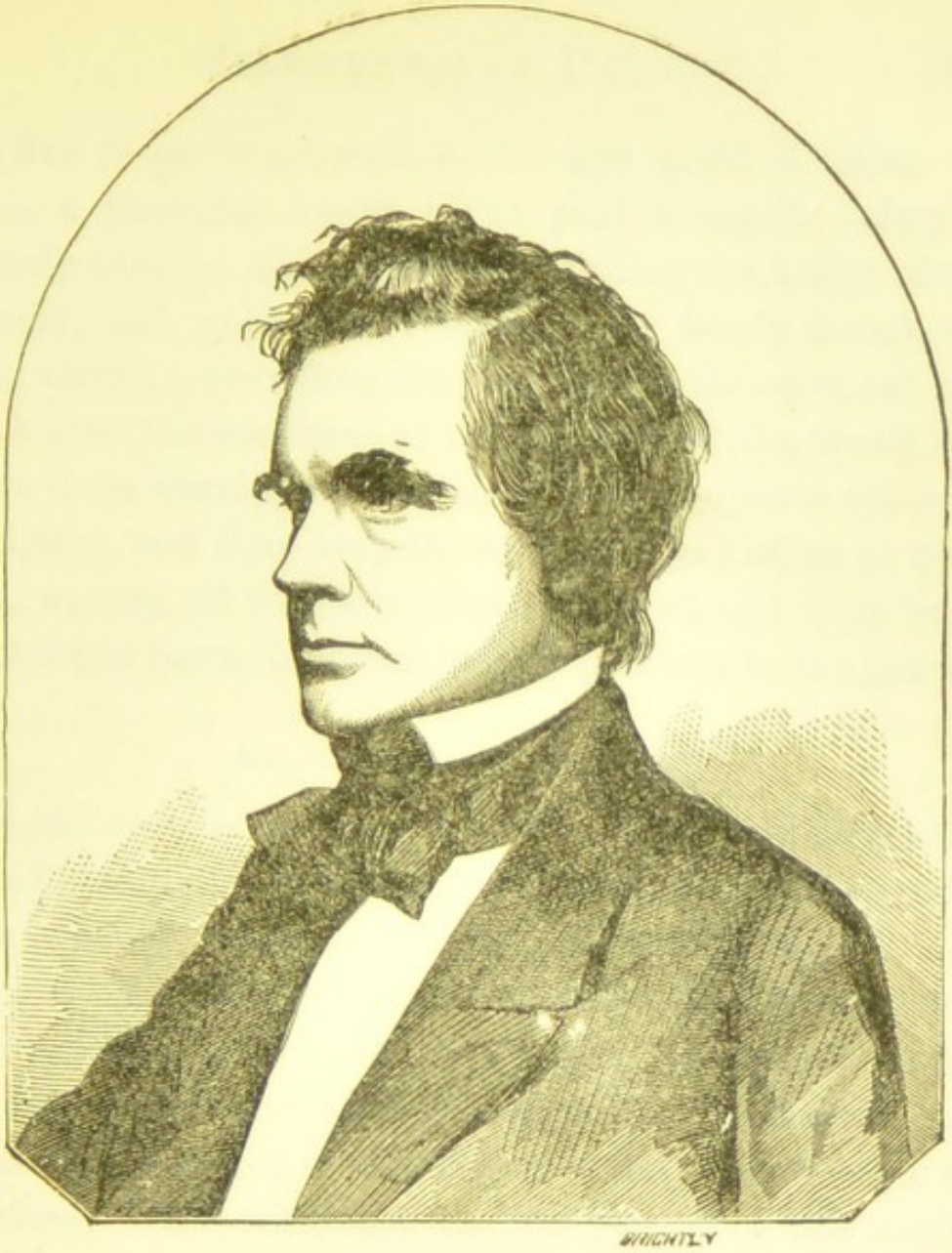
MECHANICAL INGENUITY.

Ninthly—Large Constructiveness is necessary to a surgeon, and also to a physician, that he may understand the

anatomy and working of the physical machinery and the combinations that are involved in organization. We would recommend no man to become a physician who has not excellent mechanical judgment and ingenuity; for those who have graduated from a medical school, whether well endowed with mechanical talent or not, are liable to be called upon to perform important surgical operations; and woe to the unfortunate patient who falls into the hands of one of these bunglers! The twisted feet, the shortened limbs, the crooked, badly-built-up frames which we have witnessed are sad commentaries on the deficiencies of surgeons who lack mechanical ingenuity. Surgery of late years is becoming a specialty, one or two men doing nearly all the important surgical business of a large city. Those are men of nerve and power, with prominent mechanical talent; they should be just as good in an ordinary sick-room as they are in the operating-room; but the awkwardness of eight-tenths of their brethren throws all the surgery into their hands, and they come at last to do nothing else.

MORAL CHARACTER.

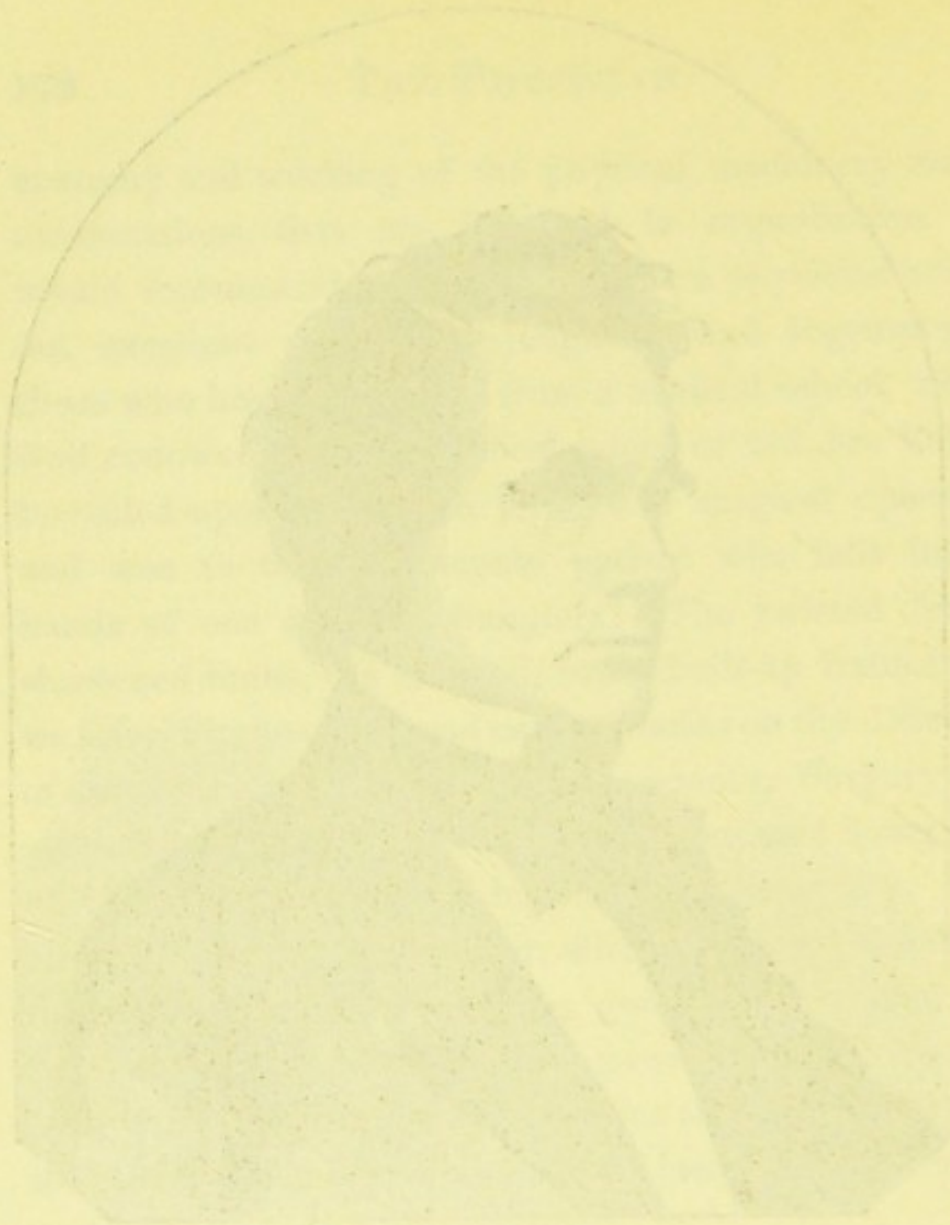
Tenthly—A physician should have strong moral sentiments. He should be conscientious, truthful, and just. When people begin to suspect the integrity of the medical adviser, his influence for good is seriously impaired. He should have large Benevolence, to give him that genial and broad generosity which one needs who is to deal with the sick and nervous, the wayward and the wicked. Conscientiousness and Benevolence combined, would lead a physician to give instruction, especially to the poor, how



DR. J. MARION SIMS,

DISTINGUISHED AS A SURGEON.

Born in South Carolina, January 25, 1813, graduated in South Carolina College in 1872, and in the Jefferson Medical College in Philadelphia, and settled at Montgomery, Alabama, and soon became widely known for his skill in general surgery. In 1845 he established a private hospital for the surgical treatment of certain diseases peculiar to women regarded as incurable. Here he discovered and introduced the silver wire suture, instead of silk, and was crowned with great success. In 1853 he removed to New York where, through his efforts, a permanent woman's hospital was established under his charge. The metallic suture in surgery, a great advance in that science, is due to Dr. Sims, and his practical skill in surgery, especially in diseases of women, has given his name a high place in every civilized country.



to live so as to maintain health and avoid sickness. In fact, a physician ought to be paid a regular salary or yearly sum, on condition of maintaining the health of the family, and when one member of the family is sick, the pay should cease; then the physician would often call and look after the condition of the members of the family and give them warning and advice while yet disease was only incipient, and thus keep them well, instead of, as at present, waiting till the patient was half-dead, and then being sent for in haste to barricade their pathway to the grave.

SELFISHNESS OF PATIENTS.

Selfishness and the fear of a doctor's bill lead persons to avoid sending for a physician till the patient becomes very sick, whereas he should be called as soon as there is any appearance of illness, and a little advice as to sleeping, eating, working, and bathing might save the patient; and a fee of a dollar or two would compensate the physician, instead of a hundred dollars for attending a long siege of sickness. This selfishness on the part of a community tends to make a doctor selfish. He may see the bilious encroachment upon the face of the patient; he may be aware that wrong living and bad habits are prostrating a strong man; he may know that in a week or two he will have him in his care with a large bill as the result, if haply he can succeed in keeping him away from the undertaker; but he is silent; he waits for his opportunity; whereas if it were otherwise, if the physician were paid for keeping the man well, a word might save the patient a broken constitution, a month's time, and a large sum of money.

RELIGIOUS CHARACTER.

Finally—The physician should have large Veneration and Spirituality; should feel that there is a relation between this life and the next. The studies of the physician are apt to lead to materialism. Dealing solely with the body and its functions, physicians come to deify their profession, and to think they know all there is of the human being. An active Spirituality and reverence will lead the physician to feel that there is something to the human being besides the body—something that lives without material organs, and thus, acting on his patient, by keeping up the strength of his spiritual nature, it will inspire the body, and thereby he will be able to save it. We always regret to witness a cold materialism in a physician. We have often thought that the profession of the minister and the physician should be combined. "Hope deferred maketh the heart sick," and a spirit laboring under blasted anticipations may leave the frame unsustained, and the patient will sink. Job said in his deep affliction, when smitten with sore boils from the crown of his head to the soles of his feet, "Though He slay me, yet will I trust in Him;" "I know that my Redeemer liveth, and that I shall see him for myself, and not for another." Such a spirit in a man inspires him with all that belongs to or serve to invigorate life, and gives him fortitude to rise above even disaster; and the physician who can awaken such a spirit in his patient will greatly lessen the bills of mortality.

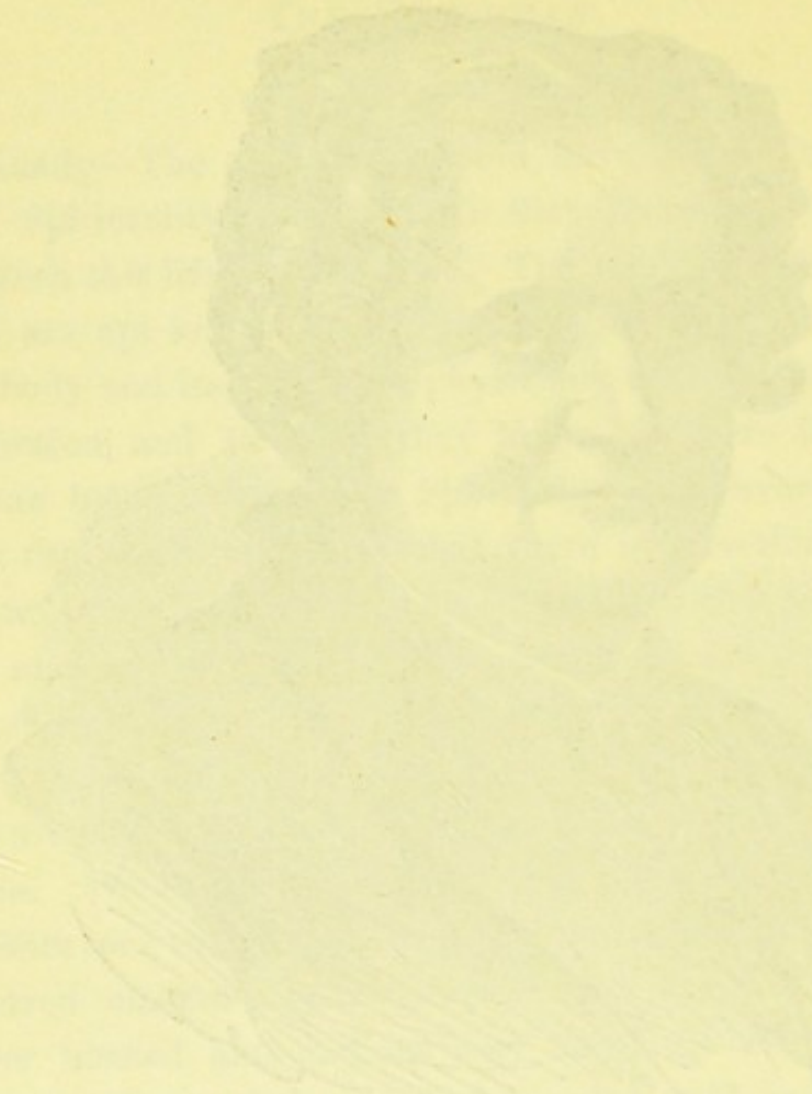
WOMAN AS PHYSICIAN.

We have hitherto spoken of the physician in the mascu-



CLEMENCE S. LOZIER, M.D.

At the age of twenty-seven Mrs. Lozier was a widow, supporting her family by teaching. Eleven years she was principal of a young ladies' seminary, and it was here, and to her belongs the credit of the first introduction of the study of chemistry, physiology, and anatomy to ladies. Still continuing her own medical studies, she entered a medical college, and is one of the earliest who obtained a medical education and entered upon successful practice. In 1860 having become established in practice in New York, she commenced giving free lectures to women, which made a nucleus for the organization of the New York Medical College for Women, which was chartered in 1863. Mrs. Lozier is its Dean, and also Professor of Diseases of Women and Children. When income taxes were paid and published, we remember hers was over $20,000 a year, and it is said not to have diminished.



line gender, but we take pleasure in asserting the conviction that, with similar temperament and mental characteristics, woman is quite as well qualified for general practice as man; and in a large class of cases, for various collateral reasons, she is, far better than man, calculated to win the confidence of patients and secure success in practice. Among young and delicate ladies many will suffer for years in silence, who might be restored in a month, rather than be subjected to necessary treatment by a male physician. For the treatment of women and children, therefore, woman who is in culture and other respects equal, is better calculated than man to be a physician. Therefore we rejoice in the prosperity of the Female Medical Colleges, and the deserved success of not a few of their graduates.

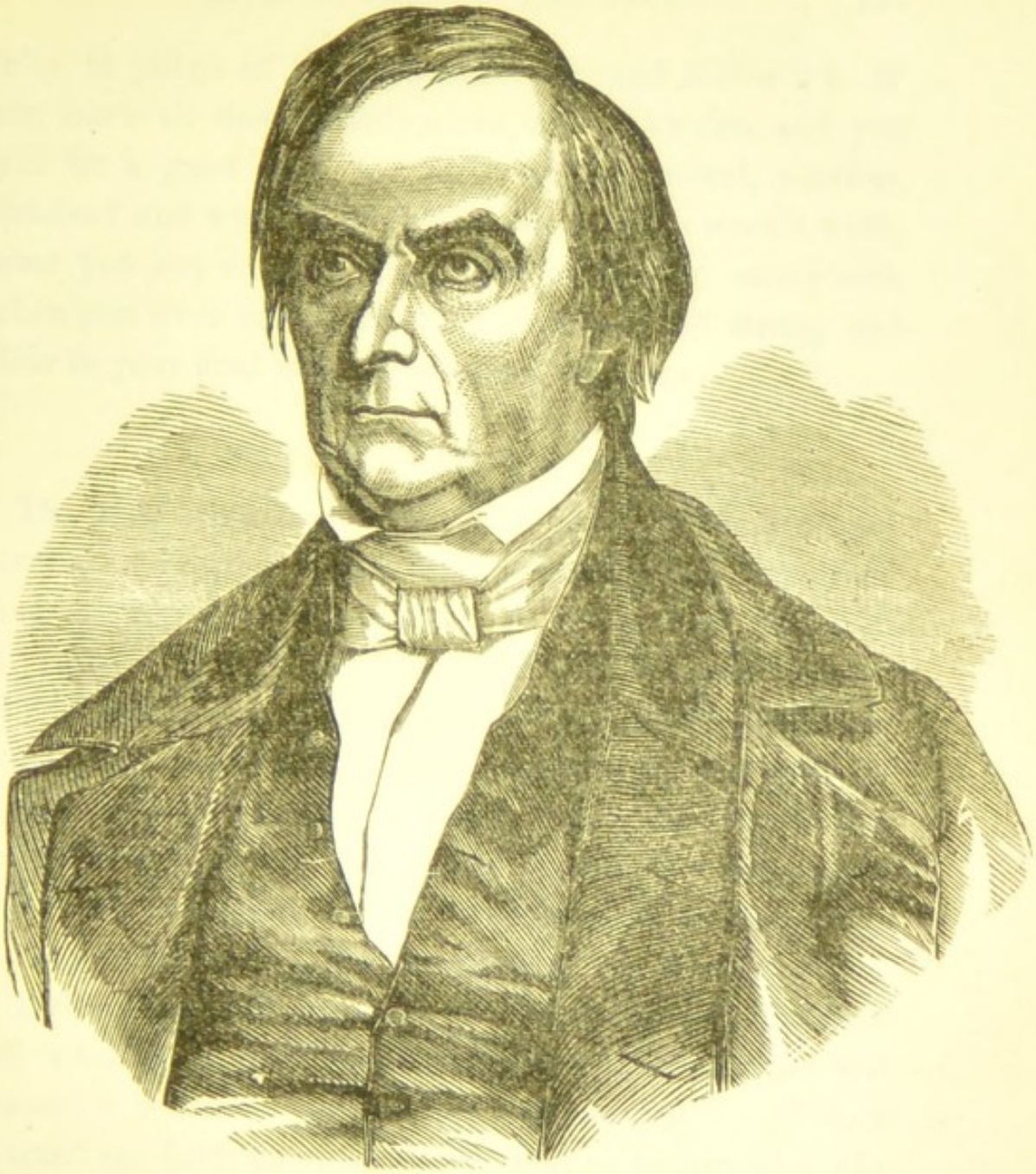
THE LEGAL PROFESSION.

"I would be a lawyer!" Do you know how much you propose to yourself? Can you master the knowledge which the legal profession requires? Have you the courage to meet the opposition which is incident to that profession? With half a dozen well-paid opponents ambitious to triumph, eager to succeed, unscrupulous it may be, pugnacious and artful, can you meet them all? Will you wince before their combined battery of mental and magnetic force? or have you the strength to stand in the presence of such men erect, serene, self-poised, and independent? Have you the talent to meet their arguments? Have you the memory to hold the knowledge required? Have you

the quick perception to seize upon facts and appropriate them to your use on the instant? Have you the breadth of thought, the philosophic capability to understand the principles of law which will enable you to comprehend the arguments of others and meet them successfully? Have you the fluency of speech which will enable you to express your knowledge, your feelings, and your arguments with facility and point? Do you read the human mind clearly and readily, so as to understand a jury, a witness, or an opposing attorney? Have you the prudence and the consecutive patience to wade through volumes of law reports and legal enactments to ascertain precisely what the law is in a given case? It will not do to be rash and form hasty judgments; because your reputation and your success, and the life, liberty, or property of your client may be at stake! Have you such a balance of all the qualities that you can appeal to every feeling, social, moral, and sympathetical, in the judge, jury, and audience? Are you equal to the ablest class of men? Have you the learning which will enable you to stand unabashed among the learned?

HEALTH AND CONSTITUTION.

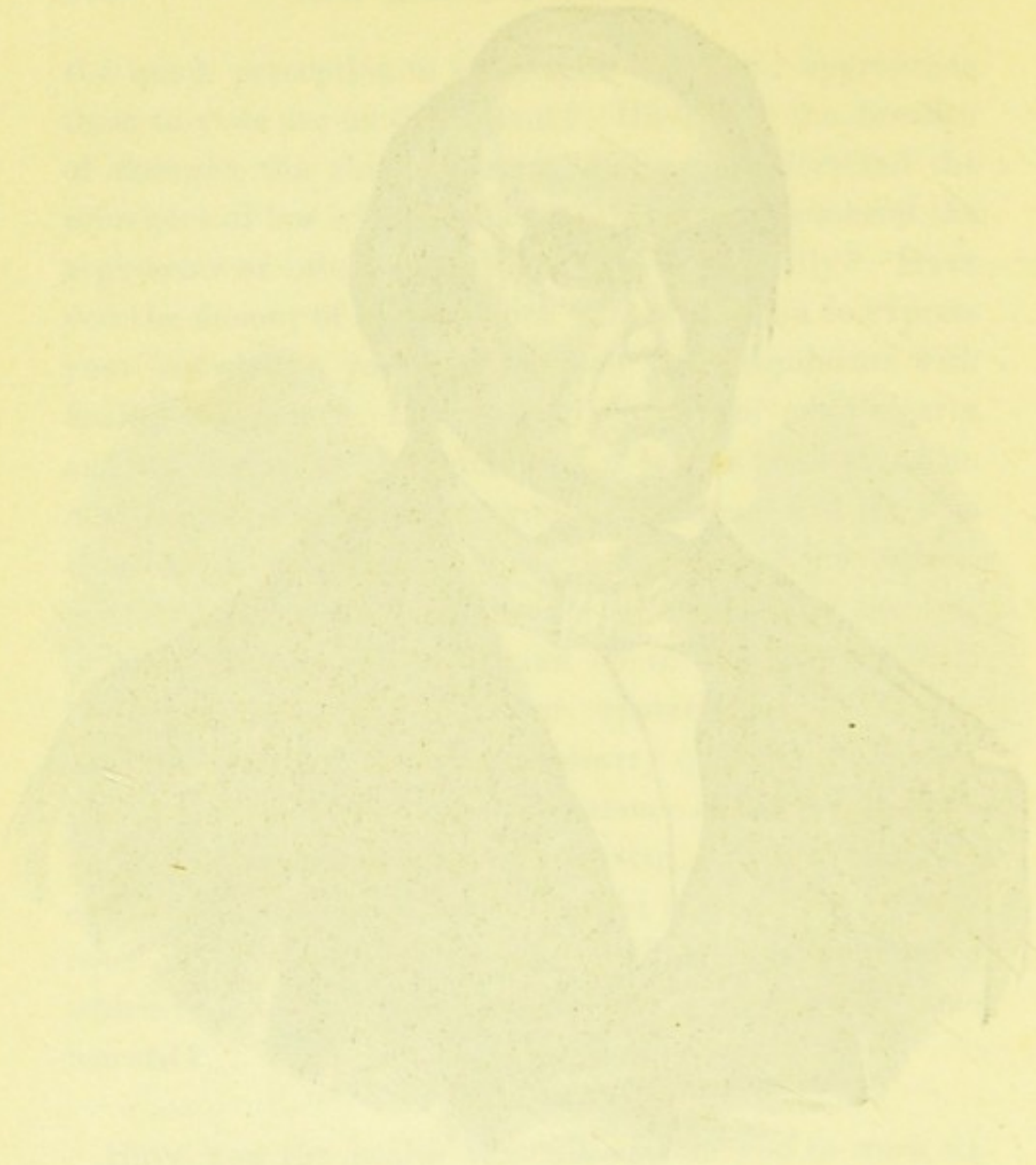
Have you the health that will enable you to work six days in succession, battling every point and struggling against wily and earnest opposition at every step? and then, when every ear is open and every eye fastened upon you, will you have constitution enough left to make such a speech as the case shall demand and as your ambition and reputation will require? Have you enough of Conscientiousness to meet all manner of temptation success



DANIEL WEBSTER,

EMINENT LAWYER AND STATESMAN,

Born in New Hampshire, January 18, 1782; died at Marshfield, Mass., October 24, 1852. He was graduated at Dartmouth College in 1801, studied law, and soon gained an eminent rank; in 1812 elected to Congress—moved to Boston in 1816, in 1822 elected to Congress from Boston, and in 1827 to the United States Senate; January, 1830, made his masterly speech in reply to Hayne; was Secretary of State under Harrison and Tyler, 1841–43, and under Fillmore, 1850–52. In intellect he was "god-like."



fully, to judge of the right, the true, and follow it? If you have all these qualifications, BE A LAWYER, and you will be a good one. Or, are you dyspeptical, nervous, slender? and would a week's work, or half a week's work, wear you out so that you would be like an empty sack when you were expected to be eloquent and strong and clear in your final effort in summing up a case?

HOW TO LEARN THE LAW.

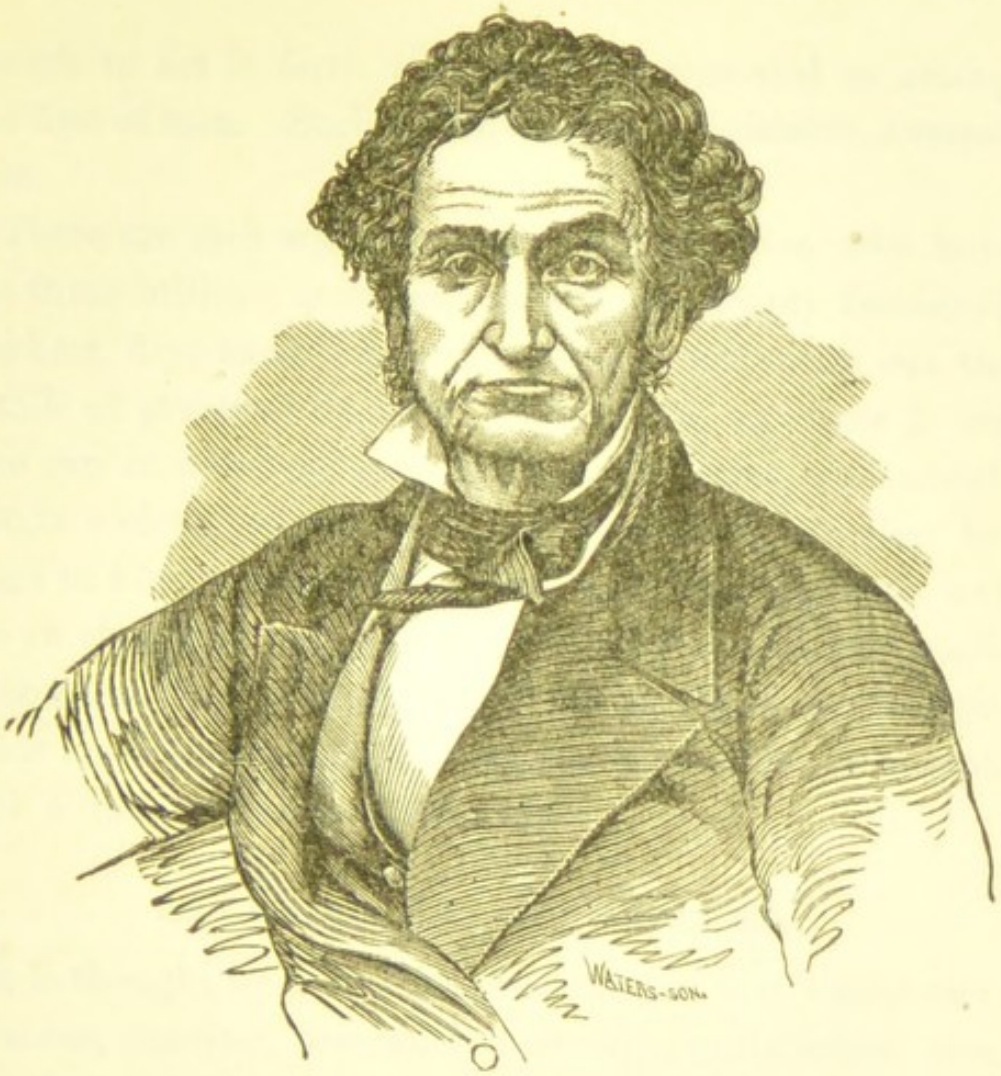
The most approved method of obtaining a practical knowledge of legal science is by attending the prescribed sessions of a good law school. A young man may read law in an office—in accordance with the old custom—but he will waste a great deal of time over that which may never be of use to him, to say nothing of the confusion of ideas resulting from much reading. At a law school chief attention is given by the faculty to those subjects which will be of immediate interest to the student when he commences to practice. The writings of the leading jurists of ancient and modern times are analyzed and digested, and what there is of value in them to the attorney and counselor is clearly pointed out. Sham trials or "moot courts" are held, in which the student is required to take part and illustrate, as far as may be, his legal acquirements in the examination of witnesses, the discussion of points of law, the address to the jury, and the conduct generally of causes of litigation. Thus the student is prepared for the actual business of his chosen profession in the most practical manner possible.

After taking the degree of the institute, the student

should either commence practice or enter the office of some experienced advocate, and there continue his studies with all the advantages of direct practice surrounding him. We think that it is better for a student to read a few of the elementary books before entering a law school. Students at law usually read in the outset Blackstone's Commentaries, Kent's Commentaries, Story on the Constitution, Story on Bailments, Parsons on Contracts, Greenleaf on Evidence, and other works, including, of course, the Code of Procedure for the State in which it is intended to settle. The attentive perusal of the works named will furnish a very substantial foundation for a young lawyer's future career. One does not practice law in the United States Courts until after serving some years at the bar of his State. Those who are admitted to the national courts are usually men in advanced practice, and we suppose that most lawyers look forward with ambition to the time when they shall be able to practice in Admiralty. We believe that a lawyer secures his entrance before the bar of the nation by special nomination, and through the approval of the justices of the United States Court.

TRUE LAWYER AND STATESMAN.

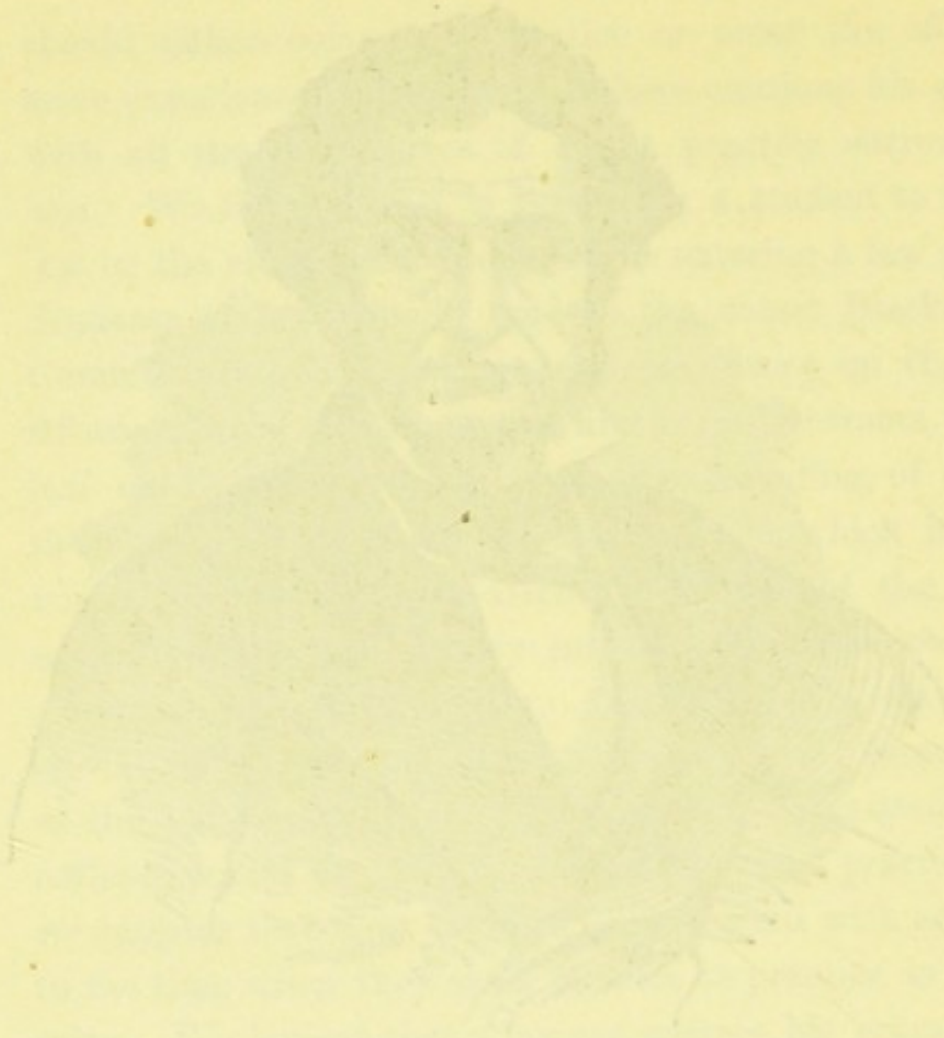
The true lawyer, in our judgment, is the man of eminent ability with a splendid body, an harmonious temperament, a large brain well cultivated and well balanced, so that he will not fail in morality, courage, prudence, policy, perception, memory, judgment, or in financial matters. A lawyer with the right development for comprehending all the duties that belong to his profession, with eloquence of



RUFUS CHOATE,

EMINENT LAWYER AND ORATOR.

Born at Essex, Mass., October 1, 1799; died July 13, 1859. He graduated at Dartmouth College in 1819; in 1824 commenced practice in law, in 1825 elected representative in the Massachusetts Legislature, in 1827 a Senator, in 1832 a representative in Congress, declined a reelection; he settled down in Boston as a lawyer and soon rose to the highest rank. In 1841 he was elected to the United States Senate. At the close of his term he resumed practice, and thenceforth to the close of his life he was the foremost lawyer in New England, and was perhaps the most effective pleader of his time. For many years it was common to see Webster and Choate engaged as opponents on great law suits, and as Webster was seventeen years his senior, and basking in the ripeness of his fame, he generally had opportunity of choice in the sides, and most frequently won the cases.



speech to set it forth, may justly be regarded as among the first of men. Such a man may be a legislator, a statesman.

There are men who are useful in legislation who have not these brilliant qualities, but who are simply financiers workers, dry, hard thinkers, capable of following out the details of practical business; but the real legislator is one who can comprehend constitutions and laws, who understands society and its wants, who appreciates all that belongs to human life in its highest and lowest phases, and has an eloquent tongue to impress others with the truthfulness and importance of his views, and thus mold legislation and elevate, enlighten, and guide public sentiment. Such a man is the true statesman.

THE PROFESSION, HOW DEGRADED.

It is thought by many that the lawyer needs only tact, keenness, cunning, assurance, and unscrupulousness, and, doubtless, not a few members of the profession have given just occasion for such a judgment.

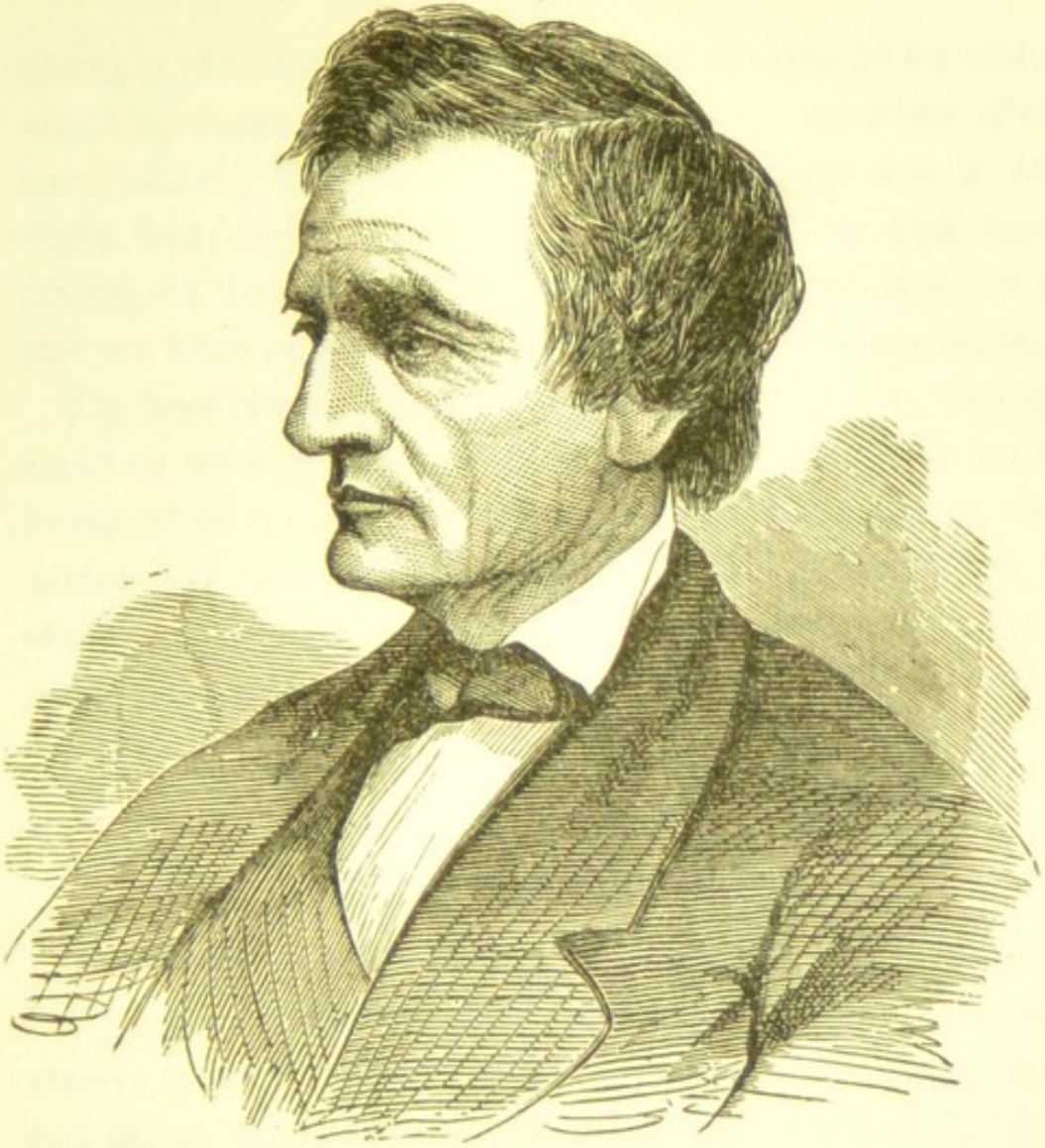
The practice of law has been sadly perverted. The erroneous sentiment, so widely entertained and practiced, that a lawyer is bound to promote the interests and wishes of his client, even in the wrong, and to take advantage of every opportunity to benefit his case even against justice, has degraded the profession, and the worthy and unworthy alike are looked upon with suspicion. Even men of eminent ability and culture, with prosperous practice, whose success on an honorable basis should raise them above temptation, seem to have been carried away by the cur-

rent of corporation corruption, and in the science of "rings" and tricky stock jobbers, awakening a praiseworthy remonstrance against it from the better portion of the profession.

Men who enter the legal profession without the natural gifts and mental culture requisite for honorable success, and being pressed by want to obtain practice in some way, adopt questionable means of securing business as well as wrong methods of conducting it. Such men become "shysters." By giving false advice to dissolute villains or their friends, they succeed in robbing them of their money by charging excessive fees in advance, and then, in order to succeed with their indifferent abilities they unscrupulously violate the principles of truth and justice. Such disreputable practices, if successful, pass with many people for ability.

The Hon. Nicholas P. Trist, of Virginia, when studying law, inquired of Mr. Jefferson (whose granddaughter he afterward married) what he thought "would be the prospects of a young lawyer who should start with the fixed determination never to say or do anything in Court or in relation to legal practice which he did not think was thoroughly truthful and upright?" The venerable ex-President, with flashing eyes and glowing countenance, instantly sprang to his feet (the party being at Mr. Jefferson's table at the time) and replied, "Young man, if you will adopt that plan and follow it for life, you will obtain a reputation which will ring around the world, and ultimately bring you ample pecuniary reward."

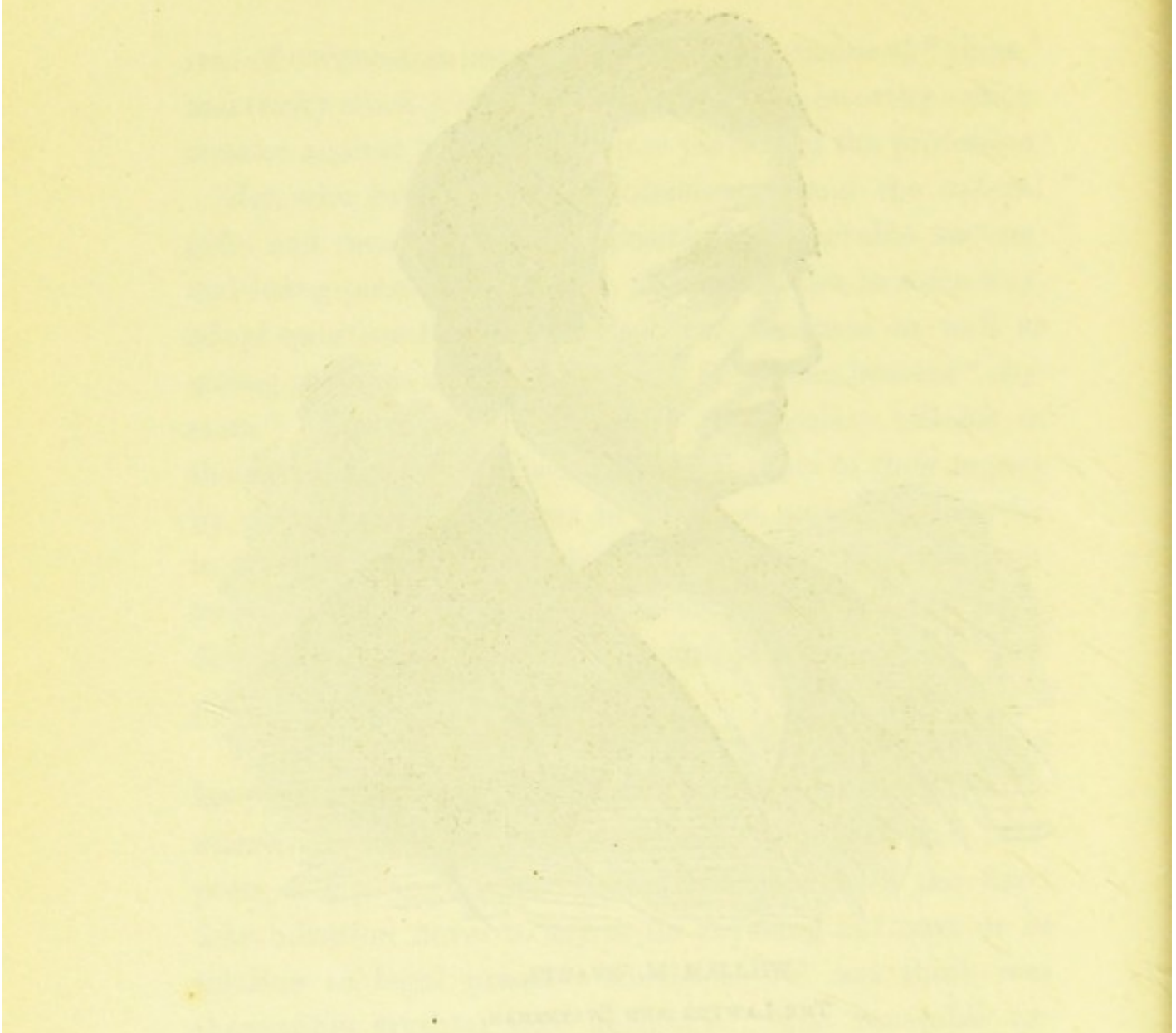
The writer was informed by a lawyer of Springfield, Ill., that "Mr. Lincoln would not take a case unless he really



WILLIAM M. EVARTS,

THE LAWYER AND STATESMAN.

The very name of this man suggests to the attentive reader, one who, by general consent, is regarded as one of the most eminent of living Americans. For more than twenty years he has been regarded as at the head of the legal profession in the United States. He has been United States Attorney General, was one of the counsel in the "Alabama Claims" Arbitration, and has had the most important cases in our courts for twenty years. His brilliant service as Secretary of State under President Hayes constitutes his latest public record. If anything grand is to be said or done the public of every party looks to Mr. Evarts as the one to do it well. He was born in Boston, February 6, 1818, educated at Yale, and has done his law work chiefly in New York.



thought the client ought to win; and it came to be understood by court, bar, jury, and spectators, that when Abraham Lincoln brought a case, that his client was in the right and ought to obtain a verdict." The gentleman added, "I do not say this from political favoritism, for in this we were opposed, but simply because it is the truth."

The true lawyer seeks for justice, not merely for victory, right or wrong; for the maintenance of truth, the establishment of the right according to law, both human and divine. If the profession has fallen below this level, it should be at once rectified and elevated, so that pure, noble young men may enter it in the fear of God and in the love of man.

THE CLERGYMAN.

"If a man desire the office of a bishop, he desireth a good work."—1 *Tim.* iii. 1.

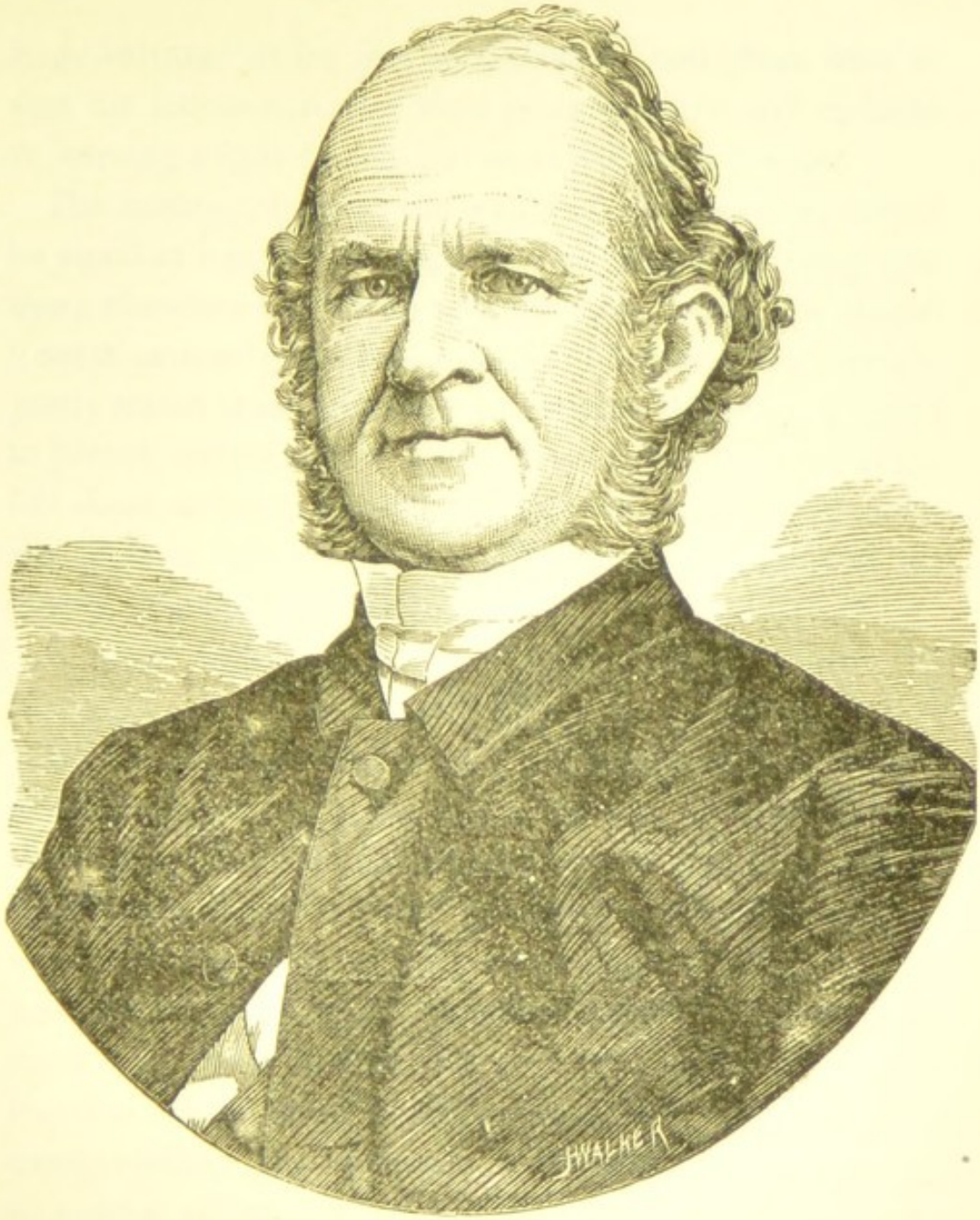
By common consent, the minister of religion stands first among men; not that he is necessarily a better man than any other, but because his vocation takes hold of the highest interests of humanity, deals with the better part of man's being and the ultimate destiny of the race.

The vocation of the farmer covers the sphere of food for the body and the raw material for its clothing. The noble horse, the patient ox, and the faithful dog receive their food at the same hand which feeds the king, namely, the farmer. Of course there is a collateral relation between food and mind; between all the higher human powers and possibilities, and the proper nutrition of the body by means of food. The mechanic ministers mainly to the wants of

the body as they relate to the present life. Every profession that has for its field of effort the physical, the bodily, the temporal, must take a rank second to those which relate to mind and to morals. The teacher who instructs the young, the orator who leads and inspires the cultured mind to higher aims and better deeds, ministers to something above that which wears clothes and needs a tight roof to shelter it.

The minister of religion is a teacher of the intellect as well as of the affections, though his patent duty is to lead the soul to virtue and to God. With such a function, with such an aim, what manner of person ought he to be "in all godliness and honesty?" One who has a just estimate of the duties and relations of the clergyman might well hesitate and say, in view of entering upon it, "Who is sufficient for these things?"

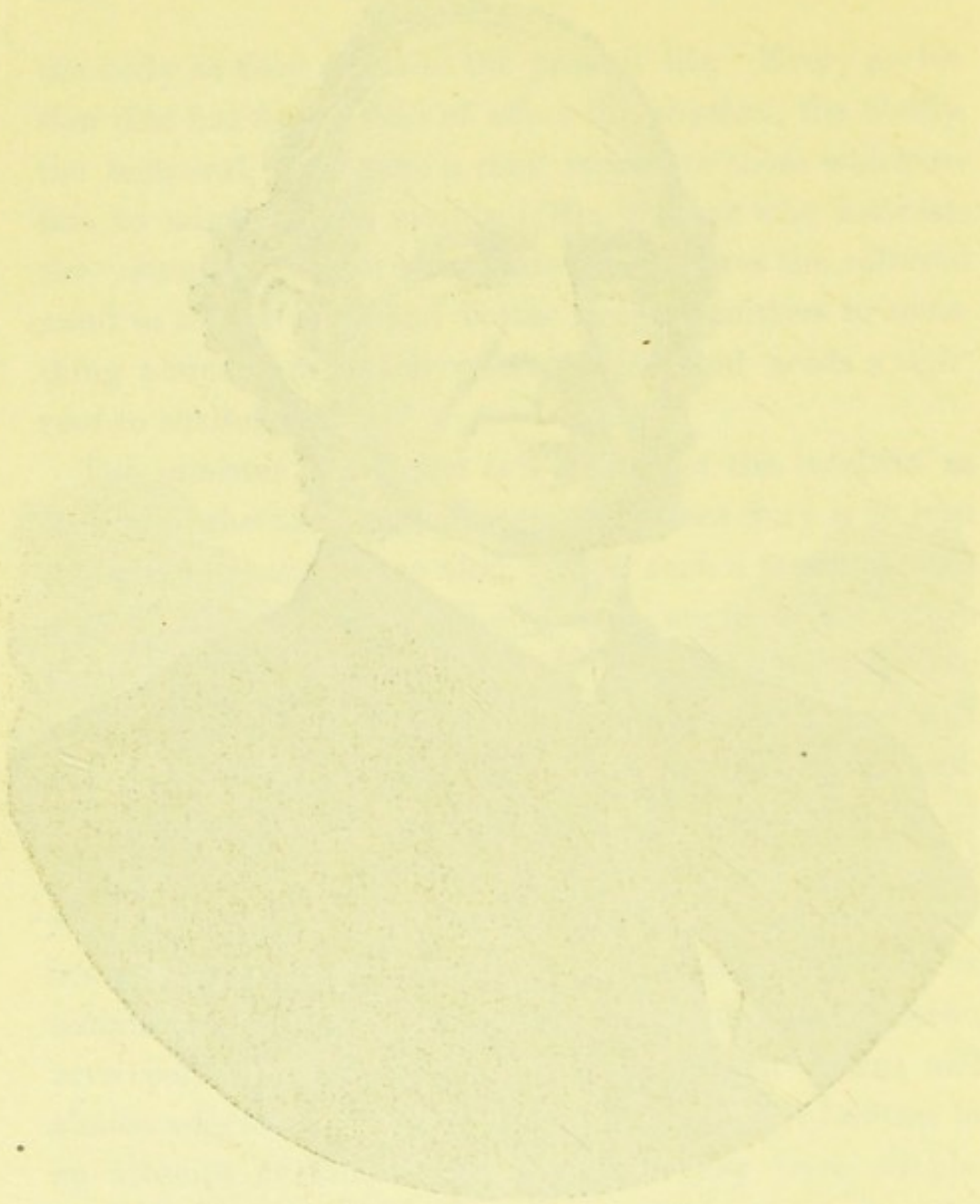
In the outset, we may remark that a minister need not be perfect; the Apostles were not,—they had weaknesses, frailties, tendencies to wrong-doing, liabilities to temptation, like other men. Had the original Apostles been perfect, had they been endowed with genius and almost superhuman virtue, common men might hesitate in an attempt at following them; but they were simple-minded, plain-hearted, common people, in the main, who commenced their labors with the poor and for the poor; and with the exception of the great Apostle to the Gentiles, Paul, there was little to commend them intellectually. Paul was evidently chosen to his great work because he had breadth of intellectual power, outreaching strength of thought, and the high attainments of learning which his



BISHOP GEORGE D. CUMMINS, D.D.,

OF THE REFORMED EPISCOPAL CHURCH.

He was born in the State of Delaware, December 11, 1822, graduated at Dickinson College 1841, was ordained 1845, elected Assistant Bishop of Kentucky in 1866; in 1873 the movement to form a separate church body was begun and accomplished. All the religious organs are very strong, with large firmness and self-esteem, and fine intellect.



large culture "at the feet of Gamaliel" had given him, so that his fellow-men who were great in talent and eminent in learning might find in him an equal and a teacher.

The minister, to meet the wants of such persons, should be equal at least to the highest and best in his congregation; therefore those who seek the sacerdotal office should "covet earnestly the best gifts;" and it may be, perhaps, justly stated that a man should not consider himself called to preach unless he has good, clear common sense, and a full share, at least, of native moral power. Let us enumerate some of the desirable qualifications, natural and acquired, of the clergyman.

HEALTH.

In the first place he should have health. The theology and moral teaching of the world has been administered by those afflicted with dyspepsia already too long. Men called to that office have honestly supposed that they must shut themselves up from all sympathy with the outward world, and that they must walk with measured step, speak with bated breath, and move with unnatural circumspection under their "awful responsibility;" thus they have breathed gently, eaten gently, and exercised gently or none at all, until their breadth and strength of native constitution have been dwindled, dwarfed, and wrecked. Their intellectual culture may have been as great as with a constitution so treated it could be, but lacking bodily stamina, their teachings are dry and exclusive; there is no muscle, no brawn in their utterances,—consequently men of muscle and brawn are not reached by their imbecile

and unmanly ministration. Such hearers of such preachers are led to think that a religious life is well enough for women, children, and weak men, but that it is not required by or adapted to brave, strong men. The clergyman should have health, because his labors are severe. To think clearly and vigorously, the body must be healthy and ample. The most eminent men have bodies as well as brains; and in spite of the half-contemptuous fling which goes the rounds of the newspapers, and is sneeringly lisped by bloodless ministers about

"MUSCULAR CHRISTIANITY"

in the nineteenth century, it has a hundred times more philosophy in it than most men believe. When we look in upon clergymen in convention, conference, or synod, we observe that the men who have broad shoulders and deep chests are the ones who lead. They may not be the most learned, but they have the bodily power that gives vitality to enforce what they know. They have the throbbing heart, bounding pulse, and earnest energy that drives home their utterances.

Boys in school and elsewhere pay great respect to a good bass voice. They somehow feel that behind that bass voice there is power, and they confess it, accept it, and yield to it, without it being exerted; so the orator whose vitality enables him to express his glowing thoughts with power, is the one who magnetizes his congregation and carries it with him.

A frail, thin man might read a robust discourse full of power and sentiment; but if he piped it with a cracked

voice and evident lack of stamina, one-half the power of that discourse would be lost. We do not forget the gentle and eloquent Channing. The fine grain and weak voice of that eminent man carried refinement, beauty, and eloquence; but the thoughts of Channing, if they could have been uttered from a deep fountain of vitality, would have been more widely influential.

ERRONEOUS PUBLIC SENTIMENT.

Everybody knows the duty of the clergyman, but few know his trials. He is a man of serene appearance and decorous conduct; is generally neatly dressed, highly respected in community, and to the casual observer is being

> "* * * carried to the skies,
> On flowery beds of ease."

He is by many thought to have an easy life; some think he has chosen that profession to avoid work, and that he obtains money very easily, considering the smooth and apparently agreeable life he leads.

The average American minister finds his position no sinecure. The education necessary to attain his position, and the study and talent required to fill it acceptably, would, in any other pursuit, win a larger reward in every worldly sense.

The truly devoted minister, who rightly considers his high commission, labors earnestly not only to instruct, but to counsel and guide wayward and selfish men to duty and to God. All he has of talent, culture, or influence he willingly devotes to his work, and laying largely aside his bodily ease and comfort, as well as his pecuniary interest,

he feels bound to serve the church and the people as a duty owed to God and his conscience. Such labor saps the health and depresses the spirits. Some ministers preach three times of a Sunday, and no wonder their Mondays are "blue"—that the mental becomes too strong for the physical. If a minister undertakes to recreate or rest, some people will call him lazy, especially those who think nothing is labor but that which is bodily.

There are in the United States about sixty-one thousand ministers of all denominations. Their average salary per annum is computed to be about $700. This would make $42,700,000 annually paid by the American churches in clergymen's salaries. If we assume each clergyman to represent three persons, a wife and two children, making four in all, we have then 244,000 persons to be supported out of this salary fund, and this gives just $175 to each one. The average salary of three-fourths of the ministry is less than $600, and this very materially reduces the average per head to each member of their families. In cities and large villages ministerial salaries generally stand at a fair rate of liberality, especially in the wealthier congregations. Yet this class represents but a small fraction of the whole. When taken in connection with the whole, so as to make the general average, we have about $700 for each minister, or $175 per head for ministers' families, on the basis of four persons to each family.

BLUE MONDAY.

One of the causes of blue Monday is the miserably small salary of ministers. The corroding anxiety as to how the

angel of respectability may be kept in the house and the wolf of want away from the door, does more to break down the health of ministers and their families than all the study and mental labor they perform. We require ministers to live in good houses, dress well, entertain company genteelly and liberally, and blame them for being worldly and selfish if they work or traffic to increase their income. How would the people who criticise ministers and their wives like to make the effort to feed, clothe, and educate a family for $175 a year for each member? We think the most of them, before a single year was ended, would be led to exclaim,

> "Dear Lord! and shall we *ever* live
> At this poor dying rate?"

The "Shady Side of a Pastor's Life," by Mrs. Hubbel, contains a world of truth; and as we happen to know the parishes in which she learned the "Shady Side," we indorse the practical correctness of her facts and inferences.

Dr. Lyman Beecher had an iron constitution, inherited from his blacksmith father, which he maintained by sawing wood, working in his garden, and by shoveling sand in his cellar on Sundays and rainy days, to keep his body and brain in good working order. A good deacon of his church was once terribly shocked at seeing the Doctor, with his coat off, shoveling a heap of sand from one side of the cellar to the other, Sunday noon between the services. To his remonstrances the Doctor replied, "God knows I must have the exercise, and my people would be shocked if I were to do something useful, like sawing

wood, so I pitch this sand across the cellar every Sunday once or twice."

If ministers worked more physically they would think with more vigor and have less of the blues. If they were paid better salaries they could have exercise and some release from nerve-shattering anxiety and chagrin incident to poverty, sick wives, and the vain attempt to keep up respectability and an open house for the people of the parish and for church agents and missionaries besides. Better health would help to raise them above despondency, and more *green*backs would save them from the *blues*.

BAD HABITS OF CLERGYMEN.

The clergyman should understand physiology, that he may know how to take care of his health and learn to say No! when the kind-hearted parishioner urges him to indulge in cakes, pies, confections, strong tea, coffee, and other delicacies, as he is making his parochial visits. One-half the illnesses of ministers, even of those who graduate from the theological schools healthy, is owing to the labored writing of sermons, and the high living incident to the pampering spirit of fond parishioners, and the lack of manly exercise, which, by public sentiment, seems to be denied to them. Some clergymen, unfortunately, use alcoholic liquors, to the damage of their health and occasionally to their shame and the scandal of the church. Nearly all use strong coffee and tea; and since the use of alcoholic stimulants has become measurably unpopular, thousands of ministers have adopted the use of tobacco in some form, to the ruin of their health, the utter prostration of their

nervous systems and their memory, and the demoralization of their manliness.

Shut out by popular opinion from the invigorating labors and exercises by which other men keep themselves built up, many clergymen resort to some stimulant or narcotic, with the delusive idea that the temporary excitement is a source of strength and upbuilding. The result is dyspepsia, nervousness, throat disease, and general debility. Ministers should at least be temperate in all bodily appetites. Lawyers, physicians, artists, anybody, may play a rousing game of base-ball or quoits; may ride rapidly; may row and swim, and work in the field; but the minister must wear black gloves, polished boots, and faultless linen, and prune his manners down to prudery, or else his ill-instructed parishioners will criticise him. He must be too stylish to be natural, and too gentle to be healthy either in body or in mind. We rejoice that the traditional white cravat and ministerial garb are going out of fashion, so that the life of the minister is becoming more natural.

PHRENOLOGICAL ENDOWMENTS.

A clergyman should have a large brain as well as a good body, so that he may be able to sway the minds of the public. He should, in fact, be equal to the ablest man in his congregation, so that none shall be untaught, none shall be unfed. He should have the force of character which comes from a well-developed base of brain. When the prophet Nathan preached to King David, it required as much courage to say "Thou art the man," as it would have required to lead an army.

The minister should have enough natural courage not to be afraid to look men in the face and speak strongly and plainly to them of their sins. He should also have the governing powers, namely, Firmness, Self-Esteem, and Conscientiousness, that he may have stability, dignity, and the love of justice, and not be afraid to utter his monitions. He should have a judicious and manly policy, originating in Cautiousness and Secretiveness, that he may be prudent in action and speech. A babbling, talkative, gossiping minister, who talks to one parishioner of the faults and caprices of others, is unfortunate to say the least, and thereby makes himself contemptible and unsuccessful. In the administration of parochial affairs the minister needs great prudence and circumspection combined with stability, dignity, and courage; and those who succeed in maintaining an influential position in the same parish for a lifetime are known for these qualities.

POWER TO INSTRUCT.

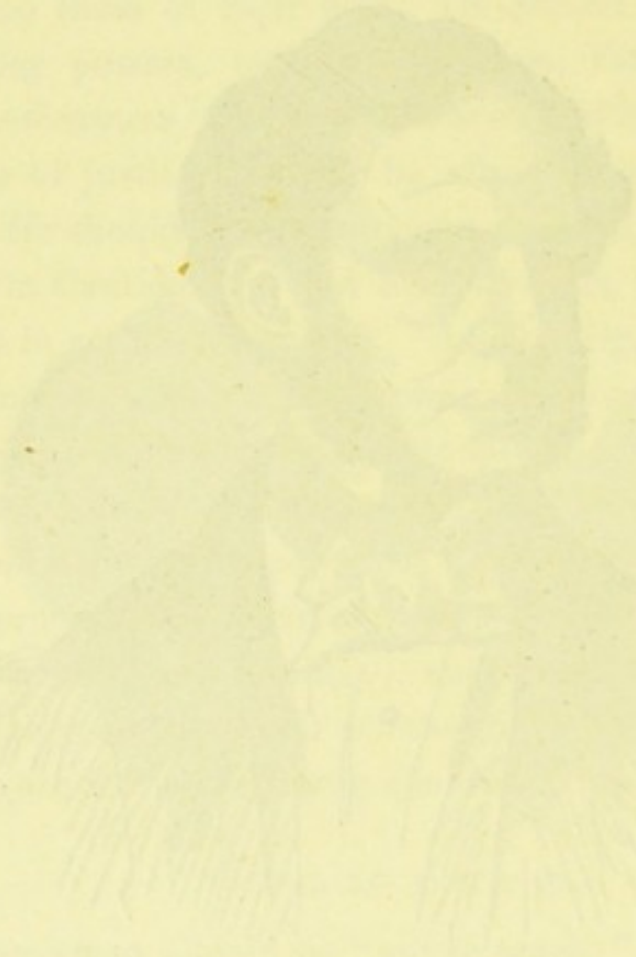
A clergyman should be "apt to teach;" and what does this mean? It has three elements: first, good perceptive power, ability to see everything, and appreciate all that is seen. He should see in the very grass and trees, in every insect that wings the air or creeps upon the earth, a lesson of industry, of beauty, or of Divine oversight. He should have scientific knowledge, especially physiological, and these perceptive faculties, properly trained in every direction, would double the power of the minister. He should preach health. He should explain laws that apply to the body and the mind. He should be able not only to obey



REV. FREDERICK W. ROBERTSON,

DISTINGUISHED AS A WRITER,

An English clergyman, distinguished as an original thinker, eloquent orator, and elegant and vigorous writer. Born February 3, 1816, died at Brighton, August 15, 1853. He was curate at Winchester, Cheltenham, and Oxford, and in 1847 became minister at Brighton, and was the centre of attraction of the elite who thronged that fashionable thoroughfare. He devoted himself largely to the organization of a "Working Men's Institute," and labored for the uplifting of the common people. His early death, caused by overwork and the worry incident to opposition from extreme conservatives, cast a shadow of grief wherever English literature is known.



law himself, but to teach the public how to eat and drink so as not to pervert and daily desecrate this human temple of the living God.

MEMORY.

He should have an excellent memory, not of things physical and material only, but of general history, of incidents, of the facts and affairs of every-day life, as well as of Biblical history. The clergyman who can remember the given name of every man, woman, and child in his congregation will find this fact an open door to their affection and friendship. He should make himself acquainted largely with secular matters. He may be familiar with agriculture, horticulture, and mechanism, with banking and commerce, with mining and with seamanship. The Master illustrated moral truth by the vineyard, the wine-press, old and new wine; with navigation and fish-catching; with sowing grain and reaping the harvest; with bread-making, the parental relation, and with the shepherd's tender care of his flock.

With such knowledge, the minister can exert a wonderful influence upon all sorts and conditions of men, and lead them to see a relation between the life that now is and that which is to come. They will thus be made to feel that their pastor knows what they know, and is also wise in "the things of the kingdom." The minister should understand and preach God's works as well as his word, and thereby enlarge the faith and give breadth to the thoughts and character of his people. He should evince a knowledge of their cares and business, and a sympathy with all that laudably occupies their six days' labor. He should

show that religion is not merely a Sunday garment, to be laid aside at its close, but one that covers the whole week, with its cares, joys, and labors.

PHILOSOPHICAL TALENT.

He should, moreover, have theoretical or reasoning power, ability to grapple the causes and reasons of things, and set them forth with clearness and power. He should be a philosopher as well as an historian; and if endowed with the esthetical faculties, those which give the love of poetry and romance, of beauty and refinement, all the better; for when the strong argument has been reared, when the great walls of defense against sin and wickedness have been piled in grandeur and enduring strength, only half the faculties have been gratified. It will not make the walls of truth any the weaker for having the vines and flowers of beauty thrown over their ruggedness.

HUMAN NATURE.

The clergyman should understand human nature clearly and sharply; should be able to read men quickly and accurately, as taught by Phrenology and cognate sciences. He should also have eminent power of illustration, so that by parable or simile he may make truth vivid and practical. He should have Mirthfulness, to appreciate wit and to show what is ridiculous and absurd, and on proper occasions to enjoy with his people a hearty laugh. He should also have strong social affections, that he may sympathize with people in domestic afflictions, and know how to rejoice with all that makes the home and the family an emblem of heaven.

MORAL DEVELOPMENT.

And pre-eminently should the minister possess moral power. When we see a man in the pulpit with a head only a story-and-a-half high, with predominant animal tendencies, we pity his people, and we pity him.

The top-head should be ample, broad and long as well as high, indicating not only great devotional feeling, whereby he may lead the devotions of the most devout and spiritual, and also be able to cultivate the devotional feeling of those who are weak in that respect; but he should have ethical power, and ability to teach integrity; and not only should this be true of him, but he should be able also to sweep over the human heart an influence that shall awaken its sympathy and inspire its philanthropy.

PARTIAL MORAL DEVELOPMENTS.

We have known men in the pulpit who were eminently devotional, and their whole service seemed to center and circle around this one feeling. In its place it is good, but it should not be alone. We have known others who would bring out in strong relief the justice of God and his law; they would teach justice among the people, and thus train a congregation to be upright but hard, and to regard the Deity, not as a loving Father and Friend who "pitieth them that fear him as a father pitieth his children," but rather regarding Him simply as a sovereign, grim, severe, and distant, "who will in no wise clear the guilty." Another, with extra Benevolence, and with but little Conscientiousness, will say little of the justice of God, and but little of justice among men. He will amplify the benevo-

lent spirit of Deity; will teach kindness, liberality, and philanthropy among men; but fail to teach the ethics of religion as applicable to human affairs. Human nature embraces these elements, namely, devotion, faith, integrity, and philanthropy; and those who would teach in the highest and best sense should be able to lead the faith and devotion of the most faithful and the most devout; should be able to treat topics pertaining to the realm of integrity and ethics, whether they relate to the nature of God or the duties of man, so as to brace and strengthen the weak and guide and regulate the strong; nor should the principle of benevolence be neglected in this world of selfishness and strife. We need "line upon line and precept upon precept," not only to keep the heart warm toward the great God as the Father and Creator, and to be "just and fear not," but also to be sympathetical, tender, and forgiving toward our fallible fellow-men.

The man who can walk these fields of influence, who can discharge these duties amply, may well be called "Elder Brother," "Father," "Bishop."

THE PHRENOLOGIST.

The phrenologist, like the minister, the physician, and the lawyer, should be perfect; but as perfect men are exceedingly scarce, and as the world must be served by somebody in the different capacities of ministration, its servants must needs be taken from among imperfect material.

The ideal phrenologist should have a large, fine-grained,

DR. F. J. GALL,

THE FOUNDER OF PHRENOLOGY,

Was born in Germany March 9, 1758, and died in Paris August 22, 1828. Gall studied the brain in connection with character, and regarding the brain as the organ of the mind, he learned to look for similar character in heads which were alike in form; and thus, step by step, he gained positive knowledge, and faculty after faculty were located.



DR. F. J. GALL.

DR. J. G. SPURZHEIM

Was the worthy coadjutor of Dr. Gall, and, quite as much as his eminent master, has laid the world under obligation to him. He organized the principles discovered by Gall, doing for them what the architect and mason do for the rough blocks of granite and marble which have been forced from their resting-places in the mountains. He was born in Germany, December 31, 1776, studied medicine in Vienna, joined Dr. Gall in 1796, became an author, lectured in Germany, France, England, Scotland, and the United States, and died in Boston, Mass., November 10, 1832, deeply lamented by the best people in America and Europe.



DR. J. G. SPURZHEIM.

GEORGE COMBE,

The pupil of Spurzheim and author of the "Constitution of Man" and other works on phrenology, was born in Edinburgh, Scotland, October 21, 1788. He died August 14, 1858, leaving a fame for learning and ability which shall be perpetually cherished by all enlightened nations.



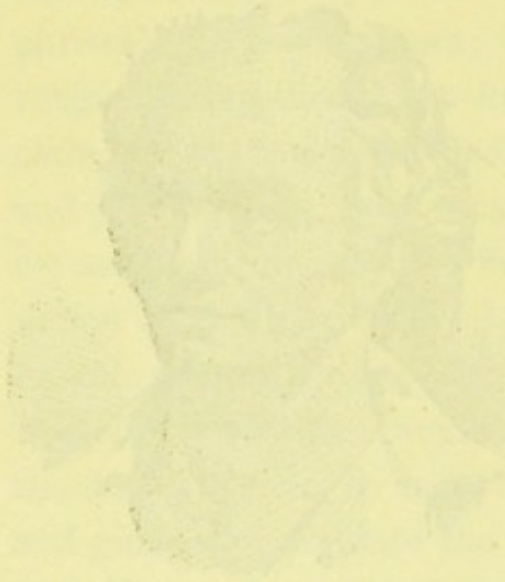
GEORGE COMBE.

DR. CHARLES CALDWELL.

This eminent scholar and vigorous writer met Drs Gall and Spurzheim in Paris, in 1806, adopted their views, and was the first to bring the new science of mind to his native land. He was born in North Carolina, May 14, 1772, and died July 9, 1853.



DR. CHARLES CALDWELL.



healthy, energetic, and enduring body, so that every function and force in his entire make-up would be as perfect as Creative Wisdom could make it. If such a person existed on earth, he would have no complete companionship; would find nobody who would be his peer.

IDEAL PERFECT MAN.

We have sometimes imagined a man organized and endowed in all the faculties so as to rank in every respect with the ablest who have ever made talent and genius illustrious,—with the body of an Adonis for beauty, vigor, and elasticity; with the courage and energy of a Cæsar; with the philosophical talent of Bacon, the wit of Cervantes, the mechanical talent of Watt, the imagination of Milton, the poetic fancy of Shakspeare, the benevolence of Howard, the religious reverence of Fenelon, the patience and fortitude of Job, and the friendly fidelity of a Ruth or a Damon. Such a man thus wise in all human capability, and endowed with the highest pattern of courage and virtue, and the most abiding and tender affection, would be able to perform any duty, to accomplish any purpose, and achieve any result possible to human nature. Common men, if they could at some fortunate moment appreciate such a man's capacity and worth, would incline to worship him, for we think he would be really higher and better than some men are able to conceive God to be.

With this exposition it will be better understood that in describing what is requisite for the different trades and professions there always springs up this thought, that to do anything *well* it is desirable that the doer

have every power and faculty belonging to human nature in its highest and best conditions.

There is many a good user of tools with great skill in manipulation, and if in addition he had the highest order of inventive and philosophical talent and excellent artistic taste, he would be all the better qualified even for a blacksmith or boot-maker. He might not with such endowments be willing to follow those pursuits, but while he did follow them, he would do a better job than if he had only the practical talent necessary to do the work. Michael Angelo, one of the first artists and architects the world has known, was all the better constructor for the possession of those supereminent talents. On the same principle the highest culture in mathematics is no detriment, but rather a help to the most successful use of the rules of arithmetic.

BAD HABITS AND THEIR RESULTS.

Dwarfed, warped, and imperfect specimens of humanity, which sometimes we think almost slander the wisdom of the Creator, have become such through manifold weakness, wickedness, and misfortune: verily "the fathers have eaten sour grapes, and the children's teeth are set on edge." Men insist on their right to live as they please. They use tobacco, and their children often lack brain and brawn in consequence; they have poisoned their system with alcoholic liquors, or perverted their stomach and liver by high living, and their children are born with dyspepsia, consumption, or gout, or the tendencies thereto, —hence we find men very imperfect; and if we would

have ministers, magistrates, physicians, editors, teachers, and phrenologists, we must select our candidates from among a race more or less demoralized by thousands of years of ignorance and vice. We should, however, select, so far as we may, for these teachers and leaders of mankind, those who are the least imperfect, those best endowed and best behaved; and as mankind must be served by those who are imperfect, it is a matter of vital consequence that as good specimens shall be selected as may be found, so that their special topic of instruction may be brought within the scope and easy comprehension of practical thought.

BODILY QUALITIES.

We say, first, the phrenologist should have a good body; there should be strength, vigor, and health. Dyspeptics, or those who are nervous, angular, and erratic, have just as good a right to practice Phrenology as others with similar defects have to preach the gospel, practice law, treat the sick, or build houses. But the cure of souls and of bodies, the administration of justice, the construction of dwellings, and the practice of Phrenology are sometimes so badly done that the parties in interest must suffer more or less; therefore we claim that, if possible, there should be a good, sound, hearty, healthy body, so that the ministrations or labors may at least be normal. The temperaments which represent the bodily conditions should be such that the man would be active and energetic; his thoughts clear, earnest, and at the same time cool enough not to be warped and perverted.

MENTAL DEVELOPMENTS.

The phrenologist should have a good-sized brain, so that he may have mental comprehensiveness and momentum, and at least be the equal of the average man in the community; and every organ of his mental composition should be in fair development, so that he may appreciate every mental power in human nature, and be able to describe it successfully. If the phrenologist have a badly balanced head, his examinations will always be so toned and warped by his own peculiarities as to do more or less injustice to nearly every person who comes under his hands. If he have extra Cautiousness, there will always be hesitation, reserve, guardedness, and timidity in his descriptions, and his advice to the anxious and fearful will be anything but encouraging. If in conjunction with large Cautiousness he have small Combativeness, he will never talk to his subject as Nathan did to David, looking him sternly in the eye and saying, "Thou art the man!" The consequence will be that his patron will not be fairly and firmly dealt with. If the phrenologist have extra large Approbativeness, he will be inclined to say pleasant things to his subjects, perhaps flatter; will smooth over the rough points, and magnify the favorable qualities. If he have extra large Benevolence, he will take too favorable a view of his subject; will excuse or palliate errors and defects. If his Secretiveness be too large, he will lack directness of expression; there will be so much policy in all he does as to make him non-committal. If his Amativeness be too large, it will give to his life and professional practice a tendency to sensuality; he will incline to

speak of vices arising from the abuse of this feeling in a way that shall debase and pervert those who come in contact with him. If the examiner have excessive Ideality, Spirituality, and Hope, he will incline to paint the picture too brightly, and encourage young men falsely, and thus lure them into rash speculations. On the other hand, if he be weak in Secretiveness, he will be blunt, abrupt, speak too much, and lack that polish and judiciousness of expression which is essential to an harmonious character. Besides, a phrenologist, especially twenty years ago, needed Secretiveness enough to be always suspicious; for nearly every community would make an attempt to deceive him by dressing up the weak and the wicked in the garb of respectability to be examined and described publicly, or by taking their best citizens into prisons and poor-houses to be examined as if they were culprits or paupers. A full degree of Secretiveness would lead the practical phrenologist to be suspicious of all such tricks, and teach him not to be deceived by appearances and external circumstances, but to fall back upon his science, regardless alike of applause or frowns from an audience.

DEFICIENCIES.

If he lack Conscientiousness, he will not be able to appreciate the higher and nobler elements of truth and justice, and he will be always making mistakes, especially in treating those who are better endowed in this respect than himself. Being mostly governed by other qualities, he will know but little about abstract virtue and justice, and not be likely to give anybody credit for those qualities;

if he be lacking in his philosophical faculties,—if his reasoning organs be weak, he will never be able to measure men or describe those who have those qualities strongly marked, but will be flat, vapid, and shallow in his descriptions of those of superior talent.

With lack of Combativeness and Destructiveness, he will be too gentle and tender, fearful of hurting one's feelings; and even though he may know what he ought to say, he will lack the manly power to say it so as to make it serviceable to the subject or honorable to the truth of science. The phrenologist should be amply developed in the social organs, not only that he may win friends by proper appeals to the social nature in others, but because in his examinations so much needs to be said relative to social life, and he should be qualified by strong social feeling to say it effectively. He should have rather large Self-Esteem and Firmness, to give him self-reliance and dignity, that his word may be as law to his patrons,—also that his character may be manly, steadfast, and honorable He should have at least a full share of Acquisitiveness, to prize his services, and to secure from his labors adequate compensation, and also to appreciate the law of economics, that the advice he gives as to business may be useful to his patrons. He should have only medium Alimentiveness, that he may not only keep his system in right relations to health and effort, but be an example of temperance to all. A drinking, smoking phrenologist should be regarded as an abomination, and utterly repudiated. He should have a good memory, to retain knowledge; and large Language, to express himself handsomely; and large

Ideality, to give a poetic and eloquent spirit as well as a polished style and manner. He should be a man of talent and a gentleman. The phrenologist needs to have enough of each faculty to feel at home in lecturing upon it, or describing its action in the subjects under his hands; besides, the phrenologist ought to know something about life besides that which he gets from books.

KNOWLEDGE OF COMMON LIFE.

We have often thought that labor on a farm for years in early life was almost indispensable to sound and comprehensive judgment, and that the experience and knowledge there gained would be highly serviceable to a man in any department of life. For a person to know how everything that he eats appears as it is growing, and to know the history of whatever he eats, drinks, and wears, is no mean acquisition. The phrenologist is all the better for understanding something of every trade and avocation by which men get a living; then if persons be brought to him who are seeking to know what avocations they are best adapted to, he will be able to direct each man to the right place. The muscular developments, the strength, the style of temperament, and the aptitude for particular pursuits must all be estimated; and the more the phrenologist knows by experience or observation of the duties, privations, peculiarities, and requirements of all kinds of business, the more readily will he be able to assign to each person the peculiar avocation, all things considered, best adapted to him. One reason why men who start in humble life, and have to work their way up to position

and influence through hardships and difficulties, are so effective, and able to meet men where they live, and on their own ground, and in their own peculiar trials and circumstances, is explained by the fact that they have learned skill by practice and self-reliance by necessity. One reared in the lap of luxury, having conversed with well-to-do, happy people only, may preach an able sermon or a sound theology; but one of those pioneer Methodists, raised on a farm, knowing what poverty and privation mean, can go among the poor and preach a gospel that the poor will understand. But one or two of the twelve Apostles were learned and polished; the others were common men, having very little learning and no worldly position, with all the weaknesses, frailties, and temptations which belong to the lower relations of life; and they were adapted to go out and "preach the gospel to every creature."

The phrenologist, like the minister, then, is all the better for having an intimate acquaintance with common industries and common life, as well as with books and with the learned and noble, and he who has the breadth to comprehend, and the wisdom to apply knowledge thus gained, can best succeed in the duties of his profession.

PECULIAR CULTURE.

The practice of Phrenology, more than any other pursuit, tends to the cultivation of the different faculties and dispositions of the mind. For when one lectures upon the organs, and explains a faculty or propensity, he is of necessity brought into sympathy with the subject, with

the spirit of each faculty he talks about; and when one applies the science in examinations, in order to describe each organ successfully, he must of necessity have an active sympathy with that which he describes; consequently each of his faculties, while he describes the corresponding one in his subject, must be wrought up into a greater or less degree of intensity. Thus the brain of the practical phrenologist, if he have a good body to support it, will grow in size, and his faculties will increase their power and long retain their elasticity. We know of nothing better adapted to call strength to weak faculties and modify and regulate strong ones than the practice of Phrenology, especially if it be done in a conscientious and upright spirit.

RELIGIOUS NATURE AND CULTURE.

The phrenologist ought to have not only strong moral qualities, but the spiritual elements should be amply developed and cultivated. There is no motive which can be brought to bear upon human nature which exercises a more elevating and invigorating influence upon it than those which relate to the spiritual and immortal. We pity the phrenologist who is an atheist, who regards himself as a mere machine adapted only to this life, without any relationship to or hope for the higher and better life.

As the moral and spiritual faculties are the highest of all, the phrenologist should be largely endowed in the top-head, and have a profoundly religious spirit, so that he may instruct men to lead a nobler life by proper appeals to their moral nature. Few ministers of religion have a

chance to guide, instruct, and impress men so extendedly and thoroughly as the phrenologist. He lectures to large congregations, often six times a week; but in his numerous professional examinations he has an opportunity to impress truth upon the individual which is unequaled; because by its individual directness it is almost certain to be ineffaceable.

EARLY OPPOSITION.

When the writer entered the phrenological field as a lecturer in 1839, he was severely criticised by his brethren in the church for engaging in such a profession. Indeed, the day was appointed by the church to investigate the subject as a misdemeanor. But some of the brethren, disposed to "prove all things, and hold fast that which is good," proposed to have a course of lectures on the subject, to ascertain the nature, the drift, the tendency, and the morality, not to say religious tendencies, of Phrenology, and *then*, if necessary, proceed to the investigation of the propriety of a Christian man engaging in a profession at that time largely "spoken against." The lectures were delivered, the minister himself as well as the whole congregation being present. All the public examinations were made by the lecturer blindfold, because he was acquainted with all his auditors. Nothing further was heard of the inquisition, and most of those who interested themselves in the subject have since become cordial believers and firm supporters of Phrenology.

WHAT IS PHRENOLOGY.

Now, what relation does the study and practice of

Phrenology — the belief in and support of it — bear to other vocations? What is the meaning of the word Phrenology? Many persons do not stop to ascertain that the two Greek words—φρήν, *phren* (mind), and λογος, *logos* (discourse)—of which this term is composed, mean a discourse upon the mind. Phrenology teaches the nature, the tendency, and the proper training of every power of the mind; of every passion and propensity; of every sentiment, esthetical and religious. It is a system of mental philosophy. It grasps the intellect in all its varied powers. In short, the MAN, in his social, secular, animal, intellectual, and moral nature, is the topic of its investigation, the field of its labor. Who, then, shall call it unworthy? Who shall think it of less importance than any other? Indeed, rightly understood and properly treated, it need not bow its head in the presence of any of the other professions.

OTHER VOCATIONS.

The architect plans houses and bridges, and for this society needs and rewards him. The builder, with his adze, saw, and chisel, follows the architect, and produces in stone, brick, wood, and iron the ideal of the architect, and as a result we have houses to dwell in and bridges to span our rivers. The machinist constructs the instruments of industry which do our work, and his machine weaves our cloth, hammers our iron, saws our timber and planes it, and draws our weighty trains over the iron track. But these blessings come to the body, and, indirectly only, minister to mind and soul; they are still outside the man

himself. He that constructs the house builds the outer garment. He that constructs the coat and hat is still working at the outer garments. Such are ministrants of the body. The physician himself, called to aid in treating the sick, treats the body, just as the tailor and the shoemaker minister also to the body, though the physician comes a little nearer home. But if the physician deal with the body in sickness, the grain producer, the miller, and the baker also minister to the body in health. All are servants of the body. The teacher trains the intellect, and the major part of his labor bears the same relation to mind that the grindstone does to the axe, simply sharpens it for use. The province of the lawyer is to settle the quarrels and difficulties and to adjust the secular rights of men. All these are more or less external. The teacher's duties are more intrinsic than those of the lawyer; still the lawyer's proper duties are useful and indispensable. So are the teacher's and the physician's. The minister of religion is acknowledged to rank among the first, or as the first among men, because his functions relate to this life and to the life to come—to the welfare of the soul as well as of the body. In fact, if the clergy, as a class, knew five times as much about the body as they now do, and would preach to their people the gospel of physiology, so that they might have sound minds in sound bodies, and thus be qualified to be more successfully led in the path of righteousness and holiness, it would be better for the human race. Abstract theology is good,—so is the roof to a house,—but it needs something to go with it to make it in the highest degree serviceable.

TRUE FUNCTION OF THE PHRENOLOGIST.

What is the function of the PHRENOLOGIST? What is the material on which he works? He must be a physiologist, and must know and teach that which the doctor knows, and ought to teach, but in far too many instances does not. He must study the intellect in all its phases, that he may guide people to the right use of the mind in the various directions of science, industry, and usefulness. He should appreciate the moral and the spiritual, and in the administration of his profession should know how to use these elements in a normal manner, so that if he does not preach theology *per se*, he can lead people quite up to the point where theology can be understood and accepted. But the true phrenologist is also a theologist, teaching men not only that which relates to the physical life, but also to the spiritual life.

All the social faculties which bring to us happiness and unhappiness, through which, indeed, both the smiles and tears of the world flow, come within the scope of phrenological investigation. Every passion and propensity, every hope and fear, every ray of light and joy, every flash of wit, every scintillation of sentiment, every aspiration for the good, the true, the beautiful, belongs to the sphere of phrenological investigation and instruction. Other professions are partial and fragmentary. The mathematician addresses himself to three or four faculties only. The mechanician may be wise in the direction of four or five faculties, and there his study practically ceases. The theologist has hitherto dealt mainly with the moral faculties. The teacher thinks he has finished his work

when he has instructed the intellect; the physician, when his patient recovers his health; the lawyer, when he has adjusted our differences, or rectified the blunders and mistakes of ignorance and selfishness, regards his task as accomplished. When the clothier or carpenter have clothed and sheltered the body, they congratulate themselves, on receipt of their compensation, that they have fulfilled their duties.

But the phrenologist has to do with faculties through which and toward which all these professions minister. As he deals with every faculty, and others have to do with a portion of them only, as every interest that belongs to the body, mind, and soul come under the administration of the phrenologist, if he be a true man, well instructed in all that belongs to his vocation, there is no one who should rank higher, because no one has so much to do with the weal and woe of men. It is his duty to guide parents and teachers in the education of children, according to their particular talents or capacities. It is his province to aid in the selection of pursuits—trades or professions. He properly holds in his hands the happiness and prosperity of his fellow-men. A single word of advice from him, fitly spoken, may act as the switch-point of the rail track, to change the course and destiny of a young man for life. It is his prerogative to select for the world's service those capable of being prominent in their various pursuits. When he is more generally consulted, and his advice followed, there will not be a single Watt, Fulton, Arkwright, or Morse; and there shall be fewer men wrecked in wrong pursuits to their own damage and

to the serious detriment of their age and generation. If any reader thinks Phrenology is a small profession, let him rectify his opinion from this hour. If weak or wicked men n the phrenological field have disgraced themselves and damaged the science and its application, it should not be the standard for judging all. One in twelve, perhaps, of phrenological teachers may have disgraced themselves and their subject, but the eleven should not be condemned for one Judas. Those who work in the phrenological cause, and those who contemplate entering it, if they will for a moment consider the importance of the subject, the material with which they have to deal, viz., the bodies and souls, the intellect, the affection and the sentiment of humanity, that no other has so wide, so interesting, and so important a vocation, let him stand erect and be thankful for a field of effort second to none in importance, in value, and dignity. And let it be his privilege, as it is his duty, to faithfully work in that field, and by culture of head and of heart make himself worthy his high vocation, that it may be said of him at last, "Well done, good and faithful servant! Enter thou into the joy of thy Lord!"

USES OF PHRENOLOGY.

Phrenology expounds the nature of man, his capabilities, moral, social, artistic, mechanical, intellectual, and scientific, as well as his capacities for skill, energy, executiveness, independence, and force of character. Why, then, does it not lie at the basis of all culture, improvement, and knowledge? Certainly no mental science is worth

the ink that it costs to explain it, which does not meet the wants of the soul by such an adaptation to man as shall take hold of all his sympathies, wants, propensities, aspirations, and moral powers. And that his wants may be met, how important is it for those who teach moral truth to understand the nature of the being whom they teach! Such clergymen as are led to their profession by high and holy purposes, and have, consequently, a much better mental organization than falls to the lot of the great mass of mankind, are not able, through their own experiences of life, to enter into intimate sympathy with the less fortunate of their race, who are most in need of moral teaching, culture, elevation and guidance. He who has not been tempted to steal, or lie, or break the other eight commandments, can have, by consulting his own consciousness, but an imperfect idea of the feelings, the weaknesses and wants of such as break every part of the decalogue, almost as naturally as they breathe. Phrenology, however, opens up to the world a means of judging as to the real and relative dispositions of all classes and conditions of men; and we venture the assertion most confidently, that Phrenology has done more within the last fifty years to instruct the world, teach the true nature of mind, and the philosophy of its action, than all previous study of that great subject put together.

Before Phrenology was known, there was no means of determining, with any degree of certainty, what might be the character, disposition, and talents of any stranger who should be presented. The child in its mother's arms was looked upon as a kind of angelic blank, and fond affection prophesied all that was hoped for in respect to such a human bud of promise. But real history and development often dashed all these fond hopes, and sent confiding

parents to the grave with sorrow and gray hairs. Now, Phrenology anticipates history, as it views the infant asleep on its mother's bosom. It sees the embryo selfishness, the passions, and the stubborn elements, and observes the weak points, and suggests the treatment necessary to subdue and rightly direct the unruly feelings, and to foster and cherish the weak points, and how to make the elements of evil, in the soul, weaker, and those of virtue and religion stronger. That all persons are qualified to make these nice distinctions and discriminations on the infantile condition, we do not claim; but that any person reading carefully any well-written volume on the subject, shall be able to block out the character, and to understand the general drift of that which is to be the history of the infant, we do claim; and this capacity for fore-reading human doing and destiny thus brought to light by Phrenology, and that co-ordinate light thrown on the true method of teaching and training the young mind, is the great glory of the science. This lies at the foundation of morals, of refinement, of high civilization, and of religion, and on this basis can a higher and surer system of ethics, character, and civilization be reared than on any other.

Hitherto, religion has served only to make the best of individuals and nations barely tolerable. Children reared to active manhood by parents, teachers, magistrates, and clergymen, without any just knowledge and true philosophy of human character and action, have found their work marred in nine cases out of ten, and the tenth case but a meager representation of what nature meant in the organization of the individual; and the results of legislation, education, and justice combined, though well-meant, have resulted in merely patching up mankind, and in keeping it from becoming utterly brutalized.

Some may be surprised when we tell them that the best legislators, preachers, and teachers of to-day, those most widely sought after, most thorough in purpose, most successful in effort, are those whose teachings and administrations are based on phrenological science. We say *based on* Phrenology, consciously in some cases, and unconsciously in others. The very literature of the day is permeated with the ideas that Phrenology has developed, and thousands are taught by it without being aware of the fact. Mind is understood in its various faculties now as it formerly was not. It is not now deemed impossible for a person to be a genius in one or more traits, and imbecile in others. Persons are now understood as being morbid or insane in a single faculty, while they may be sound in others, and thus a just judgment is awarded. Once, to be insane, was to be possessed of the devil, and men were executed, or incarcerated beyond the hope of release, and were treated as beasts, or worse; and it is an important fact that every successful manager of insane persons in the United States, for the last quarter of a century, has not only been a phrenologist in belief, but has treated his patients on phrenological principles. The treatment of criminals is better understood from the same cause, and we would avoid nine-tenths of the crimes and of the insanity of the times by a wiser and more thorough culture of the race. And this culture, we apprehend, is to be an outflow of the more extended and intimate knowledge of the subject we teach. We would so plant this science in the experience and love of the rising generation, that when we are gathered to our fathers, thousands of others shall stand ready to push the cause onward, until its beneficent influences shall fill the whole earth.

ENGINEERING.

We meet with many aspiring young men who wish to become engineers. They know of Ericsson, of Roebling, and other eminent men as engineers, and that the profession, in the hands of men who have the talent to make it respectable, will secure position and pecuniary success. Very few, we imagine, who look wistfully to that profession for position and success, are well advised as to what is required to be able to occupy such a post.

There are several kinds of engineering. Some require one set of faculties; others, a different set in combination with the first. It may be said that an engineer, in the widest interpretation of the word, requires a first-rate temperament, and a good development of all the phrenological organs. Engineering requires a knowledge of natural philosophy, chemistry, and mathematics, and includes surveying, architecture, and construction.

To be an engineer one must have the talent to plan structures, must understand enough of chemistry to comprehend the nature of the materials he uses, and must be versed in mathematics so as to determine the laws of gravity, force, and resistance. Civil engineering is only a branch of the subject, and refers chiefly to matters of a fixed and permanent character, such as railways, canals, light-houses, tunnels, sewers, break-waters, etc. Mechanical engineering refers to machinery, steam-engines, mill-work, machine-tools, etc. Engineering is further divided into steam engineering, hydraulic engineering, agricultural engineering, topographical engineering, and military engineering. To do all this work, and do it well, requires, first and last, nearly all there is of a man, however exalted his talent, or extended his culture.

Constructiveness may be regarded as the central faculty of engineering. One may have mathematical talent and

not be an engineer, though he can not be an engineer without this. He may be a thinker, a reasoner, having large Causality and Comparison, and yet not be an engineer; but one becomes a better engineer for having these organs large. One may have large Form, which enables him to draw and sketch, and not be an engineer; but with Constructiveness and Ideality, the faculties which lie at the foundation of mechanical invention, one will naturally seek the means to work out his creative thought. Calculation, Form, Size, Weight, Order, Causality, and Comparison are employed in mathematics. Geometry must be employed in architecture. Every ship, bridge, dry-dock, mill-dam, aqueduct, or important machine must have geometric calculations. Mathematics, as applied to surveying, are required. Surveying, as an art, employs, of course, the perceptive faculties and Constructiveness. Moreover, an engineer should have the historical faculties, Eventuality and Time, for the remembering of all the details and facts connected with engineering work. He should have as good a recollection as is required by a physician or lawyer A working engineer may not need large Language, unless he is required to write or teach, but a good development of Language would be useful.

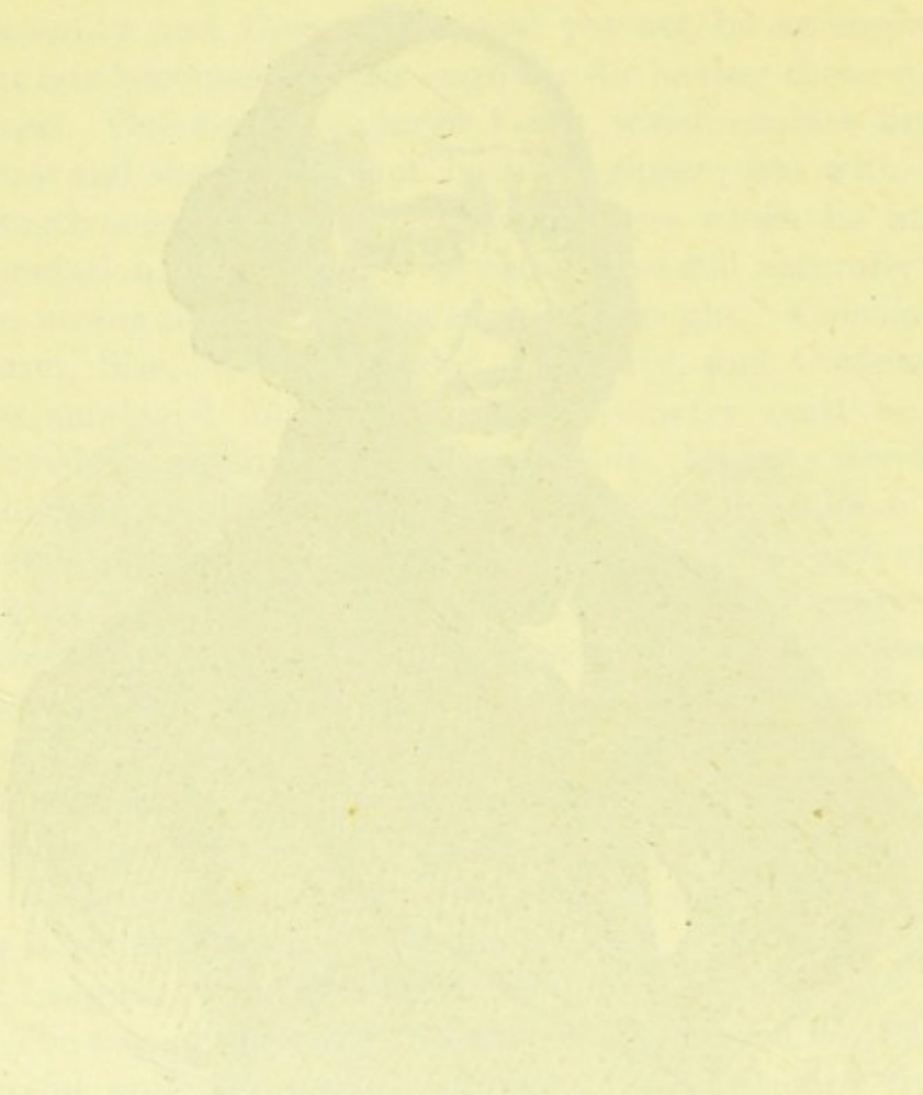
The fascination which seems to be produced by the successful prosecution of the different professions or trades, misleads thousands. When the engineer with his instruments is making measurements on a public park, or running lines for public works through or near villages, it attracts the attention and commands the admiration of every ambitious boy in the neighborhood. He doesn't know how many years the venerable engineer, who is thus at work, has carried the chain through forests, swamps, and brambles, patiently submitting to annoyances from sandflies, musquitoes, the inclemencies of the weather, and the peevish dictation of his superiors. He does not know



JOHN ERICSSON,

THE GREAT ENGINEER AND INVENTOR.

Everybody knows that the propeller instead of the side wheels are used for sea-going vessels, and largely for all that ply in harbors, rivers, and lakes, but few know that Ericsson is the inventor. The little turreted iron-clad Monitor, which in an hour revolutionized naval warfare, was the child of his prolific brain. He was born in Sweden in 1803. and in England and the United States he has made many other improvements, which are too numerous to mention, and now, in his eightieth year, he is still at work in New York developing inventions which seem to be quite outside, and greatly, as formerly, in advance of all others.



that he may have had to work hard ten years in subordinate positions, for low compensation, before he attained to a position of authority and responsibility, and consequent ample remuneration. One in a hundred may, by fortunate circumstances, glide at once into an honorable and remunerative position, as one in a hundred of the lawyers, physicians, or artists may do; but the other ninety-nine engineers must work their passage, submit to a thousand annoying inconveniences, live a semi-heathen life, half the time in out-of-the-way places, seldom having a decent bed or consoling fireside after a day of worrying work. Nor does it much brighten the early pages of the engineer's history when it is remembered that subordinates, the young men working their way up, must do all the drudgery during the day, and then, while the chief engineer is smoking his cigar and reading the papers, the subordinates have to sum up the work of the day by careful mathematical calculations. One man in ten can be master, and have an honorable rank; the rest must fain wait and work, and live on faith and hope for years. Moreover, much of engineering is done away from home, out of the reach of civilization, where everything is rough and comparatively unsatisfying. It is a campaign attended with much inconvenience and privation. The man's wife and children can not, of course, follow him everywhere, and he is away from home almost as much as the seaman is.

These inconveniences, because they belong to this profession, can not be ignored, even by the most favored; and aspirants for fame must meet them manfully and persistently before they can wisely hope to reach the highest success.

We make this array of difficulties which interpose between ignorant boyhood and engineering triumph, in part to dissuade those who have not the talents and the resolution to apply themselves to the study of the requisite

principles; and also to inspire those who aim to occupy it with honor, with a due sense of this important field of effort, and to show them how much they need to learn, and how much they must expect to endure and bear before they can have the reputation to command the most important positions and the most easy and remunerative service. It seems to be the object of many persons to derive the greatest possible remuneration from the smallest possible outlay of time, talent, and labor; and if this plain statement will serve as a wet blanket for such sordidly ambitious persons, it will leave the field for those who are fit to occupy it.

Of course an engineer should be a man of force and energy. He should possess dignity and manliness in order to command the respect of the talented and honorable as well as of the plain and rough. He should have prudence, not to build a bridge seven times stronger than is necessary and then be afraid to cross it himself, but to see that his material is of good quality, and his plans well devised for the attainment of success. He needs Firmness, to give him stability and perseverance; and he needs Acquisitiveness, to comprehend the value of money, and not waste thousands of dollars on public works, as some have been known to do. It is proverbial that most engineers' estimates are far below the actual necessity of the work, showing that engineers generally are not very good financiers. An engineer should have Conscientiousness, to make him trustworthy and reliable. In short, he should have all the moral sentiments, so that his intercourse with men may be favorable to morality and honor.

One of the chief agencies by which the world is to be civilized, set ahead, and improved, is through the labors of our engineers. We commend the pursuit to those fitted for it by organization, as at once among the most useful, profitable, and honorable.



FERDINAND DE LESSEPS,

CHIEF PROMOTER OF THE SUEZ CANAL.

Born in France, November 19, 1805. From 1825 to the present writing, 1882, he has been engaged as a diplomat to many countries, and is chiefly known for promoting, pushing, and finishing the Suez Canal, and now he is laboring to construct a ship canal across the American isthmus at Panama. He is a most enterprising and indefatigable worker, and if any work can be done he will find the method and the means.

HOW TO EDUCATE EACH MAN
FOR HIS PROPER WORK.

The term education has more meaning than those who use it generally suppose. The acquisition of book knowledge, such as arithmetic, geography, grammar, and the like, to most minds answers as a definition of the word education. But in its widest sense it embraces the training of the intellectual powers and the acquisition of scholastic knowledge; it embraces, also, the training and development of the moral sentiments, the guidance and control of the animal propensities and of the social dispositions. It embraces still more, taking in the development and proper care of the bodily constitution, and the training of the muscles to act in obedience to the mind.

PERVERSION BY TRAINING.

In respect to the education of the emotional nature, including the passions and sentiments, there are two forms in which they may be educated to act. The imagination, the most exalted and refined part of the mental nature, may be diverted from its legitimate action and led into the fields of wild and romantic fantasy until the mind loses its just balance. The appetite for food, nature's commissary for resupplying the wasted energies of the system, may be

so trained as to crave noxious drinks and stimulants. Acquisitiveness, or the love of property, may be wrongly educated so as to take a miserly direction. The faculties which give energy, courage, industry, and force are frequently perverted by training to act as low and quarrelsome dispositions. In like manner prudence may be perverted to fear, ambition to vanity; and pride, which should give a just self-estimation, may be warped so as to exhibit austerity and haughtiness.

The perversion of the faculties produced by improper influences exhibits the susceptibility of the mind to training and culture, and ought to be a hint to all who have the charge of the young, not only as a guard against improper influences, but as an encouragement to place before the mind of the pupil such conditions as shall be calculated to lead it aright. Mental discord arising from bad training and vicious habits is as palpable as the jargon of untuned musical instruments, or well-tuned instruments incorrectly played upon.

PHYSICAL TRAINING.

Physical training is as important to the body as culture is to the mind. Bodily strength may be present and the individual be unable to use that strength with any degree of success. It requires a trained hand to make a barrel or a boot, and it requires a trained mind to exhibit the highest success in the arrangement and expression of thoughts, and in the successful management of business. A person may have an educated mind in reference to music, and yet not have the trained hand necessary to play the piano-

forte. But when the hand is trained to perform the dictates of the will, and the mind is also educated in musical science, the mere sight of the notes will send the hands to the requisite keys almost instinctively. We become accustomed to dancing, or walking, or using the knife and fork, so that we do it without thinking, or automatically, at least without special or conscious reflection. In reading we are not conscious of seeing every letter, but let a letter be wanting or defaced, and we instantly detect it.

DIVERSITY OF GIFTS.

Persons differ in their capacity to learn different things. One remembers forms and can recall or reproduce them; another remembers colors; another has mechanical judgment; another has the power of remembering words; another remembers places, and is apt in geography; still another has great analytical power, and is fond of philosophical investigation; another is abstract and metaphysical; and each can acquire education in conjunction with his strongest quality, and each of these persons may possess some faculties in very feeble degree, and be incapable of any considerable advancement in these respects. In short, every person may be a genius in one thing, and very weak in another. Other persons there are who are well developed in every faculty, and can learn one thing as well as another. All they need is time and a fair opportunity. Others, again, are dull in everything. What they get is by the most protracted and laborious effort.

Phrenology reveals this mystery of the mind and opens to the teacher and the parent two important considera-

tions. The first teaches what the pupil can best learn, and in what he can gain the highest degree of success. The other fact teaches the weak points, and, therefore, what needs special cultivation.

It is customary to put ten or twenty boys in a class of arithmetic, and the fashion has obtained of not allowing those who have great talent in arithmetic to advance faster in that department than the dullest. The class, including the brilliant ones, has only such lessons given as the dullest can master, and at the commencement of a new term the whole class must go back and work up from the beginning, and get perhaps a third of the way through the book, and so repeat for years; whereas the boys who are gifted in figures should have free scope, and compass the whole science as early as may be, and thus have time to labor at something else at which they may not be quick. The ambitious boy who happens to be dull in any one department is apt to overstudy and break down his health, because he is ashamed to be behind his associates. Still, he may be able to excel in every study but a single one.

METAPHYSICS NOT PRACTICAL.

From the earliest ages these diversities have existed and will exist forever. Yet the metaphysician before he had learned by experience the character of a stranger, was never able to say to a person, "You can do this, and can not do that; can learn one subject, and can not well learn another." They have adopted the principle, that whatever a person could do in one respect he could do in all respects, and thus they have required equal excellence, if

not from each individual as compared with all others, at least from each person equally on all topics; and only by severe and protracted trial have they been led to abandon this fallacy in each given case. Mental philosophers, moreover, have taken their own minds and dispositions as the basis of their writings and philosophy. What they possessed they supposed belonged to the race in equal proportion, if not in equal degree; what they lacked, they supposed did not exist. Hence the endless diversities of opinion among metaphysical writers in regard to what constitutes a mental faculty or power of the mind. One believes man has conscience: another, that he has none, but that he is induced by the love of praise to do that which is approved as just and proper by the community. As no one mental philosopher was likely to have a perfect organization, every one would exhibit in his writings some truth and some error. Having no standard to judge of mind but that of personal consciousness, the world was left in darkness respecting the true philosophy of the mind until the system of Phrenology was discovered by Doctor Gall, during the latter half of the last century. Perhaps one of the greatest errors of the mental philosophers consisted in describing the combined action of several faculties as a single power, and therefore each of the faculties recognized by them was likely to involve several faculties of different degrees of strength. For instance, they speak of "the faculty of memory," when there are no less than twelve distinct faculties of memory. They speak of "the faculty of judgment," when there are nearly as many faculties of judgment as of memory. They speak also of love

as a distinct power, and here again we have many elements of love. One loves children, but not friends; another loves friends devotedly, and has great aversion to children. One has very strong benevolence, but little social affection; and so on through all the possible varieties of mental development and manifestation.

With such a system of mental philosophy, education must be a matter of mere speculation, for there could be no rule or base line. Phrenology teaches the relation of the brain to the mind, and also points out the organs of the various faculties, and shows, by means of determining the quality and size of the organs, the various powers possessed by each person. This science throws a flood of light upon the laws of mind, and accordingly all who truly appreciate it as a system of truth regard it as being of the highest practical value to the family, to the scholar, to the legislator, to the world.

ERRORS OF EDUCATION.

The erroneous methods of training and education so common in the community lie at the foundation of much of the sin and misery that scourges the world. Mobs and riots are made up of persons who have been miseducated. In all large cities a class of persons may be found who are much worse, in character and conduct, than heathen savages; not because they were born with dispositions worse than the average of the human race, but because they became vicious by the neglect of all good training on the one hand, and by persistent training in that which is evil on the other hand. Let us examine the subject in detail.

The average training of the best communities is full of error, because for thousands of years man has known less of the laws that govern his complicated physical and mental being than of those of almost any other class of phenomena. He has eaten, drunk, slept, and labored as animal desire or necessity or perverted habit dictated, without a thought of the fact that he was under LAW, and amenable to its penalties. The thousand bodily ills which he is made heir to, by misguided animal indulgences, have dotted the cemetery with short graves and peopled the earth with millions of groaning invalids.

The abuse or perversion of four or five of his animal feelings has crowded our prisons and scourged society. The lawless tyrant who crushes the freedom of a hemisphere and abrogates the personal immunities of his race, displays an abusive energy of Self-Esteem and Destructiveness. The thronging votaries of Bacchus, who, under the dominion of perverted Alimentiveness, commit ninety per cent. of all the legally cognizable crimes which make our prisons populous, is a voice of warning whose very thunder tones have made the public ear callous. The perversion of the sexual impulse, a mere item of which sends more than four thousand unchaste women to the New York city prison in a single year, or sixty-three per cent. of all the women imprisoned in that institution, affords a glaring proof of debasement produced by the abuse of this single faculty.

What is the antidote for these and several unnamed mental excesses? Some radical defect evidently exists in our systems of education. Man is too fond of happiness

thus to dash the cup of joy from his lips, and quaff the gall and wormwood of misery, except the true light were extinguished, or burning so dimly as to afford no aid to his wandering footsteps, or so distantly as to mock his endeavors to reach it. Yet schools, pulpits, libraries, and periodicals are almost as plenteous as the walking monuments of ignorance, vice, and misery which they have been established to reform.

Until we learn the true philosophy of the mind, no system of teaching or preaching can be devised or applied which shall be fully adapted to the wants of the race. We might as well bleed a patient, or give emetics or cathartics to cure corns or the toothache, or turn a river into a city to extinguish fire in the housetops, or submerge a watch in a vat of oil merely to lubricate its laboring points, or employ a blacksmith, with his hammer and tongs, to adjust its delicate parts, as to attempt to mold and manage mind, practically and usefully, without understanding its laws, and adapting to it such influences as are in harmony with its nature and philosophy of action.

We may preach to mankind, in general, abstract morality; we may draw a picture of a perfect man, and anathematize all who do not attain to its full stature and proportion, till time itself grows old, and unless we learn how to trace the laws of mental action, and specify and particularize the steps of a holy life, and teach men what are their individual besetting sins, and how "to mortify the deeds of the body," or how to subdue the animal propensities to moral and intellectual control; until this shall be done, the great mass of the race will be slaves of sensuality, and

millions who are seeking rest, and, for lack of knowledge, finding none, will fail of that bliss for which they sigh, and instead of being a blessing to themselves and the world, they will become a curse to both, simply because they have not been taught to know and obey the Creator's laws.

Nathan was a teacher who applied the remedy to the diseased part. "Thou art the man!" made David feel convicted, and the clear and touching illustration of his offense awakened conscience and produced reformation. The king of Israel could listen to the abstract recital of gross wrong, and send forth a righteous indignation against it, without feeling specially and personally guilty; but when a home-thrust of the prophet applied the case directly to himself, he quailed before it.

We teach our children that they must avoid all SIN, and do what is RIGHT; but this is like requiring them to visit a particular place or man in a populous city, without telling them the street and number, or placing them on the right track to find the desired object. What folly to take a green boy from the street into a jeweler's shop, and require him, in general terms, to repair a watch, without instruction relative to its mechanism and laws, and holding him guilty for not knowing its defects, and in this ignorance blaming him for doing it damage and failing to put it in running order!

The character of "the true Christian" has been drawn in glowing colors, many times, from ten thousand pulpits, and the world required to come up to that exalted standard; but the PROCESS of subduing each vicious motive,

and each tendency to wrong, and the manner of nurturing into activity every elevated moral feeling, are not practically stated step by step, and the result is, that the hearer is either discouraged from endeavoring to achieve such perfection, or remains unmoved relative to the whole subject. It is like exhibiting a sumptuous repast on the second floor of a house, and requiring the famishing to ascend and partake, but showing them no stairs on which they may gain the desired elevation. The entire leap they can not make, however much they may desire it. Show them the gentle ascent by easy steps, and a child or a cripple can attain it. Precisely so in morals, in respect to that elevating and reforming process which, when matured, constitutes the worthy character; and even the Christian life and character is to be attained by "mortifying the deeds of the body," and "sowing to the spirit," that the "house of David may grow stronger, and the house of Saul weaker."

Man must be taught the science of right living, feeling, and thinking, as we teach a child the rudiments of knowledge. He creeps, then walks, runs, and leaps. He does not spring into full-fledged perfection, with all his powers and capabilities under well-instructed command. He labors up the hill of knowledge and development by almost imperceptible steps, and, without comprehending the progress of the slow transition, at last finds himself a man in organization and function, physically and mentally. Fact by fact, and fiber by fiber, like the slow but steady construction of the ant-hill, are the accessions of his knowledge and his power accumulated. Nature works thus in

her vast laboratory of mineral and vegetable production not less than in the empire of animal and mental life.

In imitation of the lessons which nature teaches, let us begin with the ELEMENTS OF THE MIND in the reformation of the world. Inform the learner that while it is his duty and privilege to nourish the body, yet that to eat and drink is not the chief good of life; that the entire man may be debased by the over-indulgence of appetite; that a morbid appetite may corrupt the whole being and imbrute all the higher powers. The first element of true reform is to teach man how to nourish the body so as to insure health and the highest order of physical and mental development. Nor is this a difficult task. Imitate the simplicity of nature, under the light of physiology, and the work is done. The cow enjoys uninterrupted health during the whole period of her life, through all the changes incident to her natural duties and functions; and has nature been less wise and beneficent in the establishment of the laws which govern man? Equal temperance, order, and uniformity in eating and drinking, by man, would insure equal exemption from pain and disease.

Perfect health, the first condition of human happiness being thus merited and established, one half the task of training the animal propensities is accomplished. A fevered body causes a fevered condition of all the mental functions, and especially of the lower feelings.

A man or child indulges the feeling of anger, and conscientiously believes, while under its dominion, that he is really outraged, and grossly and maliciously wronged. He verily feels that he is "doing God service" to chastise

the object of his displeasure. Let him ascertain enough of the philosophy of his mind to know that he is under the flaming dominion of perhaps a single faculty (Combativeness), and he will feel less inclination to submit to its sway. But while he believes that his whole mental nature is invaded, and that all he is as a man is suffering the indignity or insult, and that all his powers of mind should be engaged to repel it, he loses self-control, and is impelled, as by a moral necessity, to act the part of a maniac. But teach him that this feeling flows from the excessive activity or perversion of one faculty, and that its exercise will inflict injury on others, and awaken an unhappy state of many of his own faculties, and you awaken in him a power of self-government that bids the troubled storm "be still."

A spirited boy, eight years old, who was as familiar with Phrenology as with his nursery tales, came running to his mother, saying, "I want to whip James; what organ is it which makes me feel so? Is it Combativeness? I wish it were not so large, because I like him when I am not angry." The mother replied, "You must try to feel kindly toward James, my son, if you think he has done wrong, and you will soon get over your ill-feeling, and you would then be sorry to have whipped him because one of your organs was angry." "I will try not to let my Combativeness make me do wrong," said the little fellow, wiping off the tears which anger bade him weep.

Improper customs prevail in society, and Approbativeness leads us to feel miserably if we can not conform to the fashion, right or wrong. Conformity brings gratification to the faculty, in despite of reason and conscience, or,

perhaps, so far blinds them as to suborn them to a perjury of their nature, to testify in favor of the abuse. Now we may talk of the "vanity of the world" forever, and we do not reach the point, or cure the evil in a rational manner. We may try to crush the feeling, but it writhes in pain and lives in agony. The faculty should be understood and enlightened, and it will yield to the claims of reason and a sound discretion. Poverty often groans for a "decent display," and it is felt to be an absolute necessity; but let it be shown that this feeling arises from ONE faculty, excessive in degree and activity, and all the other elements of mind will be arrayed to allay it. Privation, dishonesty, and theft, even, are resorted to to minister to this faculty, under the corroding impression that the whole mind demands the indulgence. A better philosophy would correct this error, and the mind resume a happy submission to its condition.

Hope may be weak and Cautiousness strong, and the person is a slave to groundless fears, mental depression, and despondency. Life is rendered a burden, and the future promises misery. Many such persons have become maniacs and suicides by being taught that the Creator was angry with them, when, could they know that their organization was faulty, and not their fate, they might have been saved from such sad results. The mild but conscientious and excessively cautious and sensitive Cowper, in his seasons of great despondency, was instructed by his pastor, Rev. Mr. Newton, to regard himself as being under the displeasure of God for sins of omission or commission. Had the minister been a physiologist and phrenologist, he

could have taught the misanthropic, nervous invalid the cause of all his trouble, and saved his gentle nature from a world of torture little less than mortal.

Phrenology, by specifying the several mental powers, their laws of action, their natural and unnatural modes of manifestation, will become the guiding star of parental influence, of school management, of pulpit instruction, of prison discipline, of the treatment of insanity, of legislation, criminal jurisprudence, and of all the important relations of life. It is as impossible for mind to remain unmoved, when properly addressed, as it is for a perfect musical instrument to refuse its tones when its strings are swept by a master's hand.

If our premises be well founded; if what man requires to know is the true philosophy of his emotions and motives of action; and if Phrenology furnishes that knowledge as no other system of teaching can possibly do, it follows that the doctrines of Phrenology should be sowed broadcast throughout the world.

Wherever there is mind to be guided and illuminated, ignorance to be dispelled, vicious propensities to be curbed and rightly directed, moral feelings dormant for want of proper culture, ambition and laudable emulation either dying of disuse or fevered by abuse, and working ruin by misapplication, an energetic intellect rusting for want of a sphere of action, or wrenching and wearying its energies on misdirected, and therefore useless, efforts, seeking truth, yet ignorantly chasing false lights, THEN AND THERE is the true phrenological parish. It is limited in its aims and sphere of usefulness only by the highest and broadest

wants of man. A perfect development, and a like perfect education of all the faculties of every human being, is a consummation that must be achieved before its mighty mission will be fully realized; nor will it then have completed its work. Like the glorious sun, which matures one generation of plants, and sends them to mingle with their original dust, yet rolls onward, shedding its light and heat to produce and perfect another like generation of plants, so PHRENOLOGY must be the guiding light to each successive generation of men, even after the highest human perfection shall have been attained, to the end of time.

This must be the work of ages and of millions of laborers. Like the bees in a hive, all the members of the human family should be co-workers. Every mother, every school, every pulpit, and every press should lend its aid to this work of progressive reform. Ten thousand competent lecturers should give voice to these truths, while every ramification of society should be vocal with the Greek motto, "KNOW THYSELF," and every effort be aimed at its practical accomplishment.

IMPEDIMENTS TO EDUCATION.

The impediments to education are many and varied In order to discuss this subject with any interest to those whom it most concerns, we should first inquire, "What is education?" and though the answer is wide in its range, as well as minute and practical in its application, we may take some general views, which will be important to parents, teachers, and pupils.

Education should be viewed in two aspects. First, the

acquisition of knowledge or truth. Secondly, the healthful training of all the mental faculties. Diseased or warped minds can not appreciate truth in its proper light, nor can we, with diseased bodies, practice those truths if they were properly appreciated, any more than cracked glass can reflect light clearly, or represent the true image of things, consequently, with a diseased organization, or one in a feverish, irritable condition, no just education can be obtained. The drunken man, it is said, sees things double—certain it is that almost everything is distorted. Many persons by dissipation, by over-mental exercise, by excitement and irritation of various kinds, are as ill qualified to acquire a correct knowledge of science, or of the external world, as the drunkard is to perceive truth correctly. Such minds either magnify or distort whatever they dwell upon.

If the acquisition of knowledge merely were the object of education, a calm, healthy, well-balanced state of the mind and body would be of the first importance; but this is not the only, or the chief, object of a perfect education. The proper training of the mind to a power of well-poised, correct, and consistent action is paramount *Discipline* is education. The mechanic's apprentice learns the laws of his trade and how to use the tools, but does not make up a stock of goods during his apprenticeship with which to fill his own shop, to remain there as a show for a lifetime.

In the early education of children too much care can not be bestowed upon their physical constitutions, and the comforts and appliances by which a healthful condition of

the body and brain may be secured and sustained. In many places, hundreds of children are crowded into comparatively small apartments, which are over-heated and imperfectly ventilated — if indeed any attempt at all be made toward ventilation. The consequence is, that the brains of the children are overcharged with venous or unoxygenated blood—their minds become stupid—their nervous systems irritated, so that they can neither think nor remember. They are kept still for a great length of time, when it is their nature to be moving; and parents who know how difficult it is to keep children quiet at home or at church, and how natural it is for them to be in motion, should endeavor to secure such school arrangements as will give their children an opportunity for exercise and pure air. We believe if they were permitted to march around the school-room once in half an hour, that they would be kept in an orderly condition much more easily, and their studies advanced, and their health promoted thereby. Now their minds are over-taxed with excessive study—they are required to take their books home, and pour over their lessons till bedtime—then during school-hours, the confinement added to the previous home-study, completes the work of deranging the healthy tone of their mental and physical organization. A dyspeptical tendency, nervousness, and irritability, with weakness of body, heat of brain, and confusion of mind, are among the results. This driving the mind beyond the power of the body to sustain it, increases the cerebral development at the expense of the bodily health and mental soundness; and as a result we often hear, at the funeral of these bril-

liant scholars, the old heathen proverb: "Those whom the gods love die young."

After parents and teachers have ignorantly combined to drive the growing children to self-destruction through over-mental exercise and the lack of healthful bodily action, they receive, at the funeral, the consolation of unphysiological clergymen, who repeat words which are true in the abstract, but which are not at all true in respect to the cases in point, viz.: "The Lord gave, and the Lord hath taken away"—when the language of the clergymen, to be applicable, should be, "The Lord gave, and endowed that gift with a well-balanced constitution, with adaptation for recreation and healthful exercise. He also gave it lungs that it might have pure air, which has been denied it—muscles for exercise, which, to a great extent, has not been afforded—a digestive apparatus and circulatory system, and these have been perverted by unhealthful diet and bad habits. He gave a mind, but not to be overtaxed; and now, since through misguided ambition and ignorant fondness the child has been really though innocently murdered, it is a perversion of truth to say that the *Lord* hath taken it away." In one respect He *has* taken it away—precisely as He takes away a man's possessions, when, through carelessness, they are allowed to be set on fire—just as He robs us of life when we violate the laws of health, but not as a special infliction of Providential indignation.

If any children chance to live through such a course of early treatment and training—if they have constitution enough to resist such violent and repeated attacks, they

are, perchance, entered upon a collegiate course. Here they meet new acquaintances—are thrown into the society of "Young America," each anxious to stand in the front rank, and unwilling to be outdone. Any who have not learned to smoke, have here an opportunity and solicitation to do so. Those who have not acquired the habit, or whose unperverted nervous systems revolt at such an outrage, are called weak, effeminate, and unmanly; consequently, learning to smoke is one of the first lessons of the Freshman. We need not say, for any careful observer can ascertain the fact for himself, that nearly all college students become inveterate smokers, and thus seriously injure their health and constitution. A leading illustrated paper recently gave a large engraving designed to illustrate "College life," or students on the day of commencement at Yale College. In a group of students under the classic elms of New Haven, nearly every one of them was represented with a cigar in his mouth.

Now, no one can have a healthy brain, and take just views of life and truth, when thus deeply under the influence of tobacco. It is rank poison, and every habitual smoker takes enough of this poison every day to kill a man who is not accustomed to it; and yet many persons of good general sense think it does not injure their health or warp their minds.

What would be thought of a public sentiment which would tolerate in our academies and colleges the constant and excessive use of alcoholic liquors among the students? Yet tobacco is used almost universally by them, and its use is sanctioned by parents, professors, and public senti-

ment—at least, if not sanctioned, no direct effort is made on the part of either to check its growth or uproot it. This is one of the greatest impediments to education.

If intemperance among the students ceased with the use of tobacco, the contemplation of their condition would be less painful. In some cities where respectable colleges are located, drinking-houses are maintained exclusively by the students. There they can take their morning "nipper" or their noon-day "bitter" on the sly, and have a midnight carousal or regular "spree" at their pleasure. Can we wonder that education is so superficial, so warped, and that professional men thus educated should be a disgrace to their age and nation when they come to take an active part in public affairs? Who can expect other than fiery debates in legislative halls, and rows at elections, and dueling among editors and educated men, when all their passions are perverted and their nervous energies are set on fire by alcoholic liquors, tobacco, carousings, and midnight brawlings during their entire college course?

Many students, who have not enough of the heroic elements in their constitution to lead them to those outrageous acts during their college term or in public life, have become victims to an over-wrought nervous constitution in other directions; some have become insane, others demented, some excessively timid and nervous; others sink into a melancholy, good-for-nothing state of mind; not a few have heart-disease; and thousands are afflicted with dyspepsia, bronchitis, and all the accumulated ills that outraged human nature is thus made heir to.

Few persons are aware, perhaps, that gambling is a col-

lege vice, and that its extent is enormous. The poor, fortunately, can not indulge in this vice to any considerable extent, and the same is true, more or less, in respect to intemperance in its various forms; certain it is, that to the poor the world is mainly indebted for distinguished statesmen, able clergymen, and successful physicians; and when we recount the fact that a certain eminent man was obliged to teach school, or another had to black the boots of his fellow-students, or to be supported at college by charity, we are not generally aware that by so doing we are casting a serious reflection upon the habits and customs of college life respecting students who have money enough to procure the means of indulgence and ruinous dissipation. Poverty is a blessing, in so far as it prevents the poor from running riot like the sons of the rich. Licentiousness in various forms, especially secret vice, is also a grievous sin in schools and colleges. On this important subject we can not here speak fully, but refer the reader to the writings of eminent men on the subject, remarking as we pass, that this sends to the grave its thousands of students, and blasts the hopes and prospects of other thousands, who having better constitutions or having sunk less deeply than some, are permitted to drag out a miserable existence, a curse to themselves and to their friends.

These are mighty impediments to a perfect education, but neither pulpits, newspapers, public lecturers or others feel specially called upon to sound the alarm on all these great evils. Parents feel anxious, but their fondness for their children leads them to suppose that however others may be, their darling boy will avoid all these evils. They

have set him a good example—they have decried smoking, and drinking, and other modes of vice, but while they have kept his outward morals uncontaminated under their roof, they have induced in their child a feverish state of the brain and nervous system while in the common school, so that he is open to temptation on every hand the moment he is removed from under parental restraint and placed within the influence of young associates, and before they are aware of it, he too is gone, past recovery. No wonder that such parents should seek consolation even under a false statement, that "it is the Lord's doings."

If every person's tomb-stone were to record the true cause of death, what a sad picture would they present, and what a lesson would they teach! how different, alas! from the eulogiums inscribed on them by fond friends, and repeated at funeral sermons and by the public press. Instead of reading, "Removed by the providence of God," or, "Called away from earthly care and sorrow to the fruition of his reward," we should read: "Killed himself by the use of tobacco."—"Shortened his life twenty years, and thus robbed his family and the world of his usefulness by excessive eating and the free use of wine."—"Died of heart-disease and apoplexy, caused by coffee and cigars."—"Committed gradual suicide by over-study at school, through ambition to excel, and by neglecting proper exercise, and afterward over-working the brain in the prosecution of the duties of his profession."—"Went to the grave thirty years sooner than he should have done, in consequence of a sordid thirst for money, and broke down in making haste to be rich."—"Died of taking opium for ten

years, though nobody knew it."—"Died of fashionable laziness, combined with whalebone and corsets."

When will people learn to live in such a manner as to deserve better epitaphs, and go to the grave full of years, and ripe in all virtue and usefulness?

To EDUCATE is to draw out or call forth the faculties. To TRAIN a faculty is to guide, control, and regulate its action until that action becomes habitual. Now to educate or to train a child, a dog, a horse, or anything else, it would seem to be of the utmost importance to understand perfectly the character of the being to be educated or trained. If a man were to undertake to drive a team of horses as many cruel men drive oxen, there would not be one pair of horses in a million that would not declare war against the master, and either conquer him or run away from him. Moreover, horses differ from each other almost as much as they do from oxen in disposition. One horse can be managed only by careful, tender treatment; another horse is stiff-headed, coarse in qualities and disposition, and seems to require to be treated with a determined will and a stiff hand. Some oxen will bear clubbing over the head and almost constant whipping, while others would resent such barbarous treatment and become entirely unmanageable by such a driver. The same is true of dogs and every other sentient being that serves man.

The mind of man is more complicated and refined in its quality and character than that of the lower animals, and requires a correspondingly nice and complicated mode of treatment; and if any one fact stands forth more than

another in connection with this subject, it is the need of as complete and thorough a knowledge of the being to be educated as can be obtained. That this knowledge is imperfect among parents and teachers needs no proof. That it needs to be increased ten-fold will not be questioned; nor will it be questioned by any who have given the subject careful attention, that Phrenology, as an exponent of the mental nature of man, stands forth unequaled for its simplicity, comprehensiveness, and availability. We should hardly be disputed though we were to say that it was the only system of mental philosophy which has any claim to confidence as a practical aid in gaining a knowledge of, and exerting a direct influence over, the human mind.

Phrenology points out the capabilities of each person, what qualities require to be developed, and what passions repressed. It enables us to discriminate with certainty between the proud and the humble, the turbulent and the peaceable, the courageous and the cowardly, the generous and the selfish, the thrifty and the thriftless, the passionate and the cool-headed, the hopeful and the desponding, the cautious and the reckless, the cunning and the artless, the talkative and the taciturn, the reasoning and the weak-minded, the ideal and the practical, the witty and the sedate, those who are qualified for mechanics and those who would fail of success in that department, those who are distinguished for the various kinds of memory and those whose minds lose their knowledge about as fast as it is gained. Phrenology teaches, therefore, what arts and sciences, what trades and occupations, what particular branches of study a person can best succeed in, and lays

the foundation for domestic training as well as scholastic education. It not only points out the true theory of prison discipline, and furnishes the only sound basis for the treatment of insanity, but teaches us what kind of civil and criminal laws are required for the proper guidance and government of mankind, and last, though not least, it gives a nobler elucidation of man's innate moral powers than ever before had been known to the world.

At present man is but half educated at best, and that education has been badly conducted, because the first principles of the mind have not been generally understood. Thousands have spent the formatory period of their lives sweating over the classics or mathematics, or vainly endeavoring to become qualified for some profession or mechanical trade, and have failed to win respectability or secure their daily bread, and are thus made wretched for life.

Some of these persons might have had suitable vocations and become eminent, or at least respectable, could they have had in childhood such an analysis of their character and talents as Phrenology would have afforded, and been thereby directed to appropriate occupations. Many persons utterly fail to succeed in a pursuit to which selfish influences and ignorance have devoted them. After a thorough apprenticeship and ten of the best years of their lives, by accident or in despair of success they have adopted a business without an apprenticeship, but a business which required the exercise of another class of faculties, and they have triumphed, not only over the want of training and experience, but over the embarrassments of

their condition, and have run rapidly up to distinction and wealth.

We have many illustrations of ill-chosen pursuits and of changing, even in middle life, with decided success. One of the best portrait painters that a neighboring city can boast was raised a carpenter, and though he was always sketching with his pencil on the white boards upon his bench the portraits of persons and the outlines of objects, he still had no settled idea that he possessed artistic talent. He happened to be at a phrenological lecture of ours where he had an examination, and was informed that he was naturally adapted to be a painter. He took the hint, laid aside the plane, and took up the pallet. Some ten years later we met him, after he had been called upon to paint the portraits of three Governors of his native State for its public gallery. He lived in a fine house, had acquired position, and was in a fair way to pecuniary independence. He was again brought forward for examination in public, and a similar statement in regard to his talents was made, when he invited the writer to his house and gave a history of his career, and of the former examination, and openly and decidedly gave Phrenology the credit for advising him to leave a pursuit which was odious to him, and to adopt one which has become not only a source of success, but the pleasure and pride of his life.

In 1839, when Mr. Combe was lecturing in Philadelphia, he visited the House of Refuge for the purpose of studying the character of the institution. He was requested to examine the heads of several of the inmates, and to give his opinion of each in writing. One girl,

named Hannah Porter, he described as being naturally tidy, a lover of order, and capable of excelling in music. After the subjects had retired, the descriptions were read. Mrs. Shurlock, the matron, remarked to Mr. Combe that he had made a signal failure relative to Hannah; "for," said she, "she is the most slatternly person in the house; and notwithstanding all our efforts to reform her in this respect, she continues in her disorderly and unclean habits. She has been turned away many times from good families where she has lived, because of her filthiness, and she is regarded as incorrigible by all who know her. Relative to her musical talent, although nearly all in the institution sing daily at family worship, she has never been known to sing a note, and seems to take no interest in it."

"I can not help it," calmly responded Mr. Combe; "she has large Order and Ideality, and is capable of exercising taste and being neat. She has Time and Tune large, and is capable of learning music. She has the developments, *and they can be called out.*" After Mr. Combe had retired, the girl was called, when the matron read the description to her, and remarked, "Now, Hannah, the gentleman says you *can* be neat and learn music, and I wish you to try and prove whether he is true in his opinion or not." Mrs. Shurlock has informed us that the girl did try to sing, and in less than twelve months became an excellent singer, and the *leader of the choir* in the chapel of the institution. She also within the same time became one of the most neat and orderly in the same household, and these habits still continue with her years after her marriage and settlement in life. Had not this examination

been made to encourage alike the girl in her efforts, and her managers to take the proper means to call out and train these faculties, she would have remained a careless, slatternly person, and in respect to music have been mute for life. Now, neatness and order are a blessing to herself and family, and her musical talent lends a charm and grace to her life. This flat contradiction of the phrenologist, which her previous life and character had presented, left him no consolation but the belief in the correctness of the science and in the justness of his conclusions; and our informant, the worthy matron, appeared to take great pleasure in stating this triumph of the science, and rejoiced in the practical advantages derived from Mr. Combe's predictions, which, at the time, gave him no little discredit.

Phrenology opens to the teacher and to the parent the primary elements of the mind. It informs them what are the native talents and the weaknesses of the child, and the proper mode of awakening dormant powers to activity as well as how to depress those which are too strong. It not only teaches the dispositions of individuals, but what motives to present to those different dispositions to bring forth in them what is good and to restrain that which is bad, and how to induce obedience and impart instruction successfully to those who are unlike in character and talents, though they may belong to the same family or stand in the same class at school. The contradictory traits of children may be played upon by the teacher or the mother who understands the true mental philosophy, with an ease and facility scarcely excelled by the skillful pianist

in evoking from the instrument the most delicate harmonies, though the unskillful hand may make that instrument give forth the wildest jargon and discord.

We have endeavored to define what we understand by the term Education. We have shown that it embraces physical training, or the development of the body; also, the development of the different mental faculties, and their excess, and also their perversion by improper training. We have suggested some of the errors of the mental philosophers in treating upon the mind, and the great uncertainty of their systems as a guide to correct ideas of education. We now propose to offer some practical hints for the application of Phrenology to domestic training and to scholastic education.

ALIMENTIVENESS—HUNGER—FOOD.

Man is an animal with bodily wants, and he has a class of propensities which instinctively prompt him to provide for those wants. This he does in the first place without thought or reason; but subsequently, as he is ripened and instructed by experience, he employs his intelligence and his energy as a means of gratifying the lower elements of his nature.

The first, and, indeed, the most imperative, of human wants is nourishment. The new-born infant, prompted by this natural hunger, intuitively seeks its natural food at the very threshold of its being, as a means of building up the growth and supplying the waste which exercise and labor induce. Nature has kindly planted in us, as a part of the mental nature of the individual, the faculty of Ali

mentiveness, which renders eating and drinking not only a duty, but a pleasure. To eat right as to quality and quantity of food, including the proper time for eating it, is one of the most important lessons relating to our physical being. It is a most difficult part of our education, and one which is, perhaps, more frequently neglected than any other which falls within the sphere of every-day life.

ANIMAL INSTINCT.

The lower animals seldom exhibit anything which appears like reason in respect to their manner of eating and drinking, but they are guided by what may be called instinct—mere appetite. In respect to the selection of their food, they usually reject whatever is detrimental or noxious, and always eat the best they can get—that which is most pleasing to the appetite. Though a dog may have lived ten years in a family, and have been fed on bread, vegetables, and meat every day of his life, and perhaps never had food in such quantity as to have any surplus, yet he will always devour first the meat, then such bread as may have butter on it, then such vegetables as may have come in contact with gravy, and last, when his appetite is nearly satisfied, he reluctantly devours the dry bread, the most unsavory part of the meal. A child will do precisely the same thing—will eat the meat, the butter, the delicious fruit first, and cry for more; but if denied, will then turn to take that which is less agreeable to its appetite. But as a child increases in age, and comes under the dominion of his thinking, reasoning intellect, he subjects, to some extent, the faculty of Alimentiveness to the

control of his judgment. He does not eat the dessert first, nor, like a child or an animal, gnaw the butter from his bread, and eat all his meat, and afterward the bread and vegetables; but he eats the more important articles—that which with a keen appetite will taste good—and reserves the delicacies for the close of the meal, when his appetite for hearty, strong food has been satisfied. The dog, as we have said, never learns this lesson by age, but seizes the most delicious morsel first, and makes wry faces at other food at the close of his meal.

TRAINING OF APPETITE.

While the child is young he exhibits, as we have said, in the exercise of appetite, the merely animal impulses. During this season he should be guided and controlled by the experience or wisdom of the parent; and our impression is that there are very few children who are qualified to govern their appetite and exercise it properly until they have reached the sixteenth year; and parents can not do their children a greater injustice than to allow them to eat and drink as they please in regard to kind and quantity until they are old enough to choose the right food, and to take it in the right manner. What shall we say, then, of parents and nurses who appeal to appetite as a means of governing, managing, and restraining children, who promise to the already excited appetite some choice delicacy, something the appetite craves, with a view to subject the turbulent faculties of the child to temporary obedience? This method of training produces a feverish excitement in Alimentiveness, which, as the child matures, increases in

strength until it will not be satisfied with ordinary gratification.

INTEMPERANCE.

Society has wept and mourned over the desolations of perverted appetite until the entire doctrine of Total Depravity has appeared to be exemplified through the abuses of the single faculty of Alimentiveness. Children sometimes inherit from parents badly trained in appetite a tendency to these abuses; and what can we expect from the children of parents who have been ignorantly drugged by tea, coffee, tobacco, and alcoholic stimulants, or surfeited with rich, unwholesome, concentrated diet? It is within the memory of all persons of middle life when society was first awakened to the fact that alcoholic stimulants were not only unnecessary, but alarmingly destructive to health; but very few persons of extensive culture and good common sense have yet learned that tobacco, strong tea and coffee, and highly-seasoned food are almost equally destructive to health and happiness. It is comparatively but a few years since dyspepsia became known in the United States. We used to laugh at the accounts of gout among well-fed English people; but now *our* people, by abuses of appetite, are scourged with dyspepsia in the room of gout, a luxury pertaining chiefly to our cousins over the water. And what is dyspepsia but a breaking down of the tone of the stomach, and inability to digest the food and work it up into nourishment for the brain and body? Alcoholic liquors set the nervous system on fire, and make man a maniac and a demon or a fool. Its effects are, therefore, more palpable than those which rise from other

forms of intemperance; but these just as surely sap the foundations of health, gradually shatter the nerves, and derange all the organic functions, if indulged in to excess. Let the reader look among his neighbors, and how common will he find complaints of dyspepsia, of a torpid state of the liver, of scrofula, of palpitation of the heart, and what is called *nervousness*. These produce irritability, despondency, loss of memory, insanity, and death in various ways. Mankind has had a sore lesson on the abuses of appetite; and those who may reform will show their wisdom by obeying the teachings of these sore experiences; but those will be wiser still who learn temperance by their example, and by studying the laws of their being.

Though it may take several generations of temperate parentage, and a thorough application of correct training, to rid mankind of the deleterious effects of past intemperance, yet who will be dissuaded from the effort by the difficulty of the case, or consider it a waste of time, when so great a result is at stake? We sometimes think, notwithstanding tens of thousands have discarded the use of alcoholic liquors, that we are still an intemperate people. Many have given up the bottle, but only have changed the form of stimulant to coffee or tobacco, or both. After listening to a lecture on Temperance from a distinguished advocate of the cause, we found him smoking at the hotel, which he did constantly for nearly two hours. We inquired of him why he did so, and he remarked, that having given up liquor, which he had used to excess, he felt that he must have something to keep his nerves braced up. Since this he relapsed into the habit of drinking, and died

of *delirium tremens*. He changed the habit, but did not reform the perverted appetite, and his relapse was a very natural consequence. As a matter of health, we hardly know which is the worse practice of the two. Though smoking may not make a man neglect or abuse his family, it sends thousands of men annually to untimely graves, leaving widows in poverty, and orphans with nerves all on fire as an unhealthy inheritance from the short-lived father. When it is remembered that nearly all who use alcoholic liquors also use tobacco, and that tens of thousands smoke and chew who regard themselves as temperate men, it will be seen that tobacco is working more ruin to health and happiness than alcoholic liquors; and the most melancholy fact in the case is, that men are not aware of it; nor does society stamp its use with disgrace, as it does that of alcoholic liquors.

The whole system of intemperance is a wrong training and use of this primary faculty, Alimentiveness. Mothers and nurses may not be aware that they are training up their children to some form of intemperance when they nurse or feed them every time they are fretful or uneasy. Some mothers we know who carry cakes, candies, and the like in their pockets, wherever they take their children, and an appeal to appetite with some such delicacy seems to be their chief means of exercising influence over their children. Thus treated, it is easy to understand how the unnatural fever in the whole digestive apparatus should be produced, and also in that organ of the brain which governs that department of our nature. With such an early training, what wonder is it that when they come to

maturity they seek tobacco, alcoholic liquors, highly-seasoned food, and thereby break down their constitutions and their morals together.

The rules for training this faculty are few and simple. For the first year of a child's life, if its mother be healthy, nature has provided its best food, and, so far as possible, this should be given to the child at given periods, according to its constitution. Some mothers nurse their children every time they cry or appear restless, and thus keep the stomach in an unhealthy condition, containing food half digested, and, indeed, in nearly every condition, from that fit to be taken into the blood to that which is raw and crude. Nothing can be more destructive to the tone of the stomach than such habits, unless it be the taking of noxious substances; but wholesome food thus mixed, in various stages of change, becomes noxious, and there are very few children thus fed who do not become irritable, feverish, and dyspeptical.

As a child becomes older, and is weaned, it should be fed upon a plain diet, in general not such as mature people eat. In England and Scotland, children are not allowed, generally, to partake of such food as adults eat, but they are fed upon oatmeal porridge, or milk thickened with cooked oatmeal, upon vegetables of various kinds, and upon soups made with little meat and much vegetables. In the United States we often see little children two years old making a meal of roast beef and plum-pudding, or ham and eggs—in short, precisely such food as a healthy laboring man would eat. We often hear parents remark that they think their children ought to live as well as the

parents. By that they mean that they should drink coffee and eat meat and highly-seasoned food with adults; and these same parents understand perfectly well that a horse at five years of age will sell for fifty or a hundred dollars more, to be put into hard service in the city, if that horse has not eaten a bushel of oats in his life, but been kept exclusively upon hay and grass. Men are wise as to horses, cattle, sheep, and swine, but appear to be utterly wanting in practical sense in respect to the training and management of their own children. We believe that adults should live on a plain diet, that which is easy of digestion; beef and mutton are the best articles as meat, not spiced, compounded, or concentrated, including vegetables and fruit in large degree. Three times a day, we think, is sufficiently frequent, and these at regular intervals; nor should the person ever eat heartily just before retiring, even though circumstances have compelled him to work hard all day on a mere breakfast. If a person can not sit up an hour and a half after eating, he should retire on an empty stomach, though a hungry person might eat a small quantity and retire in half an hour without detriment.

When will men become as wise as an ox, which, left to roam the fields at will and seek his natural food, never over-eats, and rarely exhibits symptoms of disease during his whole life? He has no artificial habits; his appetite, guided by instinct, not pampered by cooking and fashion, remains unperverted. Nature, having established the physical laws which govern men as well as animals, would secure to man health and happiness, if he would use his

reason in guiding his habits as the animal follows his instincts.

The organ of Alimentiveness, which is located just forward of where the top of the ear is joined to the head, and which, when large, is indicated by width and fullness in that region, is the first organ in the mental constitution which comes into activity. The infant or the animal an hour old seeks nourishment, prompted by the faculty of Alimentiveness, and, as we have shown, ten thousand miseries follow in the train of its abuse.

Is it not strange that man, the noblest creature God has made, should stumble at the very dawn of his life in the exercise of so important a faculty as Alimentiveness, related as it is to the preservation of life and the physical constitution, and that faculty being one of the lowest elements of his nature? If all the other powers were as badly directed and as much abused as this, the doctrine of Total Depravity would need no further illustration or proof.

DESTRUCTIVENESS AND COMBATIVENESS.

In the base of the brain, backward from Alimentiveness, is the organ of Destructiveness, located directly over the opening of the ear, and Combativeness is situated about an inch and a half upward and backward from the opening of the ear, directly behind Destructiveness and Secretiveness.

These organs spring spontaneously into activity very early in the history of the human being. As we have said, Alimentiveness, or appetite, expresses the first want

of the new-born infant; and we suppose that anger or executiveness, which arises from the combined action of Combativeness and Destructiveness, comes into play next to appetite in the order of development. When the child finds itself cramped and restricted in motion, whether by the arms of its nurse or by its clothing, it instantly commences to struggle for freedom and to overcome the restraint. If it succeed in doing so, it seems contented; if not, it cries as if angry. These feelings, of course, are not only instinctive, but blind in their action; that is to say, there is nothing of mind or memory connected with them. What is true of the infant in this respect is more or less true also of the actions of adults; for a man never seems to act so blindly, so unthoughtfully, as when angry.

It seems to be the natural impulse of these propensities to resist, to struggle against opposition, to overcome. Sometimes the most careful planning, the most labored preparation which the intellect, guided by science, can command, is made, and seems to guide the executive faculties. This is true in engineering and in the accomplishment of great works. It is true in some battles; but in nine cases out of ten, when the outline of the plan has been followed, personal encounters, hand-to-hand struggles, and indiscriminate skirmishes, guided by the passion of the moment, become practically the law of battle. In ordinary personal disagreements, the intellect rarely does more than act as priming to set on fire the passions of Combativeness and Destructiveness, after which they act at random, impelled by their own energy, apparently with no restraint. Some persons have large Cautiousness, strong

reasoning intellect, and that equable moderation of temperament which enables them to think of consequences and count the cost even when aroused to anger; but these people constitute the exception, and not the rule of action.

The great object of training and education in conjunction with these propensities should be to guard against their undue excitability, to refrain from appealing to them directly in the hour of exasperation; and secondly, to assist or awaken the activity of such other faculties as shall tend to modify, check, guide, and restrain these passions. It is not the question whether these propensities shall exist in the mind, nor whether they shall rise into activity; for they not only exist, but ought to exist; they not only will spring into spontaneous activity, but it is right that they should do so. But the great question is, How shall the other parts of the mind be brought to bear upon them, so as to keep them, as we might say of a train of cars, "on the track?" We seldom complain of the normal action of Combativeness and Destructiveness. We are proud to see friends dash on nobly in a good cause, and scatter right and left bad, unworthy, and improper opposition to their just progress. In like manner the engineer is proud and the passengers happy when the locomotive, with its long train of cars, rushes onward across ravines, over bridges, through tunnels, and across the plains, at the rate of forty miles an hour. Its energy, the outworking of the engineer's courage and force, is a subject of gratulation to all parties. But when this wonderful engine escapes from the track, when it ceases to act under the guidance of the law by which it is constructed and put in

motion, and dashes down an embankment, carrying with it its living freight, it is then only that its speed becomes a mischief, and its momentum desolation and death. Thus we glory in power which is organized into a locomotive engine, so long as that power is under proper control; but when it breaks from that control, and dire disaster is the result, we shrink from it with fear and dread. So the passion of anger, or, more properly speaking, executiveness and courage, while guided by intellect and restrained by sympathy, friendship, honor, and moral sentiment, lay the foundations of deeds which immortalize men. It is only when they break away from their true line of action, when they get "off the track," and act illegitimately, that they become despots in their character, and lead to sad consequences. The injunction, "Be angry and sin not," recognizes the action of these faculties, even if they are evinced by anger; and the restriction, "sin not," seems to hold anger to legitimate offices—keeps it on the track. But when we become angry, and sin through that anger, we abuse the faculties—we are led astray by them.

The development of Destructiveness gives width to the head just above the opening of the ears. In carnivorous animals and birds, every head is widely developed in this region; witness the cat and owl, the eagle, the bulldog, and the shark. We mention these extreme cases, because the passion is very strongly manifested, and the organ largely developed. We refer to these animals, also, because this is the crowning quality of their character Some of them seem to possess almost nothing else, if we except appetite, as in the case of the shark. Combativeness,

which is the foundation of courage, boldness, and intrepidity, gives width to that part of the human head just backward of the top of the ears. Some animals appear to possess very large Destructiveness and but limited Combativeness. They come into a contest reluctantly, but are terrific when engaged. Others assail boldly, but are not cruel; and we see these traits in the human race in nearly every degree of modification.

In the education of these faculties the effort should not be to suppress or crush them, but to train them to act in obedience to, and in harmony with, the higher powers of the mind. They are propelling forces, and need guidance; we would, therefore, make them a team, and harness them to Benevolence, Conscientiousness, Friendship, Constructiveness, and the intellectual faculties. The energy of Combativeness and Destructiveness may be legitimately worked off upon laborious pursuits that require force, and thus become indispensably useful. The best method to sober a high-tempered boy—and it applies equally well to a horse—is to give him plenty of hard work to use up his superabundant energy. It is only the perversion of the propelling forces that produces fighting, wrangling, and wrath.

As soon as a child is old enough to show anger, his education in that respect should begin. Care should be taken to discriminate between mere Combativeness or Destructiveness acting singly and the combination of these powers. When only Combativeness is excited, all that is necessary is to employ a calm and quiet manner. If Destructiveness be excited at the same time, or alone, producing bitterness and a spirit of cruelty, it is necessary not only to be calm,

but very firm and very kind, so as to awaken opposite feelings in the child.

It is the nature of mind to be instantly affected with emotions corresponding to those which are exercised toward us or in our presence. It is the nature of Mirthfulness to excite merriment. We can not be in the presence of a person of mirthful disposition, especially if that faculty be at the time active in him, without having the feeling become contagious. We laugh because the other laughs. In like manner, Self-Esteem exhibited by another arouses in us a spirit of dignity. Friendship awakens affection, Benevolence makes us sympathetical, and anger excites our anger.

If a child shows anger, it usually awakens the same feeling in the parent, especially if the child be old enough to understand that he is doing wrong. Nothing is more common than for parents to become irritated by the anger of their children who are less than a year old, and we have seen them treated harshly, and often severely whipped. This manifestation of anger by the parent generally makes the child worse, by adding fuel to the flame, and his organs of Combativeness and Destructiveness become enlarged and inflamed; and as the child increases in age and ripens in such experiences, he becomes quarrelsome, turbulent, and cruel, and seems to feel a kind of satanic delight in fighting with and tormenting others. We have known many instances where children have been roughly and severely treated, in whom the organs of Destructiveness and Combativeness were doubtless unduly developed by this means, and the natural consequences of wrangling and

quarreling, scolding and fighting, followed as they grew up; while other children in the same family, the parents having been warned by Phrenology, or by their own common sense and the bad effects of such treatment upon one child, have adopted a new course with subsequent children, and with the best results. Not only have the organs been kept calm and uninflamed, but they have not been expanded by exercise and enlarged by use. That proverb is full of truth and sound philosophy which says, "A soft answer turneth away wrath, but grievous words stir up anger," and it reveals the true theory of training Destructiveness and Combativeness. A person can not govern others well who can not govern himself; therefore one should never allow himself to become angry with a person whose angry feelings he would control. An irritable child often inherits this quality from an equally irritable parent, and for this state of mind he is rather to be pitied than blamed. How ill adapted is a parent who can not govern his own anger to control such a child!

A child with an undue development of these organs should be fed with a plain, cooling diet, and its treatment in all respects be uniformly kind. It is rarely the case that an angry child can be managed, without great injury to its disposition, by one who is not cool and self-possessed. Soothing tones and amiable language should be addressed to it, and its passion will soon subside; then a steady and efficient rebuke may be addressed to its moral and intellectual qualities, which will be aroused to condemn the bad conduct, and thus the mind becomes fortified against the rebellious faculties, and the power acquired to quell

the next mutiny among the faculties. Every such victory gives exercise and consequent strength to the higher faculties, and lays the foundation of self-control. To speak to a child in anger, so as to excite wrath, increases the tempest, while a calm, steady, unruffled tone, under the command of reason, benevolence, and affection, will allay the storm, by prompting the activity of the opposite class of faculties.

When children are excited to anger, there are two excellent modes of managing them. The first is by withdrawing the mind from the objects of anger. If the child be young, one can present something interesting to its other faculties. When the child becomes older, it will be easy to relate some story in which his own angry conduct will be shown in such a light as to make it appear improper or ridiculous. We have seen a child in one minute changed from rage to laughter at its folly for being angry, under the ingenious treatment of an amiable sister or a judicious mother, who was cool and calm in her manner. Another excellent mode to cool the rage of anger is to pour water on the refractory child. This will be found to work like a charm. It may be sufficient to dash only a little from the fingers on the face and neck of the child, but this must be done in all calmness, kindness, and candor, as when you administer medicine. It will subdue the anger in half the time it would take to conquer the child with a whip, and leave no ill effect on the mind of the subject. But this should be followed, when the child's anger has subsided, with a kind and firm statement of the case, so that the intellect and moral feelings of the child

will be fully awakened to sit in judgment upon the previous wrong conduct. Thus we cure the erring, violent passions, and awaken the self-restraining, self-controlling elements.

There is still another method, and that is the whip. There may be children who can be punished and governed by the use of the whip, who can not easily be managed in any other way; but we believe if this be resorted to, it should be done by those who are not generally inclined to whip—by moderate, prudent, calm people; and then the child should be allowed time to think. Let him have an hour, or four hours, or let him wait till to-morrow at a given hour; and when the castigation shall be administered, let it be thorough. One such judicious whipping will be likely to last the child for a year, or for life; whereas, if he were seized upon violently, and angrily whipped, and cast aside, it would only awaken bad passions, and blunt or suppress the higher and better feelings, and open the way for a hundred whippings, and for a sour and unmanageable temper for life. If a light blow or two be given, it simply arouses the child's anger; two or three more may be given and the wrath becomes furious, then another, and perhaps three or four more applications may be made —in all perhaps twenty blows may be given before the culprit from fatigue, fear, and pain gives up, but is not conquered or benefited. If six sharp, heavy blows instead of three had been given at first, the very severity would have brought submission and benefit. In the other case, he is hardened and brutalized. Severe whipping, if judiciously administered, is merciful to children; it certainly is to animals.

The worst feature of the whole system of whipping consists in the fact that most persons whip only when they are angry, and as a mere manifestation of anger. They evince no morality, no intellect, no sympathetical spirit, but only mere physical force, inspired by the passion of anger, and, of course, this awakens in the child the corresponding feeling. This, however, is education, and an education of the worst kind. Let it be reformed altogether.

APPROBATIVENESS.

Man is constituted to live in society, and it is necessary to his happiness that he should enjoy the good-will of his fellows. To gain that good-will one needs to restrain the energy of his own will to some extent, in order to accommodate himself to the wishes and will of others. This sacrifice of individual feeling for others, or rather the modification of it, is the foundation of politeness. The faculty which we call Approbativeness lies at the basis of the desire to please; and perhaps no faculty of the mind is more influential than this; its effects on feeling and character are immense.

Approbativeness is a powerful stimulus to action, and is one of the most influential in the mental constitution. It seeks praise, is gratified with appreciation and flattery, and renders its possessor unhappy under criticism, reproof, and rebuke. This gives a sense of shame and mortification.

We can hardly conceive of a state in which a person is truly more elated, joyous, and happy than when Approbativeness is favorably exercised. When all speak well of a person, and the general plaudits of the people shout his praises, he is buoyed up, sustained, and exceedingly happy. Under such influences a man's talent is strengthened, and every quality of his being, physical and mental, is endowed with extraordinary power.

In the majority of mankind in civilized countries the love of praise is both the strong and the weak point. It renders a person weak when it becomes the avenue of flattery; it renders him strong when it serves to create an ambition for eminence or noble attainment. It fires the merchant and the mechanic, the farmer and the artist, the lawyer, the physician, the poet, the author, the orator, and the devotee of fashion; and those who stand on the highest summits of moral elevation are by no means free from its influence, nor should they be.

This faculty has in it a social quality. Men who live apart from their fellows, whose business or circumstances almost hermetically estrange them from society, have very little culture or development of this feeling. Those who live scattered and are very little in society are usually not well endowed with it, and what they have is inactive, while as we advance toward a higher state of civilization; to villages and cities, we find the manifestation of this feeling in its highest degree of activity and power. In large cities, where men expect to meet strangers almost exclusively, they feel the necessity for a tidy garb, and for the maintenance of manners that are polite and unexceptionable. Indeed, it is next to impossible for a person entirely removed from society to maintain, in appearance and manner, those refinements and elegances which are deemed indispensable in well-cultivated social life. The great error of society in respect to this faculty arises from its paramount activity and perversion. Like Alimentiveness, Approbativeness has been greatly abused by training and the force of custom. While it exists in proper strength and in harmony with the other faculties, while it is directed to proper objects, and subordinated to the intellectual and moral powers, its manifestations are not only pleasurable to its possessor, but productive of virtue and good order. Its cultivation has been such that it is predominant in the

character, and the majority of mankind are thus made slaves to a perverted public sentiment, to a false standard of fashion, to fashion right or wrong. Nothing is more insatiable than the desire to see and obtain a new fashion, and to be first in it occupies the attention and engrosses the care of the wealthy class, while the laboring million struggle to keep up appearances by endeavoring to follow in the wake of the rich.

This faculty should not be crushed out, but allowed a healthy and harmonious development with all the other powers, so that it may blend with them in giving the true shading to the character. It should have such action as the reason and the moral feelings will approve, then it will become an aid to virtue, and an accessory of morality and good order.

In the training of this faculty there are grave errors to be met and mastered. In ten thousand ways it is inflamed by those who have the care of the young, without any knowledge or intention of so doing. Suppose it be large in the head of a little girl who, perchance, is beautiful and interesting. Persons delighted with her appearance and anxious to please her parents as well as herself, speak of her beauty in her presence, praise her good looks and pretty dress. All she says or does is repeated in her hearing and applauded, which serves to make her vain and selfish. She becomes morbidly sensitive to applause, and literally lives upon it as she does upon the vital air. If she does not receive it she is miserable, and this chagrin excites Approbativeness quite as much as praise. If she is sent to school gayly attired, her good looks attract the attention and awaken the partiality alike of teacher and pupils, and as a natural consequence she becomes the favorite and the pet of all. If she is selfish, sharp, and perverse in temper, it is regarded as smartness, and is therefore tolerated, if not excused. Such a child will be

too much elated with attentions to study, and if she neglects her lessons, the teacher overlooks an imperfect recitation, especially since she is so sensitive to censure. Being popular without effort, and caressed without deserving it, she sees no necessity for being amiable or studious. If she is wayward and vicious in disposition, a little flattery on the part of others serves to smooth her countenance and restore it to smiles, when, in fact, she ought to be held responsible, morally and intellectually, for her imperious temper and breach of good manners.

When she is old enough to go into society, she there meets with flattery, seeks it, expects it, lives upon it. She may be rude, fretful, and impolite, yet her beauty palliates her defects and captivates her admiring associates. If she attends church, her fevered Approbativeness makes her more alive to the admiration of observers, more solicitous to display her elegant dress and sparkling eyes, than to attend to the true object of church-going. At school, indifferent to intellectual culture, she is shallow and barren in education; in the social circle she curbs not her selfish propensities, and fails to become polite and attentive to the wants and happiness of others; in morals she is defective, because she has been praised and caressed without meriting it, and popular without the exercise of moral feeling—indeed, while contravening every canon of politeness and refinement. What are we to expect but that such a girl so trained should become, as a woman, selfish, peevish, deceitful, hypocritical, ignorant, and wanting in all the noble virtues of wife and mother? Who would not be surprised if she were to exhibit all the higher and better qualities belonging to her sex and station?

A CONTRAST.

We can hardly estimate the influence which powerful Approbativeness produces upon a girl whose beauty calls

out praise and admiration, and the consequent undue culture of Approbativeness, unless we study the action of that faculty by way of contrast. Let us suppose a little girl with a plain face, which has no quality to attract attention or win admiration. Her mother never told her she was beautiful; she is not decked with gaudy dress, nor is she flattered at school, and therefore she has nothing to do but to attend to her studies. If she has Approbativeness, and desires to gratify her ambition, she sees no way open for her to do it but to seek excellence as a scholar, and social favor through amiability and gentleness of manners. She becomes, therefore, a good scholar, and cultivates the qualities which refine and ennoble the mind, since it is only through the action of these that she can attain to a position of respectability. When she goes into society she is not the observed of all observers, the special pet of strangers, and is not inflamed by vanity. To make herself acceptable, she aims to cultivate and exemplify the amiable virtues; not expecting to be particularly admired at church, she has nothing to distract her attention from moral and religious instruction. At home she has something to do besides to dress and receive company; she becomes industrious, practical, and domestic, and in general disposition all that a woman should be, and simply because not being beautiful she was not flattered, and therefore her Approbativeness did not absorb or overpower all the other faculties, and thereby warp and derange her whole character.

When this faculty is excessively active, it perverts every thought, tinges every emotion, and modifies every action; it gives to the whole mind a feverish susceptibility, and makes its possessor keenly alive to reproach, eager to gain praise and popularity, and a slave to all that affects reputation.

Like Alimentiveness, the organ of Approbativeness is

enlarged by the food it feeds upon, and like that, it becomes more and more a ruling element in proportion as one's habits are calculated to excite it. Teachers and parents should never let this element sleep in the children under their care, nor should they allow it to be lashed into absorbing wakefulness. While acting in a subordinate sphere, its influence is most excellent, like the fire while kept on the hearth; but when it breaks away from its due sphere of action, it is like the conflagration which becomes the master of all.

In many families and schools Approbativeness is made the nucleus of all influence; praise and censure are the only influences brought to bear upon the conduct of the young, and the result is, this feeling becomes almost literally the only conscience which the child has, and it would seem that the parent and teacher thought so by the constant appeals which are made to it as a means of controlling and restraining the disposition. Whatever brings praise to such a child seems right; whatever brings censure and disgrace is accounted as wrong. At Thrace, under the laws of Lycurgus, to steal was no disgrace, but to be found out was infamy. A child whom we attempt to restrain from wrong-doing only by an appeal to his sense of shame, regards such vices and irregularities as can be concealed from public knowledge as scarcely a crime, and is led to think the sin consists merely in being found out, and virtuous actions are virtuous only because they win applause. These ideas, whether based on truth or error, become the governing influence.

We have seen a little boy, when praised for climbing, go to the top of a ship's mast, like a monkey, and hang his cap upon it, and then come down safely. But he performed no such feats when not looked at by his friends and stimulated by Approbativeness. In battle, the idea of praise, of fame, honor, and renown, of title and distinc-

tion, induces a man to "seek glory at the cannon's mouth." Indeed, we believe that all the "pride, pomp, and circumstance of glorious war" finds its most genial soil for growth in this mental element, Approbativeness. Under its influence men seek wealth, and for the sake of houses, gardens, conservatories, statues, carriages, parties, and display, sacrifice their health, the best years of their lives, exerting every fiber of their physical constitutions, and every mental power, to secure the wealth necessary for this gratification. They sometimes do more—they barter their manliness, their conscience; they swindle, cheat, and steal under the spur of this faculty. The orator soars to the sublimity of eloquence, stimulated by the applause of the multitude; the musician, inspired by the same element, rises to his highest excellence in execution under the stimulation of applause. Persons try to do well, to be moral, cleanly, learned, affable, and, indeed, all that is good and desirable, because of the influence of this faculty. So far, it mainly is a help to duty, to goodness, and to virtue.

On the other hand, if it be too active, and not properly gratified and directed by the other mental powers, it becomes a hindrance to virtue, morality, and goodness; for it inspires those who are vicious to play the hypocrite, to counterfeit goodness, and deny their faults, and even commit one crime to hide another. There is many a murder committed to hide one's shame. Many a man, to save his name from disgrace, has sent his confiding victim to an untimely death, who, under the action of any other emotion than mortified Approbativeness, would have shrunk from a deed so dark. We believe that four-fifths of all the crimes of woman originate in excessive and perverted Approbativeness. But we leave the reader to trace out for himself all the crimes and follies which an excess of this faculty may lead her to do.

A child in whom this organ is large is alternately praised

and blamed, flattered and frowned upon, according as it is desired on the part of its parent, nurse, playmate, or teacher to urge on or hinder from action the little subject. If we wish children to perform anything, we excite them to do it by pleasing Approbativeness. If we wish to hinder their accomplishing the same end, we show up its shame side, and the child will do or refrain from doing the anything, according as we praise or censure the thing in question. How important, then, that this faculty be properly understood by all those who are thus influencing and being influenced, and that it be exercised always in conjunction with the judgment, the moral sentiments, and an enlightened benevolence!

When a child's Approbativeness is large, that faculty should rarely be addressed; but an appeal should be made to conscience, intellect, benevolence, and particularly to the fitness and propriety of things. Let the child be trained to feel that no praise has value except it be sanctioned by the abstract principles of reason, righteousness, and truth. We are aware that the great trouble in the training of children is, that those parents who have Approbativeness large are apt to feel that an appeal to the same feeling in children constitutes the strongest hold which they can have upon their characters; thus they employ flattery almost exclusively as a means of control. Children of such parents are also liable to inherit an excessive amount of this susceptibility to praise, and as they obtain an excessive amount of training in this faculty which is already by nature too active, it is not strange that they become excessively vain. Hence it is that children removed from parental influence, and trained by persons whose organizations are somewhat different from their own, are often better trained than they can be at home. Children who inherit but little of this faculty require training by those who have a larger degree of it. It is difficult

not to conduct toward children according to our own stronger feelings and impulses, especially if they be sympathies and amiable affections; it is difficult to be guided by the philosophy of our organization, and contrary to our sympathies and inclinations in the application of this philosophy to the training of children, especially when such a course crosses our path and renders the children temporarily unhappy. But we trust the day is coming when a general knowledge of the principles of Phrenology will be possessed by all parents and teachers to such an extent, at least, that a great majority of the errors of education will be corrected, and facilities for drawing out the minds and dispositions in the right direction will be opened to the world—facilities for the want of which mankind from the earliest ages have suffered, and still suffer.

The standard of pride and ambition varies with different nations and different classes of people, from the highest to the very lowest. Persons who are mainly developed in the base of the brain will pride themselves on their excellences in the mere physical faculties, such as strength, ability to excel others in wrestling, jumping, running, or fighting. We suppose that nowhere are pride and ambition more intensely excited than in the prize ring. Pugilists glory in their might, and in their power of hard hitting. We knew a man who boasted he could outeat anybody; and we have heard men boast of their power as mere animals in the manifestation of sensuality. The strifes for the mastery, for distinction in the various games and races—whether it be Morphy in the game of chess, pugilists in the ring, gymnasts, gladiators, or the men of the turf, directors of ocean steamships, or the more modern style of balloon racing, one and all have their foundation in, the faculties under consideration.

If we rise to the higher planes of mentality, we find men proud of their skill in workmanship in metal or wood, in

music, in languages, in composition, in oratory, in logic, or in mathematics; others, again, value themselves on their moral integrity, or on their religious or spiritual elevation. This, perhaps, may be called spiritual pride; but many who suppose humility and self-abasement to be the highest of virtues, would regard Approbativeness, or the sense of reputation, as utterly out of place in connection with the moral virtues and religious susceptibilities. But, pray, in what may a man glory and value himself, if not in integrity, kindness, and spirituality? May a man be proud of his horses, his crops, his ships, his merchandise, his skill of handicraft, and ashamed of integrity, philanthropy, and the higher virtues generally?

The faculties which produce pride are valuable in their influence in proportion as they act with man's higher nature. To be proud of gluttony is base and debasing. To be proud of mere brute force, brutally exercised, is also low and demoralizing. The fault, however, is not in the tendency to value one's self for his power of success in material things, but it is in the fact that his great strength lies in his lower nature; that his moral and intellectual powers have not a leading position in his mind, and hence his ambition seeks a channel of manifestation through these lower elements, instead of, as it should do, through the higher faculties.

It is amusing to listen to the conversation of people, to ascertain in what they pride themselves, and thus to discover "wherein their great strength lieth." You shall hear one say of a friend that "he is a very respectable man, is worth a hundred thousand dollars;" or that "the young lady has married well, and her husband is worth so much." Acquisitiveness, in these cases, seems to be the governing power. Another will say of a friend that "he is a splendid scholar;" another will say a person "has refinement;" another will say his friend is "moral and relig

ious;" another will speak of a friend as "occupying an influential position;" he has office and honor, and is valued for his ambition to be in high places, and for his successful achievement in that direction.

It is also amusing to observe people with a view to ascertain in what they pride themselves *personally*. Some glory in their hair, and therefore they frizzle it and comb it with dexterous ingenuity and exquisite care, and put their hat on in such a way as not to disturb it. One is proud of his mustache or his whiskers, as evinced not only in wearing them in a particular way, so as to display them ostentatiously or uniquely, but in handling and petting them continually when sitting at rest, or even when walking the streets. Ladies having this tendency will either dress their hair in curls over their shoulders, and take particular pains to flirt them about and display them, or they will braid, and comb, and otherwise display their tresses with elaborate care. Another has a handsome neck or fine bust, a pretty arm and a beautiful hand, or an elegant foot. A moment's attention will enable one to see what it is in which a person takes pride. You will frequently see at a lecture, at church, or at the opera, persons leaning on the ring hand, and the rings or bracelets specially displayed. One man is proud of his hat, another of his boots; another wants two dozen vests of fancy pattern, and if he can have a nice vest he cares little for the boots, less for the hair, and nothing for the hat; another has great pride in his linen, and will neglect other garments in order to have a splendid shirt-bosom and handsome wristbands.

A friend of ours is called crazy on canes. He has dozens of curiously and elegantly mounted walking-sticks. He has on them all strange devices and most elaborate carvings. This is his weakness. Another friend of ours has the amiable weakness of devoting much study on shirt-studs. He never wears the same set two days in succes-

sion, and he has enough to last him for a week. One set is in imitation of a beautiful fly, with all its gorgeous colors; another is in imitation of a rose; others are the heads of animals; and so on through the chapter.

A disposition so influential should be properly cultivated and rightly directed. It is certainly right in its normal action; it also ministers to virtue among those who rise to the medium position in morals, more than to vice among the baser sort who glory in their strength, their lust, their avarice, their courage, or their cruelty.

This faculty sometimes leads to crime and sin; still, we would not blot it out even from the lower classes, because they would then become inert and comparatively incapable of being elevated above their low position. We would blot out this faculty from the base no quicker than we would blot out their physical power, merely because they abuse it, but would seek to direct, not only their physical power, but their ambition in the right channel.

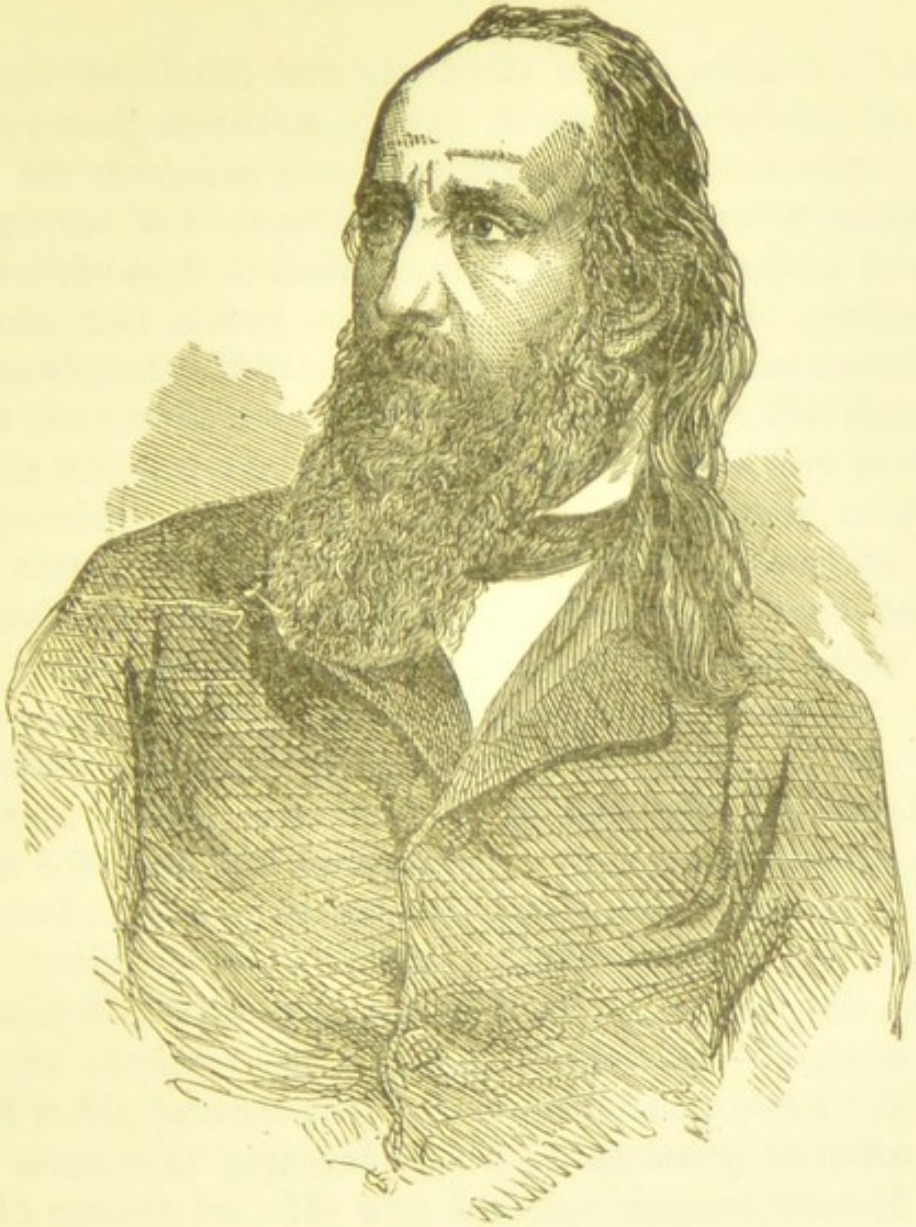
When the higher sentiments prevail, ambition and pride minister to virtue, and to the development, improvement, and happiness of mankind. When a man's ambition is smothered he is comparatively valueless. Ambition is a spur to action, as the steam-power is the source of propulsion in a steamship. We would guide the ambition in the human mind as we would employ the rudder to give proper direction to the steamship; then the ambition will minister to the benefit of the individual, as the steam-power on shipboard will minister to a successful voyage when the helm is in skillful hands.

Every faculty and propensity may become diseased. Insanity is more or less partial; sometimes the mania is in one faculty, and sometimes in another; it would be more correct, however, to say that one organ of the brain is diseased rather than one faculty is diseased. Let it be remembered that we regard insanity as a disease of a

mental *organ*, not as a disease of a mental *faculty*. The brain becomes inflamed or otherwise diseased, and the mind suffers in consequence. Thus insane persons may be found in the same institution who manifest their aberrations of mind in as many different ways as there are recognized faculties. One is insane in the matter of sexual love, and another from disappointed friendship; another from the loss of children; another from the loss of property; another is insane in Destructiveness; another in Approbativeness; still another in Self-Esteem; and another becomes morbid in Conscientiousness; another in Veneration; another in the mathematical faculties. The same is true respecting Cautiousness, and the abnormal manifestations of it are exceedingly painful to the individual. We may remark here that the perverted, excessive, or diseased action of a faculty does not necessarily rise to the point which would be denominated insanity. In the case of Approbativeness, a person may be excessively sensitive, painfully alive to every breath of slander, and exceedingly inflated by praise, but is never insane in the world's estimation; just as a person may have an inflammation of the physical system without having it amount to what is called a fever, although he is feverish.

SELF-ESTEEM.

From some cause, nearly every person recoils at the idea of being supposed to have large Self-Esteem. We can imagine that this public sentiment relative to so important a sentiment or feeling originated from observing the manifestations of Self-Esteem when excessively developed in conjunction with weak intellect, and perhaps with large Approbativeness and small Secretiveness. Such a combination of organs would tend to make a person's conduct odious. We never could keep a straight face, and have



J. F. G. MITTAG, M.D.

This fine-grained and scholarly organization was born in 1803 in Hagerstown, Md. He was early noted for studious tendencies and artistic tastes, and graduated with distinction from Washington College, Penn. On leaving college he studied Physiology at Harrisburg, Penn., and, having studied law, he went to South Carolina, and was admitted to the Bar in 1828. The practice of law proving irksome, he decided to devote himself to literature, science, and art with a view to the preparation of a work on the "Natural Language of Forms;" visited Europe, consulted with artists in London, Paris, Rome, Milan, and Venice with regard to material for his work, which he worked upon for twenty-five years, until the war broke out and interrupted his work. As a fine art critic Dr. Mittag has few equals.

always wondered how the birds could, when we saw a turkey-cock strutting up and down, and showing off before his compeers and consorts. When men with weak judgment and overweening pride and vanity resemble the turkey-cock in their conduct, it is with respect to such persons, and almost only then, that the world recognizes the faculty of Self-Esteem at all; and when these manifestations are considered to be the outworkings of Self-Esteem, people instinctively and properly shrink from any particular partiality for such a faculty. We propose to show that this is an abnormal and warped manifestation and caricature of the faculty, and that its normal development and proper activity constitute one of the most useful and indispensable elements in a well-organized character.

Self-Esteem gives us the idea of selfhood—of our own personal value; and when it is properly developed, it gives nobleness and self-reliance. It is gratified with such external influences as tend to elevate and minister to the importance of the individual. That a man should respect himself, and claim the respect of others, no one will deny; that he should respect and value his own opinions and what is *his*, because they *are* his, is equally clear. A certain amount of personal dignity is necessary to make the world respect us. He who does not respect himself will not be respected; and he who will not stand up for his own rights, especially his personal prerogatives, will be buffeted, set aside, despoiled, robbed by eighth-tenths of the human race, and by the other two-tenths pitied.

Self-Esteem is an element, also, in decision; it enables one to value his opinions and plans; and gives him confidence in the exercise of his courage and judgment. Without Self-Esteem a man may be passively virtuous, but throw him into the strong currents of temptation, and those who are easy and self-poised in the possession of a good degree of Self-Esteem, will lead him who lacks it

directly in opposition to the monitions of his own sense of right and duty. Let a man be made to feel mean and degraded, let his self-respect be invaded and crushed, and one of the bulwarks of his virtue and honor is destroyed. A man with Self-Esteem fully developed, can say Yes or No, even though he have not the courage or the perseverance to do battle for his principles; he may, at least, stand his ground, or if compelled to retreat, he will keep his face toward the foe and his desires and efforts in the direction of the promptings of duty and honor. That pride which arises from Self-Esteem frequently prevents persons from descending to practices of vice and meanness, and in the fallen is sometimes the only element that can be acted upon to effect their reformation. Sometimes even the gutter drunkard, by being addressed through his sense of manliness and honor, is enabled to dash the cup from his lips, and become a man again. Those who lack Self-Esteem, whatever may be their talent, are apt to feel unworthy, diffident, and to have such a sense of inferiority as to shrink from responsibility, which unfits them for the discharge of important duties.

To the unequal development of Self-Esteem may perhaps be attributed many of the inequalities in society which tend to constitute higher and lower classes. Distinctions are not always based upon wealth, learning, or talent; for we often find talent too diffident to come forth from obscurity and assume a position in the broad light of notoriety. We also see persons of wealth and learning who cringe before the illiterate, the poor, and those who have but little talent, but who are endowed largely with Self-Esteem, coupled with energy of character, which feelings give a strong sense of personal power and independence, and enable their possessor to conquer opposition and secure an influential position. A young man who has fair talent, considerable energy, and decided Self-Es

teem will content himself with no subordinate or inferior position; he feels capable of using power and of taking responsibility; and though intellectually he may not be better qualified for such position than a hundred others around him, yet his pride or spirit of selfhood leads him to assume position, and to work earnestly to fill that position—he is bound to be captain; and while diffidence with talent and skill may stand balancing between hope and fear, desire and uncertainty, self-reliance elbows its way through the world and wins success by daring to attempt it. Artificial distinctions in society may be created by titles and wealth, as in England, and maintained for ages, but the influence which is felt is exerted, more through the blind veneration of the masses than by any real respect for the merit or the power of the persons who bear the titles or possess the wealth. In that and other countries we occasionally find a Brougham or a Napoleon, a Wellington or a Copley (Lord Lyndhurst), who rises from poverty to the highest position of influence and respectability by dint of talent, backed up by self-confidence and effort; and it is pleasingly true that these self-made men, even among aristocrats and nobles, have a far greater reverence paid them than do those who inherit wealth and rank by the accident of birth and so-called "*blood.*" We believe in blood and birth, and value people in consequence of these; but we look for *excellence* in birth and blood not necessarily in conjunction with artificial rank and wealth, but solely through healthy, well-balanced organizations, refined and elevated by culture, and rendered illustrious by high purposes and noble deeds—to such an aristocracy we have no objection, but would rejoice in its widest diffusion. Nations in which Self-Esteem is strong take rank among nations having the organ relatively smaller, as individuals having it large outrank and govern persons having it in less degree. Great Britain's spirit of conquest

and of dictation, and the valor of her troops on the field of battle and of her mariners on the sea, may be attributed, in a great degree, to the prominent national development of this organ. The people of the United States have inherited from British ancestry a similar spirit of independence, and in more than one instance on the field of battle and on the ocean have they shown their inherited dread of submission, which fired all the elements of courage and ambition to wrench victory from superior numbers and greater dynamic power. Not only on the field of battle does this feeling prompt nations to seek victory, but it inspires them to outstrip others in manufactures, and in everything else that sustains national power and glory. In many matters of invention the United States have outstripped the mother country; but England has a sufficient amount of Self-Esteem to give her self-complacency under any defeat which she may suffer in the line of prowess and skill at our hands, by the fact that Brother Jonathan the conqueror is "bone of her bone and flesh of her flesh;" and by attributing our victories to the British blood which we carry, indirectly reflects credit on her after all, so that, though nominally vanquished, she regards the victory as almost her own, because achieved by her sons.

In the training and education of the young this element of character should not be crushed, but encouraged and properly directed. If a child has a fair development of it, he should never be degraded nor underrated. If it be weak in him, it should be encouraged by an address to his honor and manliness. He may be early taught that some actions are in themselves mean and low, and therefore beneath the true dignity of human character, and he will instinctively despise and avoid them. Mothers sometimes call their children debasing names, such as *villain*, *scamp*, *simpleton*, *dolt*. This practice not only serves to irritate and annoy the child, and thus deprave its disposition, but

it has a direct tendency to lower the child in his own self-respect. If we tell the child he is a villain, and he has any respect for our opinion, it is the very way to make him one by blighting his sense of honor and giving him a craven spirit and a low estimate of himself. Approbativeness and Combativeness often lead persons to boast and brag, to praise themselves for what is theirs, and of what they have done; but this manifestation is by many erroneously attributed to Self-Esteem, which gives rather a haughty, imperious disposition, especially if it be too strong absolutely or relatively in the character. While we dislike a haughty, supercilious character, we equally deprecate an undignified, submissive, craven spirit. Most persons, in the training of children, address Approbativeness rather than Self-Esteem; they impress upon the child's mind the idea that his wrong-doings will be unpopular, not that certain acts and dispositions are essentially mean and unworthy of him as a human being, whether the world knows it or not. A child can be induced to abandon a favorite pursuit by arousing his Self-Esteem to regard it as debasing, mean, and undignified, and then, though his friends and the world do not see his conduct, he will avoid improper conduct *per se* and for his own sake, not to avoid rebuke or public disgrace. His virtues can also be made strong when his sense of dignity and honor is combined with the dictates of reason and conscience. Some persons claim humility to be one of the highest virtues, and that true humility is inconsistent with the element of Self-Esteem in character. Self-love, by the Great Teacher, is made the measure or criterion of fraternal love in the command, "Love thy neighbor as thyself." It is easy to understand this to mean, "Since it is natural and proper that you should love self, and stand on your dignity as a human being, therefore love others as well as you do yourself, but no better." It would not be difficult to obey this in-

junction if men's social, moral, and intellectual powers were strong and active enough to balance and properly regulate the selfish propensities, and thus enable us to estimate every desire and duty in its true light. When we hear persons say it is impossible to obey the golden rule, we suspect their selfish faculties prevail. Some say there is not an honest man on earth. We suspect such persons judge others by themselves. A man in whom the moral and intellectual faculties prevail over the propensities and passions, seldom regards the fulfillment of the golden rule as impossible; and in proportion as the selfish and animal propensities predominate, the temptations to gratify them in contradiction to moral restraint and intellectual propriety are multiplied.

Self-Esteem, whatever amount of popular prejudice may exist against it, is among the most ennobling of human characteristics, and even when it exists in too great a degree, its very excess commands respect, though it may not evoke our love.

CAUTIOUSNESS.

The organ of Cautiousness is situated on the upper side-head outward from the crown above and a little backward from the ears It is generally the widest part of the head, and frequently interferes greatly with the fitting of the hat or the bonnet. Anatomically, it is located in the center of the parietal bones, at the point where ossification commences.

Fear is an element of the mind, and Cautiousness is the organ through which it is manifested. Prudence, watchfulness, carefulness, solicitude, and anxiety arise from it. It stands opposed to boldness, rashness, courage; it bears about the same relation to the other faculties of the mind that hold-back straps bear to the other parts of a harness

or that the brake does to the operation of the car. There is, perhaps, no more painful emotion than fear, nothing that wears out the health more than anxiety. We are organized in such a manner, that we are constantly liable to injury, and are therefore frequently subject to danger, and, consequently, Cautiousness is an important quality of the mind. It should be considered that this feeling is blind in itself, has no wisdom or knowledge; it is merely a feeling, a passion, or a sentiment, not an intellectual power. Its natural language is, "look out!" "beware!" "take care!" but in itself it can neither look out nor take care. The feeling which arises from it affects all the faculties, including the intellect, but doubtless it is the intellect that judges of that which is dangerous. It is said that every one is a coward in the dark; but we have met with persons who had so little Cautiousness, that we doubt their being afraid, even in the dark. When in consequence of darkness, or the loss of any of the senses, such as sight or hearing, the intellect can not gain a knowledge of dangers by which we may be surrounded, Cautiousness becomes extra active; hence the bravest man will hardly venture to go forward in total darkness, lest he might run against something or fall from a precipice; and the wisest man, therefore, is the one who stands stock-still if he has no knowledge as to the ground upon which he is situated. It must be remembered that the human mind, composed of many faculties, works not by isolated parts merely, but that each power or faculty acts upon all, and this is modified by every other. These modifications are frequently moderate or gentle in their effects — sometimes bold prompt, and outspoken.

In its healthy action, Cautiousness tends to check the ravings of Combativeness, and adds prudence to courage; it warns enraged Destructiveness to avoid undue severity, and holds back the arm raised to strike with a deadly

weapon; it whispers to Acquisitiveness of future want, of losses, and poverty; it tends to give to Benevolence a judicious administration to bounty lest the fountain fail; it admonishes Approbativeness to beware of such society and conduct as will impair reputation and bring disgrace; it acts through Parental Love to incite the mother to watch against all evil to her child; it stands at the elbow of Hope, true to its location on the head, suggesting the necessity of laying a solid foundation for anticipations, and frequently casts shadows upon the bright images which Hope creates, or as frequently dashes its baseless fabrics to the dust; it stimulates the intellect to make such investigations as will administer to the well-being of the individual, and to plan such a safe course as shall insure security to its possessor. A proper development of Cautiousness is useful in restraining such a manifestation of all the powers as would be dangerous to the life, health, and happiness of the individual.

On the other hand, when it is excessively developed, it throws a somber cloud over all the manifestations, and paralyzes courage, energy, determination, and hope; it smothers enterprise, dampens ambition, undermines the self-respect, and changes the action of Veneration from a due adoration to a slavish fear of God; it unnerves perseverance, casting doubt upon the action of the intellect, and makes its possessor a tame, timid slave of fear. When the organ is small, the effects are directly opposite. It allows Hope to revel in perpetual anticipation, and permits imagination to career through the universe without rudder or ballast; it permits profuseness in expenditure without complaint, makes one reckless of all dangers, and allows him to run into troubles, perplexities, and difficulties on every hand.

The proper training of this faculty is of very great importance, yet of very rare occurrence. If it be about



MACDONALD CLARKE,

THE POET.

This remarkable man flashed like a meteor in the literary sky about forty years ago. He found an early grave through weakness of constitution and an over-excitable brain, and was laid in Greenwood beside the "Sylvan Lake," near the river "Styx," where his monument, raised by his friends, bears the melancholy inscription: "Poor Macdonald Clarke." Few were less happy, and fewer still as brilliant as he. There is really more poetry in these two lines of his—

"Now twilight lets her curtain down,
And pins it with a star,"

than in many a heavy volume that occupies room in the "Poet's Corner" of the library.

average in development, it should be judiciously addressed in connection with all the other faculties. In respect to certain practices, we may properly say to the child's intellect, "The course you propose to pursue would be highly improper and unreasonable; to Conscientiousness it would be dishonest and unjust; to Veneration it would offend against the purity and holiness of God, or against a proper respect for superiors; to Acquisitiveness it would incur excessive expense, and cost more than it would be worth; to Approbativeness it would be unpopular, and bring disgrace; to Self-Esteem it would be dishonorable, unmanly, and mean; to Adhesiveness it would wound the sensibility of friends; to Amativeness it would be ungallant or indelicate and offensive to the opposite sex; and, finally, to Cautiousness it is not only dangerous in itself, but there is a secondary danger, which involves the unhappiness of all the faculties, or of all the interests of the individual; therefore the act should not be indulged in. Through the intellect, all these faculties may become aroused to act in conjunction with Cautiousness to dissuade the man from a particular course. When all these powers are aroused, it would be very difficult to overcome such a phalanx by addressing any single faculty. Most people when they have done wrong, especially if they are hasty, ardent persons, plead as an excuse, "I did not think," "I did not recognize the danger or the disgrace." Cautiousness large is likely to promote thoughtfulness where danger is possible or probable. When all the faculties are equally strong in the mind of a child, such a method of training as above suggested will be appropriate.

The grand error which most persons make in training children, or in managing adults, is to appeal to the strongest faculty. Thus, if Approbativeness rules, disgrace and public sentiment are the only bugbears addressed to the contemplation; and by such a course of training that

faculty becomes, as it were, the only conscience the child has. When Cautiousness is too strong, it is the master element; consequently, mothers, nurses, and teachers attempt to awaken fear and arouse a sense of danger on all occasions. This may frighten the child into temporary obedience; but there is no more real integrity and honesty in such obedience than there is in that fear which the whip awakens in the horse or ox. Fear alone induces the obedience, and it is precisely so with the child if Cautiousness be the ruling power, and the address or influence is brought chiefly to bear on that faculty. Such appeals to this excessively developed faculty tend to increase the size of the organ, making the character still more unbalanced and warped. The organ sometimes becomes inflamed, really diseased, and hundreds have become insane through its excessive excitability. In the training of extra Cautiousness and timidity we should never threaten fearful punishments, such as shutting up the child in the dark, extracting its teeth, or cutting its ears off, or giving it to "the old beggar-man" to carry off, or calling the big dog or the rats, for by these means we enkindle undying fear on the altar of the child's Cautiousness; and though, when he is old enough to understand that the threats were made to be believed, but not to be executed, he can not rid himself of their influence on his disposition; and he not only loses his respect for our veracity, but all the sad effects of nerve-shattering fear cling to him for life.

When Cautiousness is very large and active in children, they are apt to be excessively bashful in the presence of strangers. To the fond and ambitious mother this is a source of intense humiliation. She would fain have her children appear intelligent and self-possessed, especially in the presence of her valued friends. We know of nothing which makes a mother feel more chagrin and embarrassment than to have her children appear like fools when her

former associates call upon her — perhaps for the first time since her marriage — to have them run behind chairs, keep out of sight, cover their eyes with their arms, or run like wild birds. The mother in her vexation frequently makes the matter worse for the child by chiding it, calling it foolish, and she threatens, perhaps shakes or pinches the poor, timid creature, while the amiable friends chime in, trying to persuade it that they will not *hurt* it. Thus everything which is said and done is addressed directly to the child's Cautiousness, and makes the sufferer feel ten times more diffident than ever. The child in its embarrassment thinks the visit is made on purpose to promote its misery, the mother and the visitors seeming bent on producing an involuntary intimacy. Sometimes, when the company has retired, the mother berates and scolds her child, threatens to whip it if she does not actually do it, to shut it up in a dark room if it ever again conducts so badly in company, and it thus lives in constant fear of other calls and another miserable hour, and the threatened consequences of constitutional bashfulness. When the door-bell rings or a carriage drives up to the house, and the mother is engaged in receiving the visitors, the child endeavors to make good his retreat to avoid a complication of evils. Perhaps he skulks away in some back hall or cold room and there palpitates with fear, expecting, if found, to be dragged into the presence of strangers, or get a whipping, or be imprisoned in a dark cellar for showing an unconquerable timidity instead of an impossible fortitude. The mother remembering how foolishly her children have acted in the presence of strangers, is perhaps glad to be rid of their presence, and if they are inquired for, she replies, carelessly, "Oh, they are about somewhere," but takes no pains to have them found and brought in, or to ascertain that they are comfortable; and they are permitted to shiver for an hour with fear and cold in some

safe hiding-place. Everybody will see that this is wretched management, and, in the light of our subject, that it is calculated to increase, but never to cure, the difficulty; and the question arises, how can such children be trained to make a proper appearance, and how can their excessive timidity and bashfulness be allayed?

Phrenology solves this difficulty easily, and the solution appears so perfectly natural and simple, that most persons, when it is presented, think that it is not science, but common sense, and therefore endeavor to defraud Phrenology of the credit of its discovery, forgetting that science is only common sense organized, and that phrenological science, like many other kinds of scientific truth, becomes common, and is blended with the general current of popular knowledge. The exposition of the practical method of managing bashful children is simply this: the trouble to be obviated is the great excess of Cautiousness in the child who has, perhaps, a nervous temperament, which makes it peculiarly susceptible. Now, that which is required to be done is, to allay the excitement of Cautiousness; consequently no appeal should be made to it, but everything that is said or done should be addressed exclusively to the other faculties. Suppose, then, that company comes in, and the child appears timid; let neither the mother nor the visitors appear to notice that the child is present; let it alone—do not look at it or speak to it, but let joyous and familiar conversation be unrestrained between the parent and the visitor. If the child be unnoticed, its Cautiousness will be in a few moments partially allayed, its curiosity excited, and perhaps it will venture slyly to approach the stranger to obtain a better position to see, hear, and enjoy. If the stranger desires to make the acquaintance of the child, it is very easy to start some subject that will awaken its interest by talking of picture books, hobby horses, kites, hoops, or of little boys and girls at home,

and this should be done without looking sternly at the child. Nothing is so cowering to bashfulness as the direct, earnest gaze of a stranger. A well-timed reference, in an easy, careless manner, to such things as the child can understand, and in which he may be supposed to feel an interest, will make his little heart pulsate with a pleasant excitement. How will the little eyes dilate and sparkle with joy, and how will the fancy, imagination, and intellect "devour up the discourse!" he will instantly approach the stranger with deep interest in all that is said, and stammer out a childish reply, without fear, or the consciousness that a stranger is present. The Cautiousness of the child is now of course allayed. What has become of its fear? It has been hushed to repose, and the stranger discovers what the mother knew before, that the child is not a fool, but an intelligent, happy being.

We should be ashamed not to be able to allay the fear of the most timid child in ten minutes, so that it would be willing to talk, or approach us without fear. So many times have we tried the experiment, that we have but little patience with people who manage timid children as we have before described, when they might save themselves all the inconvenience and trouble which timidity produces, and procure a complete and controlling influence over the child in so happy a manner and with such readiness and ease, if they would but study the theory of training which Phrenology affords.

The symptoms of diseased Cautiousness usually are, over-anxiety, apprehensiveness, brooding melancholy, forecast, timidity, trembling anxiety about everything which involves possibility of danger or difficulty, and this against the person's own judgment. People sometimes say, "I am safe, but, still, I fear." It may not be so easy to suggest a cure; but rest and non-excitement of the organs of Cautiousness are about as essential to its cure as

a dark room and cooling applications are essential to the cure of inflamed eyes. All excesses of excitement in the faculty should be removed or avoided, as we shield the lacerated flesh from the air and from contact with external objects by putting a plaster or bandage on it. Another way of restraining the undue action of this organ is by introducing to the subject pleasant, joyous, cheerful subjects and associations. An English gentleman having a great sense of safety, desired to employ a coachman who would be as careful as he desired, and having advertised for one—having numerous applications for the place—he decided which would best secure his required safety by carefully asking each one how near he thought he could drive to a square precipice without being in danger of going over. One thought he could drive within a few feet; another, within half a yard; and, finally, an Irishman, on being questioned, replied, "Ah! your honor, I would drive as far from it as possible, and I would not go near it at all, at all." "You are the coachman for me," replied the gentleman, and he was right. So we say of the treatment of people with diseased Cautiousness; keep them as far from danger as you can, and when trouble comes, soothe them by calmness, and by the assurance that the danger is not imminent, and, in short, keep the faculty from excitement, and the organ will get well.

Strong faculties sometimes act as helps and sometimes as hindrances—it depends on the circumstances under which they are called into action. The action of the faculties, moreover, is pleasurable or painful, according to the condition under which they are exercised. Cautiousness, for example, when a person is trying to cross a crowded street among the clashing vehicles, produces unhappiness and pain; but when the difficulty is fairly overcome, and he is safely landed on the opposite side, the action of Cautiousness brings a sense of safety, and the result is

great pleasure and gratification. Cautiousness under some circumstances renders a person cringing, weak, retiring, full of trepidation, and makes him utterly miserable. But let the individual be placed in imminent peril, but in such a position that he can not retreat, can not evade, hide, or flee from the danger, then Cautiousness becomes a powerful stimulant in the form of fear, and the man will fight against any odds, and, as the saying is, "sell his life as dearly as possible." His bravery in such a case is not cool, not collected, not self-possessed, but fierce as desperation itself can make it. The coward, when cornered, will fight for his life with greater effect, sometimes, than a man of courage, because his fear realizes to him with extreme vividness the peril of being conquered and crushed; while, on the contrary, the man of courage, who has but little fear, apprehends but little in the way of suffering a defeat. If two men fight, the man with large Combativeness and small Cautiousness having knocked down his opponent will stand back and wait for him to arise; whereas the man with excessive Cautiousness and small Combativeness, if he succeed in knocking down his opponent, is afraid to let him up, and will follow up his blows, perhaps, till he has utterly disabled or killed his fallen antagonist. Many a man commits murder on account of large Cautiousness. Having knocked down or seriously injured another, he, fearing the penalty for what he has done, or fearing that if he lets his antagonist up he may get the advantage of *him*, and perhaps take *his* life, strikes the fatal blow and becomes a murderer. Thus robbers, having plundered their victims and subjected themselves to the liability of the penitentiary or the gallows, will finish their work by murder, under the motto—"dead men tell no tales." As they think their chances of detection will be less than if they allow their victim to live to appear against them, and perhaps identify them, they commit a double crime, not

through any desire to evince cruelty, but through fear alone. This conduct may seem paradoxical, but it is perfectly logical. Their fear induces them to count the chances, and between two evils choose the least, or the one which promises the least danger to themselves; and since robbery, which they have committed, perhaps is punished by death, and robbery and murder both can be but death, and since detection is less certain with the victim dead than alive, the sense of safety impels the last act.

ACQUISITIVENESS.

This faculty is given to prompt man to lay up food and other articles of value for future use; it is eminently a providing faculty. It is also possessed by some animals, to impel them to acquire or lay up in time of abundance for a time of scarcity; to gather the fruits of summer for use during the dreary winter. In other classes of the lower animals there is no trace of it; they exhibit no desire to gather and lay up, and no perception of the hoarding principle. In his valuable treatise on Human Rights, Judge Hurlbut illustrates this truth as follows: "A quantity of corn being thrown upon the ground within the reach of a flock of fowls, each one will greedily devour all that is required to satisfy the appetite and will go away without caring as to what remains, without gathering up or secreting anything for future use."

It is well known that a squirrel, on the contrary, if he were to discover the corn upon the ground, would exhibit unwearied industry in carrying it off as rapidly as possible to his nest or hollow tree, until the last kernel had disappeared, before he would attempt to satisfy his present hunger. Thus he would find himself in possession of a supply of food for many months. The unacquiring fowl, however, when again hungry, would return for

another meal but find nothing left to supply it, the squirrel in the mean time having appropriated the whole of it to himself.

The bee is an eminent instance of the acquiring instinct; it lays up its food during the long summer, eating what it needs day by day of the honey which it gathers, and laying by a surplus not only for its own use in winter but as food for its young.

Birds supply their wants as best they may from day to day with no apparent care for the future relative to food. Such birds as live in high northern latitudes and do not migrate are forced to pick up during the winter a precarious subsistence. The crow, the hawk, the partridge, the snow-bird are instances; but the robin, the wild goose, the bobolink, and many other species, raise their broods in the north, and when their natural food begins to fail they migrate southward, as far, perhaps, as from Vermont to Virginia, or from New York to Georgia, where nature furnishes them a climate to their taste and food for their daily wants. The fox makes his meal from his prey, and if there is any surplus he buries it for future use, and will fight for it as property. The wolf will fight over a carcass for a present supply, but when satisfied does not, so far as we know, protect what is left nor regard it in the light of a possession for use hereafter.

The proper exercise of this faculty in the human race, how it shall be cultivated when too weak and restrained when too strong, is an inquiry of serious import. If we were to canvass the world and seek the solution of this problem by the universal verdict of men, we should fail to obtain a philosophical solution of the subject, because in most countries this is the reigning faculty. Among savage tribes the idea of property exists, though not in a high degree; but as men become civilized, and live under laws and constitutions which protect persons and property more

perfectly, the all-absorbing inquiry seems to be, how can I become rich? Thus, the faculty being too highly stimulated, exists in a perverted state. Each is eager to be rich, while the entire property of the world, at its highest market value, if equally divided among mankind would leave to each person a few dollars at most. He who has a craving desire to be rich, unless the substance of the wealth he covets is to be created by his own efforts, must entertain this feeling at the expense of a majority of his fellows. Until society shall be reformed in respect to the activity of this faculty, the true standard for its exercise will not be attained. When man's real wants shall be ascertained, and he shall have such training of all the faculties as to make him willing to accept and to be satisfied with what is really necessary, or look to his own creative, productive, energetic skill for the supply of his wishes, he will be guided by a false standard, and will entertain a craving desire either on a wrong basis or at the expense of his fellow-men. The present speculative spirit, when viewed from a proper standpoint, is a crime against the race. Since there is not property enough in the world to make all rich, those who become rich by traffic and speculation generally accomplish it by such management as enables them to feather their own nests at the expense of the labor and productive skill of millions. Thus, while a few become rich, the mass remains poor.

Labor alone will hardly make any man rich. Sometimes it is achieved by some rare discovery or invention, and the penniless man becomes a millionaire, without traffic or selfish business operations; then it is the discovery or invention, not mere labor. Large manufacturing establishments, where the many contribute to the prosperity of the few, and mercantile and managing transactions where tribute is taken from thousands and deposited in the coffers of the few—it is from these sources the large fortunes are

gained. The man of eminent talent who can plan for a thousand and employ them at good wages, may honestly make a fortune as the fair remuneration of his skill—the laborers being better provided through his agency than they could be by their own unaided efforts.

The primitive design of the faculty is to inspire every human being with the spirit of industry and frugality, to lay aside from the earnings of youth and health for sickness and for age; to amass property partly by economy in reference to our present wants, and by active, well-directed industry to acquire the means for the development, rearing, and education of the young. It may be gravely doubted whether it be well for children that parents amass for them such fortunes as will obviate the necessity of industry and frugality on their part to meet the common wants of their own lives and those of their children during minority. When a man becomes a millionaire, his children generally become useless drones in society, and the world is not benefited by their existence. They never build houses or ships; they will not navigate the ocean, till the soil, or follow any productive occupation; but they consume the property which their fathers have with industry—perhaps graspingly and unrighteously—taken from the past generation.

The laws of trade as they exist at present are based upon excessive Acquisitiveness. Public sentiment on this subject is grossly perverted, yet men are not conscious of it. How shall I make money? by what means shall I become rich? seems the embodiment of public sentiment, and this thought is one of the earliest lessons taught to the rising generation. While it is regarded as the badge of respectability, men are measured by their amount of gold or the number of their broad acres. The fact of being weighed in the world's estimation by the property they can command, and not by their moral and intellectual excel-

lence, sets on fire the youthful mind to run that race, for getting most, if not all, collateral interests. A public sentiment which respects a man because he is rich and neglects and despises another because he is poor, awakens every nerve, arouses ambition and energy, calls out the intellect, develops the mechanical skill, harnessing all these elements to the car of acquisition, so that they become the willing servants of this master passion. In such a system of training, with such a public sentiment to live and act in, is it strange that the world becomes a grand shaving shop, and that men grow up greedy as tigers for their prey in pursuit of wealth?

Something besides Acquisitiveness is necessary to the successful prosecution of business and the accumulation of wealth. Those who are possessed of skill and talent, with a fair degree of moral feeling, even though their Acquisitiveness be as strong and active as such an education would render it, will, by the over-mastering power of that talent, accumulate wealth, and do it within the pale of civil law. They plan, devise ways and means, see results before they are reached, anticipate improvements and depressions in business affairs, and know when to let out and when to take in; these get rich, and do it honestly, lawfully, respectably. But those, on the contrary, who have but little mechanical skill, and are wanting in energy and industry; those who have not the talent necessary to perfect far-seeing plans for acquiring property; those, also, who lack the shrewdness to compete with the artful, will find themselves poor, neglected, and, in the world's estimation, disreputable. Thrifty, wide-awake, industrious, and prosperous people always look down contemptuously upon shiftless, listless, unskillful, and unsuccessful men, however good and virtuous. Persons finding themselves pinched with want, their children suffering privations, are driven to desperation. This intense love for their families,

those holy feelings which, under favorable circumstances, minister to virtue and happiness, under the pressure of such poverty and privation, have a directly opposite tendency. Many a man in such a position has been led to steal and rob, and has found himself on the criminal list, not because he was by nature vicious, or coveted his neighbor's property, but because he had not the shrewdness, talent, and industry to acquire the comforts and necessaries of life in a legitimate manner, and to save his loved ones from cold and hunger has violated the criminal law. Moreover, such persons may labor, but they have too little skill to make that labor highly successful; and being surrounded by sharpers, and those who, by management, contrive to absorb the profits of their labor, they remain poor from year to year, and the history of such people is one of privation, if not of suffering and crime. Now, in what consists the remedy for gigantic evils such as these? This, surely, is not the natural state of man; a single propensity, one selfish desire, Acquisitiveness, should not rule the human race with such despotic sway.

In tropical climes, man, in his savage state, has but little of the faculty of Acquisitiveness. While his wants are few, this organ is small; and it is an interesting fact, that in the African race we seldom find this organ large; and although they are accused of stealing, it is the result of thriftlessness, and too little Acquisitiveness to prompt them to provide for prospective want; and consequently, becoming destitute, they steal to supply their present need. In their native land, where they can reach forth the hand and pluck the fruits of eternal summer, and in a climate where they require no houses and clothing to shelter them from wintry blasts, Acquisitiveness is neither required nor developed.

But as man wanders from the equator into colder latitudes, clothing, shelter, and accumulation of food for win-

ter are necessary; and with such people the organ is more amply developed, together with those qualities of ingenuity and energy which lie at the foundation of skill and industry, than in people living in hot climates. It is not necessary to argue the importance of this faculty, as the provider of the absolute necessaries of life, nor to state that it lies at the foundation of all those faculties which enable us to enjoy the comforts of a sufficiency, and the means for the gratification of taste; but there is a proper limit to its development and activity, beyond which its exercise becomes vicious. A morbid Acquisitiveness, which gives an excessive desire to acquire, is akin to that feverish state of Amativeness which leads to licentiousness, or to that of Alimentiveness, which produces intemperance.

This faculty should be trained equally with Conscientiousness, Benevolence, Cautiousness, and Friendship. Every young man should be trained to feel that the human race is a great brotherhood, that each man has rights as well as himself, that each has no right to the earnings of others without a fair equivalent, and that this faculty should be used for the public good as well as for private gain. Some men who account themselves honest do not scruple to defraud the government of the city, state, or nation, but would feel guilty for perpetrating a like fraud upon a person whom they knew.

In our country, there is coming to be a public sentiment adverse to faithful, persistent industry. The intellect and skill of the race should, to a great extent, be trained to real production, either from manufactures or from the bosom of the soil. The prevalent disposition of young men to be merchants and manufacturers, which leads some to study how many half-fed women can be employed, or how many sets of profits can be wrung from a single bushel of wheat, or a pair of boots, before it gets from

the producer to the consumer, is a system of prey and plunder condemned alike by common sense and conscience. One-half of the nominal value of the property of the world is added to the real cost of production in the shape of profits. Three-fourths of all the expenses and additions to the cost of goods, in the shape of profits, are entirely unnecessary to the trading world. The nearer the producer and the consumer can be brought together without the intervention of a platoon of men who aspire for the lion's share of the profit, the better will it be for all concerned, and, of course, the less will be the cost to the consumer. There is no point in the education of the young where there needs to be more reform than with reference to the exercise of Acquisitiveness. The demoralizing effects which the gratification of a miserly disposition produces on the individual man, the passion, the violence, the desolation, and the crime which grow out of this absorbing spirit of penuriousness, this grasping avarice on the part of a portion of the community, ought to arouse the moral sense of the world to a right training of this faculty; and this training should be done in harmony with the higher powers of the mind, whose office it is to exert a commanding and restraining influence over the passions and propensities.

Acquisitiveness is often stimulated by perverted Self-Esteem, which gives a love of power, and Acquisitiveness is employed to acquire the means of securing that power. Perverted Approbativeness, also, stimulates it; this leads one to rejoice in parades and splendor, and money is useful to carry out those feelings. Sometimes morbid Cautiousness excites Acquisitiveness to the highest degree to provide the means for future safety and security. The mercenary spirit exerted around us tends to awaken Cautiousness and Secretiveness in the direction of money-making, and when Acquisitiveness is the central desire and the

ruling agent in this warfare of man upon man, the scramble for wealth and pecuniary advancement becomes ridiculous, if we could forget the criminality and the misery which are necessarily coupled with such perversion. In this Age of Gold, Acquisitiveness occupies so conspicuous a position, has so much to do with stimulating and exciting both normal and morbid mental action, we may be pardoned for a thorough and earnest exposition of the subject.

ACQUISITIVENESS AND SECRETIVENESS.

We find it inconvenient to speak of the abuses and evil training of Acquisitiveness until we have called attention to its nearest neighbor and most common ally, namely, Secretiveness. The very name of Secretiveness indicates the general nature of the faculty, yet we shall speak of its true office as well as its perversion.

The design of this faculty is to produce concealment and a restraining influence upon the other faculties. It is one of the animal propensities, and in its action has merely selfish gratification in view. In the lower animals it acts as a blind instinct, while in man it is coupled with reasoning power and moral sentiment, by which it may be guided, modified, and restrained, and allowed to act only in harmony with the higher dictates of the mind. Nearly all carnivorous animals have Secretiveness in a high degree of power. The cat species, from the lion downward, secretes itself and patiently waits and watches the approach of prey, and when near enough seizes it at a single bound; before the unconscious victim is aware of the presence of a concealed enemy, it receives a death-blow from a masked battery. Most of the herbivorous animals have little Secretiveness, since their food does not flee at their approach. Their only use for Secretiveness would be to

conceal themselves from enemies. But many of them have fear and fleetness, which they use as a means of safety. Secretiveness is so strong in many of the human race that their whole character is tinged with a fox-like or cat-like cunning. All they do and say has an air of mystery, concealment, suspicion, and artifice about it. They use ambiguous expressions, and never speak right out boldly, plainly, definitely, but qualify their remarks with prudential terms, and hedge about all they say with so many conditions that they sometimes seem to be either cowards or to consider themselves as holding communion with rascals.

There are others who have the organ small. These are too abrupt, blunt, and ill-timed in their remarks, and "carry their heart on their sleeve for daws to peck at." We can understand a bold, outspoken character better than a sly and crafty one, but neither is the proper standard; the medium between the two extremes is best. This requires a full development of Secretiveness in harmony with all the other organs.

It is important to train this faculty when it is weak, and to guide and restrain it when it is too strong. Often a plain expression of truth might wound the feelings of some person present, or might develop to the world that which should be kept in a small circle of friends. Children should be taught not to expose unnecessarily their weaknesses or their ignorance, and also never so far to develop their character that dishonest strangers might take advantage of it. Deficient Secretiveness makes a man so transparent in his actions and words as to be liable every hour to fall a victim to the selfishness of those around him; while an excess of this faculty leads him to practice duplicity, cunning, artifice, dissimulation, and perhaps falsehood. Some persons have this so large, in conjunction with rather low Conscientiousness, that their chief pleasure seems to consist in deceiving and mislead-

ing, not to hide their character and sentiments, really, but to put forth language and actions of a deceptive nature, quite foreign to their general character, for the mere pleasure of the good cheer and amusement it may afford. Thus, though honest at the core, they appear, for the time being, hypocritical and deceitful.

Writers and speakers who have Secretiveness large, have a tendency to shroud in mystery not only what is attempted to be expressed, but to make the hearer believe that much of importance is yet to come. Novelists, who usually have the organ large, develop and perfect a plot on one page only to lay another, or to raise a mystery to be afterward developed. Thus they go on, linking mystery to mystery, for the purpose of exciting interest and leading the reader on; and sometimes such writers close their book in a labyrinth of undeveloped history, especially if another volume is to follow.

The abuses of this faculty in social life are numerous. Many parents deceive their children from the cradle. It is thought by many mothers and nurses that a straightforward, truthful course with a child is not good policy, therefore they rule them by deception; and though these children will master one deception after another, they still suppose themselves to be surrounded by hardly anything but deceit; certainly they do not know what to believe and what to doubt. They soon begin to deceive their playmates, next their parents and teachers, and finally, they learn to lie outright. It is generally bad policy to trust the training of children to servants; for they usually lack the patience, the wisdom, and the self-restraint to take the true and proper course with a child. But there are many mothers, of education and refinement, whose whole mental texture is interwoven with Secretiveness and deception. Such women teach their servants practically to utter falsehoods, by requiring them to say that "the mistress is

not at home," unless the person calling happens to be one of the favored few. It would be indeed strange if servants thus treated did not learn to tell falsehoods on their own account, and if children are left in their care, teach them to do likewise. Servants, who depend upon obedience for their daily bread, are required to practice deception as a part of their duty, and it would be a marvel if they did not learn to deceive and lie to secrete their own faults or minister to their own interests. Children, as well as servants, hear mothers lavish the most endearing expressions of regard and kindness upon persons who call, and when they are gone learn distinctly, in so many words, that "their room is better than their company." At first, the unsophisticated child looks with astonishment at such bold hypocrisy; it is bewildered at the inconsistency; but it soon finds out that it is living in a sphere of duplicity, and learns to practice deception accordingly to carry out its own purposes.

But Secretiveness is perverted not only for the sake of gaining social advantages, but it is more often harnessed with Acquisitiveness and made to work deception for purposes of gain. The merchant, who ought to be a man of acknowledged truth and integrity, and who would consider it a great insult if his character were called in question, is led, by the intrigues and deceptions of cunning sharpers, to bend from his straightforward, truthful course to conform to an erroneous public sentiment created by the tricksters of trade. We believe that, even in a "crooked and perverse generation," if a man or a firm would stand up squarely upon the line of truth and integrity, and let it be widely known, as it soon would be, that falsehood, deception, and cheating would on no account be practiced, that man or firm, as a consequence, would thereby attract business and make a fortune. But plotting and counter-plotting have become so general, that mer-

cantile life is a network of deception, and nearly every article of goods on the shelves is made to speak falsehood by the yard. It is frequently demanded of clerks to practice deception and falsify with a brazen face, or lose their places. Clerks thus trained generally double back upon their masters, and cheat on their own account; and then what horror and consternation rages through the mercantile community! It is simply this: that the merchant trained the young man to be dishonest for the interest of the employer, and he turned and practiced his acquired dishonesty upon his preceptor. If he had cheated somebody else, a customer, it would have been considered smart and praiseworthy.

But merchants are not the only ones who abuse Acquisitiveness and Secretiveness in conjunction. Manufacturers use cotton warp in the room of silk or linen; plated ware is sometimes sold for solid, and nearly, if not more than one-half the manufactured goods that are offered for sale are embodied falsehoods—polished on the surface, but shabby within. Take a simple but familiar example. A manufacturer of flannels substituted cotton warp for woolen, stored his goods until he had a large amount on hand, and then rushed them into the exhausted market. The deception was not apparent. It is a part of the office of Secretiveness not to have the deed show. Before the cheat was known to the consumer, the manufacturer had realized half of a splendid fortune by the operation. The warp, which in the manufacture of woolen goods is the most costly and difficult to make, being substituted by cotton, the fabric looked even more beautiful than if it had been honestly made, though it cost very considerably less. The consumer soon became aware that it was half cotton, but not till it was half worn or he had attempted to color the cloth, when the cotton warp, not taking color in a woolen dye, exposed the cheat. From the time the cotton

warp was detected, everything in the shape of white flannel was carefully criticised. The shrewd manufacturer however, had anticipated all this, and made a large quantity of goods, not with cotton warp and woolen filling, but by mixing in equal parts the cotton and the wool by carding them together, so that through the entire fabric, both warp and filling, the cotton was covertly intermixed with the wool. Thus each thread, if it were broken and held up to the light or scorched, would indicate the presence of wool. But suppose the cloth were colored red, the cotton fibers, not taking color, would give a gray appearance to the goods. This cheat was, however, soon detected, but not until the other half of the splendid fortune had been realized by this new deception, and the manufacturer had retired from business with his cool half million and lived in splendid style. Now, it is not too much to say that this excess of profit on the sale of deceptive goods for the full price was sheer robbery, and that those who purchased them had been taxed without an equivalent. Such men may gather fortunes to endow colleges or build churches, but the All-Knowing will hold them to an account. All their wealth is an incarnate falsehood; and though their ill-gotten gains may bless orphan asylums, we would not willingly take their share of the profit with its responsibility. Men make themselves merry over wooden nutmegs, horn gunflints, wooden hams, and white-oak cheese, each of which *may* have been, in single instances, constructed and sold as a mere playful deception, for the sport of the thing; but deceptions, as gross as would be wooden nutmegs, are found in every avenue of trade; and if every falsehood incorporated into manufactured goods could step forth from the articles in which they are embodied, the contents of most stores would be as completely disorganized as if the warp were to forsake the filling in every yard of cloth.

This system of duplicity, this perverted Secretiveness, exercised for the gratification of Acquisitiveness, is not confined to trades and manufactures, to peddlers and mock auctioneers, but it extends to farmers, who are supposed to be removed from temptation, and who are, perhaps, by circumstances, the most upright portion of the community. The craving desire to gratify the love of money leads the farmer who has Secretiveness large to call it to his aid, to enable him the more successfully and rapidly to acquire a fortune. Who dare buy a horse or any other animal from farmers without a sharp investigation? Who does not wish to put the trier into a tub of butter to see if it is all alike from top to bottom? who would not be disappointed to find that turkeys and chickens had not been fed to repletion immediately before being killed, so as to sell corn which is worth a cent a pound, for twenty cents a pound, and though the amount of gain be small, in a given case, the principle is incorporated into the transaction. Indeed, Secretiveness finds opportunities to work deception in every department of life; each profession has its sharp practice, its quiet concealments, its smooth outside, and its shortcomings within; but some lines of business seem to furnish more opportunities for deception than others, and consequently stronger temptations to deceit. A pursuit which fosters the use of Secretiveness, and can not well tolerate frankness, accumulates in its range all the sly, sharp, cunning persons, while the frank and truthful are generally pushed out of it before they have entered upon manhood, and it is said of them, "they did not succeed." This classifying the tricky persons into pursuits which furnish opportunity for deception, and pushing the candid and the honest to adopt trades or professions in which they can use candor without bankruptcy, can be distinctly seen in its effects upon different branches of trade; and we think that we could almost classify successful business men

if they were put into a crowd, and place in their respective groups those that succeed by policy and those who can succeed by straightforward plainness.

We ought not to close this topic without stating that secretive, tricky customers teach merchants and clerks deception as a means of self-defense; for Ananias and Sapphira leaning over a dry-goods counter could not tell more positive falsehoods than are uttered by the smiling lips of *respectable* men and women of our day; and this method of cheapening was practiced in Old Testament times, as well as in modern days, for we there read, "It is naught, it is naught, saith the buyer; but when he has gone his way, then he boasteth."

MECHANICAL TALENT AND SKILL.

CONSTRUCTIVENESS lays the foundation for mechanical taste and skill, and from its exercise nearly everything which adorns and blesses life proceeds. If we look abroad we see hardly anything that the hand of artistical and mechanical skill has not produced. Man has been called a tool-using animal.

Physically considered, independently of intelligence or tools, man is far inferior to some of the lower animals. Let man stand up in the forest naked, and if compared with a bear, to all outward seeming the bear has almost every advantage. He has a coat which keeps him warm in winter, never becomes unfashionable, wears out, or needs repairing. His teeth are strong for defense and for providing himself with game as food. His claws are long, strong, and sharp, with which he may dig roots, or climb trees, or hold his prey. Man has neither claws nor strong teeth, nor has he a garment of fur to protect him from storms and the cold of winter, but in process of time his intellect and constructive talent have projected those de

fenseless fingers of his into a thousand productions. He contrives weapons of defense and offense which make the bear his prey, and convert his warm robe into a coat for the captor. To protect himself from the storms of winter he builds houses; he works metals into all sorts of tools, and uses those tools for every imaginable purpose, and in process of time, though the bear has remained stationary, man has made great progress, and populous cities, commerce, art, have sprung from his plastic hand, and all the appliances of civilization occupy the place where the bear once roamed the master, and he retreats to the forests and fastnesses of the mountains, and timidly flees at the approach of man, who, at the beginning, seemed so inferior.

Without Constructiveness, no man could live where winter reigns three or more months in the year; and we find in the hot climates, where houses and clothing are comparatively unnecessary, the faculty of Constructiveness is not much developed. Without the use of tools man would indeed be helpless. He might, like the squirrel, lay up nuts for the winter, but how could he construct a shelter or clothing with his naked hands? The squirrel has the means with which to dig and burrow, or to gnaw his passage into a hollow tree, but without the agency of tools man could accomplish neither of these results.

One of the most intelligent animals, the horse, has been known to starve in midsummer, being tied to a tree with a common rope. He had gnawing ability, for he gnawed the bark from the tree to which he was tied, from the roots as high as he could reach. He might have obtained his freedom in five minutes had he possessed the intelligence to gnaw off his rope. The wisest of the lower animals use no tools except in one or two instances, of apes, which merely use a club to defend themselves,

some of them let fall a stone upon nuts to crack them when too hard for their jaws. Thus we see that with these exceptions, animals are not tool-using in their nature. The bee, the beaver, and bird build in a specific way in obedience to fixed instincts, but they use no tools, and the order of their mechanism is generally low and simple. And although the bird builds a nest, the bee its cells, and the beaver its dam, thus evincing the building instinct, man is the only being that possesses the manufacturing talent beyond these mere instinctive efforts. He combines intellect with Constructiveness, and thus by invention carries out new plans for the production of whatever he desires. The printing-press and the art it subserves, the power-loom which seems almost possessed of intelligence, the ship, the steam-engine, and the machinery it impels, and all the articles of convenience, utility, and ornament which fill and bless the civilized world, grow out of this great but often much neglected element of our nature.

Though man was created without any natural weapons of defense, and in physical structure is weaker for self-protection than many of the inferior animals which are even smaller than himself, yet by the force of his intellect and the power of his constructive talent he designs and executes implements with which he rules all animals. He curbs the fiery force of the horse, entraps and subjugates the half-reasoning elephant, conquers the leviathan of the deep, and brings the proud eagle from his soaring height. He subdues the roaring lion, he braves the very ocean and rides its waves in safety. He calls the lightning from the heavens, and it is obedient to his will. He devises means to make a pathway for the iron horse, sends his messages under the sea and around the earth, and fills the world with machinery by which the most delicate fabrics are elaborated with as much skill as if moved by the power of reason, evincing, indeed, that he

who has the skill and wisdom to make and operate them is created in the image of God.

If we were to go out of the path of constructive and mechanical skill we must go into the wilderness where nature, rude and luxuriant, untrimmed and untrained, acknowledges not the hand of culture; but where civilization reigns, we can hardly see an object which mechanical skill has not wholly or in part developed. Mechanism now does nearly all of the work of agriculture as well as of manufactures and art.

A faculty so useful as this, so indispensable to the welfare, happiness, and development of the human race, should be carefully and perseveringly cultivated. We trust the time will come when all persons who are not devoted to agriculture or manufactures shall have so much training in some mechanical pursuit as will enable them to earn a good support. Attached to every college, instead of the gymnasium, or in addition to it, there might be shops in which useful industry could be employed, and while the student would be taking exercise with the saw, the plane, and the hammer for the benefit of his health, he might learn to build wagons, make chairs, cabinet furniture, and a hundred other useful things; then, if in following a talking profession, he were to lose his voice, he would not necessarily be a pauper. We have not the slightest doubt that any well-developed boy might obtain a good book education, and with proper opportunities learn some useful trade at the same time.

We would not make old men of children, or cart-horses of colts; but does not the boy, when making his kite or water-wheel, or the mud-dam as a means of propelling it, feel all the buoyancy of childhood as much as when he is idly chasing his hoop? We have no doubt that the boy kept turning a grindstone by the hour would become moody, discontented, and unhappy; but let him be con-



THOMAS A. EDISON,

ELECTRICIAN AND INVENTOR.

It is too early to record the great work of this young man. When he shall succeed in lighting by electricity every room in our houses, and the telephone becomes so perfected that people need write no letters or take the trouble to visit, or even to attend lectures and places of amusement, and sermons can be heard by invalids in their homes, it will be time to talk of Edison and his compeers in this marvelous field of inquiry and invention. He was born in Milan, Erie Co., Ohio, February 11, 1847, began life as a newsboy, and became interested in telegraphy, and the most accomplished operator in the country. From this line of study and effort the transition to his present work and position was natural, if not easy. The Grand Cross of the Legion of Honor has been bestowed upon Thomas A. Edison, by the Minister of Foreign Affairs in France, who said it was given in honor of the services rendered by him to science, and for the part taken by him in the Paris Exposition of 1889.

structing something as a source of pleasure and profit to himself, will he not work with a will, and dislike to break off from it even to go to his dinner? Instead of abating his love for book-learning, we think such exercise would give him a taste for study, besides filling up his odd hours and serving all the necessities of an excellent system of physical education. Besides, it is mechanical work, and while it calls into requisition his muscles quite as much as useless play does, it awakens his ingenuity at the same time, and his mechanical talent is thereby stimulated and instructed. Let mechanical operations be made delightful to a boy, and his mental elasticity will be in no sense abated, while he gets the vigor incident to labor which the growing organism so much needs. He would acquire handiness also in the use of tools, and a planning and executive talent that would be of essential importance to him through every avenue of future life.

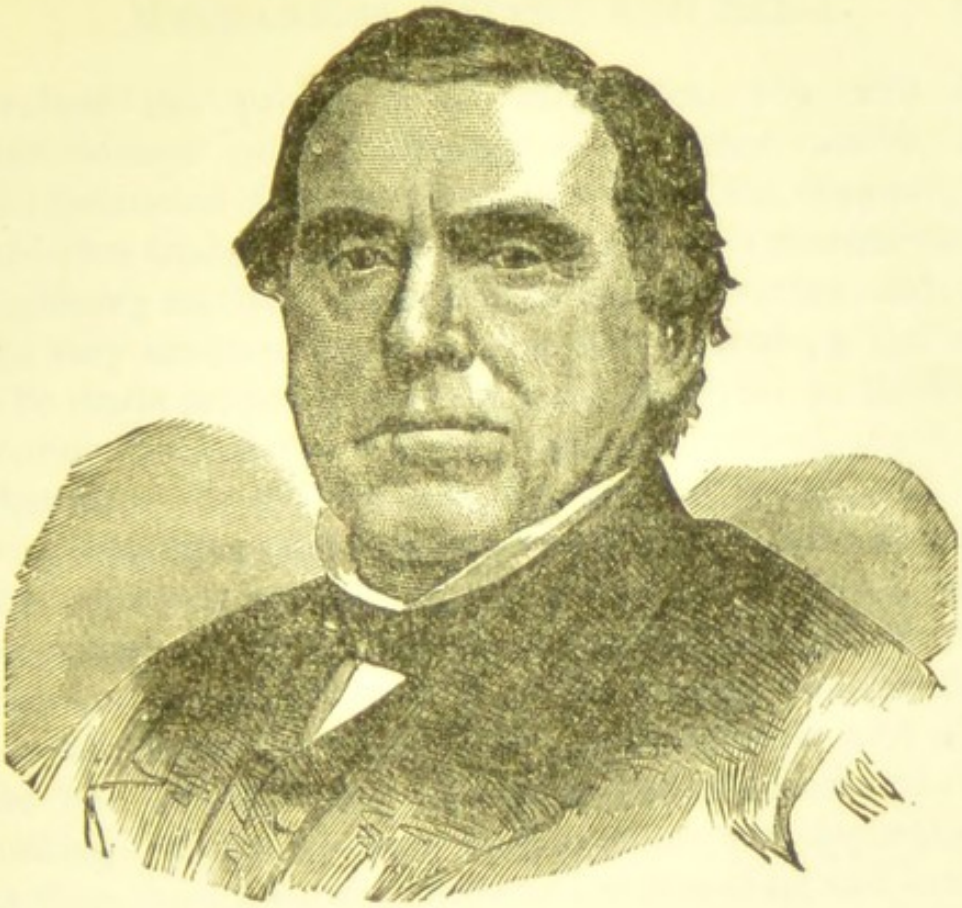
We think, also, that the little girl enjoys life as well when using her scissors and needle in the construction of dolls' clothes as in thoughtlessly and uselessly cutting up paper and cloth without any design. We have observed that children and youth are intensely interested when taken to workshops and the theories and operations therein are explained and exhibited to them. Every person ought to be ashamed of ignorance respecting how books, clothing, furniture, houses, and tools are made. Many persons are not ashamed to be idiotic in constructive talent who would blush if suspected of a defectiveness in any other talent.

Among the most useful of the human race the inventor and mechanic deservedly take rank for excellence in their vocation. The names of Watt, Smeaton, Franklin, Fulton, Whitney, Arkwright, Slater, Hoe, Blanchard, Roebling, Ericsson, Morse, McCormack, and Howe will be repeated with honor at every revolution of the steam-engine, at

every gleam from Eddystone lighthouse, by every flash of electricity sent harmlessly to the earth, by every foaming furrow of the steamboat, by the roar of the cotton-gin, by the hum of every spindle, by the clatter of every power-loom, by the achievements of the mammoth printing-press, by the machinery for turning irregular forms, by every suspension-bridge where others are impossible, by the complete revolution in naval architecture effected by the little Monitor, by every electric pulsation that sends the glowing thought around the world and makes all men akin, by the teeming harvests that bow before the magic reaper, or by the glittering steel fingers which, without fatigue, do the sewing of a hundred pair of hands. Their fame is written in these great benefactions to mankind, and not their descendants merely, nor even their countrymen, but the whole human race proudly claim affinity with them, a common brotherhood.

Suppose man were deprived of all mechanical talent, how could he adapt himself to the appliances of art, commerce, and manufactures of every-day life, to say nothing of producing these things? All persons would find it greatly to their advantage to have a well-trained mechanical judgment, that they may be able to comprehend and criticise the structure, quality, and consequent value of the goods they need to buy and use, otherwise they are liable to be cheated on every hand. Those, also, who desire to trade in manufactured goods should have similar early training to qualify them for the pursuit.

"But," says one, "I am to be a merchant, therefore what do I want to know of mechanism? why should I cultivate my Constructiveness?" To such a one we may reply, What do you intend to deal in? If in pork and lard, salt, grain, plaster, or lime, you could get along very well with small and untrained Constructiveness; but if you wish to deal in manufactured goods, in anything that



JOHN ROACH,

THE GREAT SHIP-BUILDER.

Mr. Roach has a broad head, giving force, and a strong intellect, indicating sound sense and great planning talent, backed up by unflinching courage. He was born in Ireland, and his father dying when he was twelve, induced him to try his fortune in America at the age of sixteen. He found work at a blast furnace in New Jersey. By rigid economy and hard work he saved in four years the sum of $1.500, which, by the failure of his employer, he lost. Coming back to New York he was employed in the "Allaire Works" to make castings and marine engines, and ship work. He learned all he could respecting other branches, and here he worked for many years. With three hundred dollars he started a little foundry, and in four years he saved $30,000. Here the engines of the Dunderberg, the Bristol, and Providence were constructed. After the war Mr. Roach purchased the Morgan Iron Works, the Neptune, the Franklin Forge, and the Allaire Works, where he had learned his trade, and concentrated the best of the machinery at the Morgan Works. In November, 1871, he bought the large ship-yard at Chester, Pa. He is striving to restore ship-building in America, which, by the war, was driven to the banks of the Clyde. He is constantly astonishing the world by his gigantic efforts, and all Americans glory in his courage and enterprise, and hope for his triumph. And what is more and better, he has been known to give $12,000 to save a friend's property without the asking, and declines to accept any obligation for its return, or even to talk about it.

involves the principles of mechanics, you will find your success greatly augmented by large, active, and well-instructed Constructiveness. Take, for example, the hardware trade. Everything in that line is manufactured, combining mechanical operations in its structure and use. The very simplest article in that line of trade, a cut nail, to be made properly, must be a wedge, equal in thickness from end to end one way, and a double inclined plane the other way. If it have not this form it is useless. Let two young men engage in the hardware trade side by side with equal capital and equal intellectual business talent and energy, but with this simple difference, that one has large and the other small Constructiveness—one of these men will become rich and the other will fail; and why? The one having large Constructiveness understands the working qualities of every tool, machine, and apparatus in his shop, from a turning-lathe to a mouse-trap, and can explain these qualities to a customer in such a manner as to display them to advantage. If a new lock, wrench, window-spring, door-knob, or other patented curiosity be offered for him to purchase, he sees at a glance whether it will supersede all others or fail and be worthless, and he buys or rejects accordingly. The other man, his neighbor, having small Constructiveness, will show his goods and call them strong and handsome, but will never display and explain to his customers their internal workings or exhibit their new and superior qualities over all other methods, simply because he does not appreciate them himself. If the most desirable improvements are offered to him, he dare not purchase on his own judgment; or if he buys a little of everything, he is sure to lose money on useless articles that will lie rusting on his shelves.

A man to sell carpets well, ought to have mechanical talent enough to instruct any one in the general principles and the real mechanical differences in different articles. If

it were possible, he should understand carpet-making. A bred tailor or shoemaker will be a better salesman of coats or boots, other things being equal, than he who has merely been trained to buy and sell.

It was once said by an eminent lawyer to his students, that to be an accomplished lawyer a man ought to know something of everything, enough even of the mechanism of the watch to explain the technical terms and uses of each part; because important law cases sometimes hinge on such particular knowledge of practical matters that the lawyer who does not understand them will utterly fail in the presence of an antagonist who is well versed in them.

We have heard Daniel Webster, in the United States Court, make remarks relative to a patented article, that being the subject of the trial, for which a boy fifteen years old, in a mechanical neighborhood, would be laughed at. We remember hearing the late Ogden Hoffman manage a case in a court in New York, involving facts that occurred on shipboard, and we observed, with pleasure, that he could ask questions of sailors in their own language, and understand the sailors' replies. That lawyer had the respect of the sailors and the jurymen who knew about maritime matters, hence he was usually employed in such cases, if he could be obtained. Why? He had spent two years at sea, and those two years were of more value to him than any other two years of his entire educational course, in making him qualified to take the lead in cases pertaining to maritime affairs. Let the faculty of Constructiveness be cultivated largely; it will be of use in a thousand ways.

IDEALITY.

This faculty is adapted to beauty, perfection, and refinement. Nature is full of beauty, from the modest flower that bends its tiny head over the sparkling rill on the sunny hillside, to the gorgeous sunset or the star-gemmed canopy of heaven. The mind of man, to be in appreciative harmony with the resplendent touches of creative taste thus lavishly affiliated with the wide domain of earth and air and sky, should possess a faculty bearing the same relation to beauty that the eye does to light.

It is a pleasing fact that "the image of his Maker" is endowed with powers of mind most admirably adapted to feel the spirit and drink in the soul of every element embodied in the Creator's work; and not the least important one is Ideality. Do the crashing thunderbolts rave through the heavens, or does a bald, huge mountain lift its craggy crest to the sky, or the angry ocean lash its rocky base, Sublimity rejoices in the warring elements, and glories in all the grandeur of the universe. Does music, soft and sweet, whisper in the breeze, or come in bewildering richness from the songsters of the grove, Tune drinks in with delight the inspiring strains, and seeks to reproduce them. Does danger stalk abroad, Cautiousness warns us of its approach, while Combativeness arms us for defense, and urges us to overcome. In short, man, by means of his mental constitution, has a wise and beautiful adaptation to all forms and conditions of matter—to all the nice mechanism of universal nature, physical, intellectual, and moral.

As a counterpart to the plenitude of exquisite beauty and elegance which bestud the earth and sky—

> "That warms in the sun, refreshes in the breeze,
> Glows in the stars, and blossoms in the trees."

the faculty of Ideality is given to man, by which he appreciates them; and not only these physical adornments furnish it food, but all the poetry of thought and expression that charms the world, and all the polish and elegance of manners which constitute the grace of good breeding, arise from and are addressed to this faculty. Moreover, Ideality, acting with Spirituality, is an element of imagination, and in conjunction with Constructiveness gives creative fancy and invention, especially to the speaker, the author, the mechanic, and the artist.

If we look into the range of manufactured goods, we will find that more than one-half of all articles intended to serve purposes of utility have qualities of beauty and decoration, so that although strength, durability, and convenience are prominently seen, and stand forth as if the purchaser were to see and admire these qualities alone, yet polish, neatness, gracefulness, and elegance of form and of finish are superadded to strength, to please the eye and gratify the sense of beauty, just as politeness of manner in human character adorns the sterner virtues of good sense and integrity. Surrounded, then, as we are, by all the gorgeous garniture of nature, and by so many opportunities for artistic decoration, how important does the cultivation of Ideality become, that we may properly enjoy the beauties of nature and the elegant adornments of art!

This faculty is generally stronger in women than in men, as also the organ of Color; hence women are more fond of, and better judges of articles of taste and beauty than men. Certain nations have this element more highly developed than others. The French and Italians surpass the rest of the world in the manufacture of articles of taste and elegance, and in the arts of design. Greece developed a high order of taste in sculpture and architecture; and Rome contented herself in the main with utili-



EDGAR ALLAN POE.

He was remarkable for a critical and original mind and a vivid and brilliant imagination—see the expansion of the temples—and for a sensitiveness of temperament which was painful to himself; hence his whole life was exaggerated, and his entire life an excitement, and that mainly in the direction of unhappiness. In the weird and solemn sadness which runs through "The Raven" had in his life as much of truth as poetry in it, and we can but regret that so gifted a nature could not have such surroundings as would have shielded him from the environments which saddened and blasted his life. Born in Boston, February 19, 1809, of parents who were actors; died in Baltimore, October 7, 1849, and in 1875 the school teachers of Baltimore erected a monument over his grave in Westminster churchyard.

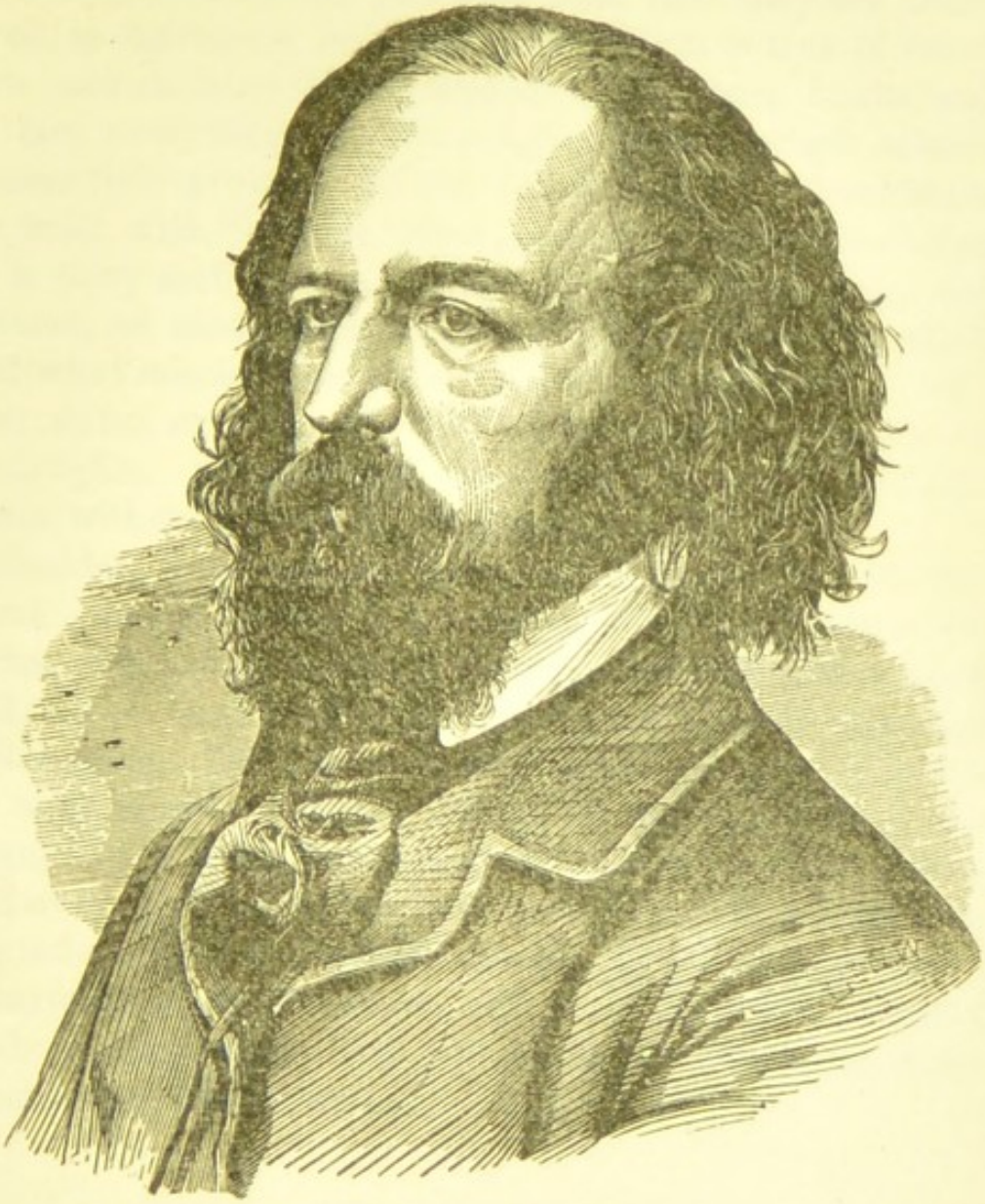
tarian strength. England and America elaborate wood and iron into all forms of strength and utility. France and Italy labor mainly to minister to taste and ornament. These two qualities, we think, should be combined. There should, indeed, be strength and utility; but is not a graceful beauty of form and elegance of finish in harmony with power and endurance? Is not beauty of form in the draft-horse possible and desirable? Because he is strong, must he of necessity be rough, ill-shapen, and ugly? Do not our beautiful ships,

"that walk the water like a thing of life,"

possess strength and stowage as well as beauty and speed? We do not believe that a bass-viol must be made in the shape of a Bible to make it fit to discourse sacred music, or that a locomotive should look like the work of a thunderbolt, merely because strength is the main thing required of it. Let it, and ships, and carriages, even log-wagons, and the plow that grovels in the soil, and everything, down to the scrubbing-brush, be made in good taste, even beautiful in form and finish, and the refining and elevating tendency, by the development of Ideality, in the users of these things will tell favorably upon the world. God does not make beauty without a sufficient foundation to rest it on. He gives a stalk and root for the most beautiful and fragrant flowers. So would we seek strength and durability, and overlay or adorn it with decorative beauty. We are aware that the voluptuous Italian and the fancifu' Frenchman have less stalwart strength of character than the Anglo-Saxon; and while they cultivate that which ministers to taste and luxury at the expense oftentimes, of the more solid works, yet we are unwilling to attribute their effeminacy to the cultivation of Ideality. Other causes, which it becomes us not here to discuss, have given caste to their national and social positions. If

they lack utilitarian qualities, and their characters are therefore objectionable, would we decry their taste and rob them of those decorative qualities which have filled the world with works of beauty, and may be said to have preserved elegance and the arts amid the storms of war and the rude conditions of colonial and emigrative life? The rude log cabin combines warmth, shelter, security, and strength, and serves all the purposes of abstract necessity and utility; but the delicate vase from France, to be a receptacle of the wild flowers of the prairie in that same cabin, or the elegant fan that cools the sun-burnt brow of rustic beauty, or the china tea-set, and other articles of taste, carry into the wilderness the seeds of civilization that ultimately grow into elegant mansions, rich furniture, and neat and ornamental dress, with taste and personal manners to match. We know that the gray goose has been praised, and the beautiful peacock and butterfly decried; but we are disposed to think that the plenitude of beauty in bird and flower, and shell and sky, was adjusted for purposes as wise and beneficent as were those objects and qualities which serve merely economical ends.

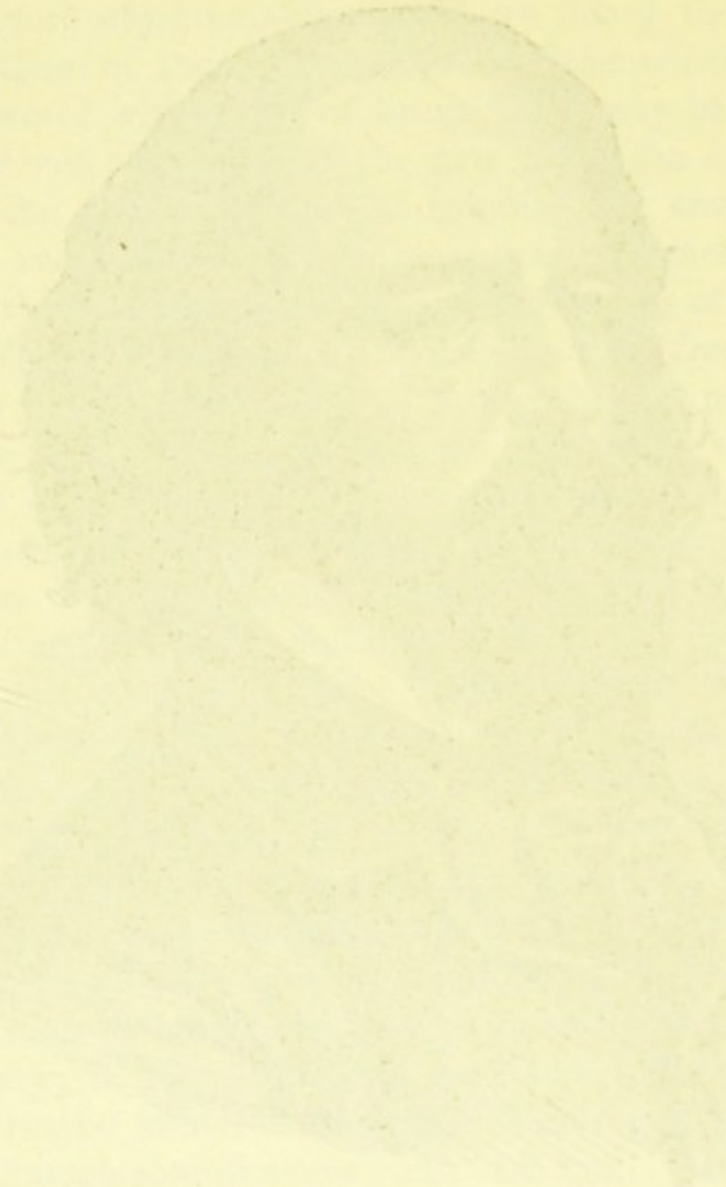
Large Ideality gives a thrill of delight to the child, or the man of gray hairs, at the sight of nature's gems of beauty; it warms the imagination of the rustic plowman to breathe immortal song, which is to gladden and cheer the human soul in every clime and age. Dress a child in sober gray, answering merely the purposes of decency and warmth, and it will be difficult to induce it to be cleanly, and to value the clothing sufficiently to take care of and preserve it; but let it be "my pretty dress," of beautiful color and elegant pattern, and it will be kept with fastidious care untorn and unsoiled. Fill a house with rough benches and rude utensils, and they are jammed and kicked and battered like the benches of a school-house; but make these articles of elegant patterns



ALFRED TENNYSON,

POET LAUREATE OF ENGLAND.

He has a fine, strong, and enduring organization ; a large and intense brain. He was born in 1809, was educated at Trinity College, Cambridge, and published poems before he graduated. November 21, 1850, after the death of Wordsworth, Tennyson was appointed Poet Laureate. In this capacity he wrote "Ode on the Death of the Duke of Wellington," and the "Charge of the Light Brigade." "Maud," "The Holy Grail," and "Enoch Arden" are perhaps best known.



and ornamental wood, and with what care they are treasured, as heirlooms, for a century! What is true of furniture and clothing is also true of architecture, books, and in fact everything, as the rough usage of rough school-houses fully proves. On the contrary, let a school-house be built with "cornice, frieze, and architrave," according to a tasty architecture, with inside work of molding and column, all nicely painted, grained, and properly finished, and what mischievous pocket-knife, even in Yankee land, ever dares, or deems it other than sacrilege to make its onslaughts. There it will stand, even a school-house, for years, without a hack or unnecessary mark.

Besides, these articles serve to refine and elevate the mind. Coarse thoughts are apt to dwell with coarse external objects, while beauty begets a polished imagination and correct taste, which flow out in politeness of language and manner. We therefore urge the cultivation of Ideality upon all who have the charge of the education of the young. Let every flower make its impress on their minds, and every form of beauty in nature and art exert its refining influence upon their characters. Teach them not only refinement of mental action, but an elegant and polished mode of expression, and you have done much to make them beloved and happy.

FIRMNESS.

The office of this organ is to give stability, fixedness of purpose, determination, and tenacity of mind and feeling. Nothing is more common than to apply hard names to this organ, and as it exists in some people, it doubtless deserves them. But generally its abuses have been regarded chiefly, rather than its natural or normal functions, when opprobrious epithets have been applied. Many persons seem to suppose that stubbornness, obstinacy, and

willfulness really indicate its normal characteristics; but in the light of a true mental philosophy, those names indicate the abuses of this important element of our nature.

Firmness is not the only quality or propensity that has been misnamed. Anger for Combativeness, murder and cruelty for Destructiveness, theft for Acquisitiveness, lying for Secretiveness, are terms quite as appropriate to the natural functions of these organs as are those which are commonly applied to Firmness. When these propensities are not subjected to the restraining influence of other mental powers, they evince the abuses indicated.

Everybody knows that in every well-constituted character, earnestness and executiveness must exist. Suppose a man having a full share of Combativeness and Destructiveness, to have all his other faculties, his reason, his moral sentiments, his prudence, paralyzed, so that they should not guide, restrain, and modify Destructiveness and Combativeness, what would he be but a tiger? In a well-balanced pair of scales, an ounce-weight in one side is found to turn that scale against the empty one just as really as if a ton had been applied; hence if a man be deficient in one element, a fair development of the opposing quality will show an excess. Not that he has too much of the quality excessively indicated, but that he has nothing to modify, restrain, or balance it, as a teaspoonful of lemon-juice without its counterpart, sugar, would seem to embody the world of acidity. Some men have a predominance of animal propensity, and their tendency of character is toward animal indulgences; others have intellect as their prevailing development, consequently, thought, and not propelling energy, is their forte; others have moral power, with too little intelligence to guide it, and are superstitious. Some are exceedingly good, but have too little propensity to give them energy, courage, and force, and are too tame to produce upon society any

marked influence. They are like lemonade with the lemon left out, altogether too sweet and insipid. Others are warped and unbalanced by a predominance of social feeling. They will follow their friends, in business to bankruptcy, and in social and convivial life to dissipation and licentiousness; whereas, if they had enough of something else, to keep their social feelings on the track, in other words, to balance and offset them, while the world would admire them for their cordial and social sympathies, it would not be obliged to regret in their behalf a course of dissipation and social profligacy. These natural states of mind are much modified by circumstances and education. Such influences as serve to allay the activity of strong faculties, and excite those which are weak or dormant, will produce almost immediate change in the manifestations. If a person be irritated in consequence of large Destructiveness and Combativeness, nothing should be done or said calculated to arouse these ferocious lions of his nature in an unnatural manner; and, at the same time, Benevolence, Approbativeness, Adhesiveness, and Conscientiousness should be called into activity by proper words and deeds; and although they may be developed only in a subordinate degree, it will be surprising how quickly they will respond, showing kindness, justice, politeness, and friendship. In other words, the faculties which occupy a minor position, as to power, may become ruling and controlling forces by being rendered active; while the major forces, by inactivity, shall be governed and ruled.

Firmness, when it exists in a predominant degree, will often be manifested in the form of an obstinate, captious, contrary spirit, towering over reason, justice, and kindness. The way to manage such a character is to address to it language and actions calculated to arouse the moral sentiments and amiable dispositions into activity, while no

special opposition be raised against the position Firmness has taken. In such a way a stubborn man may be led or a stubborn child subdued, and a complete victory be obtained by the moral sentiments over that disagreeable trait of character which we call *stubbornness*, another name for a blind and energetic action of Firmness. A person who desires self-culture and wishes to modify his excesses and develop his deficiencies, can use every effort of judgment and moral power to guard against his easily besetting sins; to foster all his weak and dormant faculties by all the appliances of society, and other circumstances, which are favorable to an improvement of his character. Hence, a person whose anger is his besetting sin should be wise enough not to go into the society of quarrelsome, captious persons; and those whose Firmness is extravagant, should avoid those whose Firmness and Self-Esteem are so strong that a continual conflict for the supremacy will always arise when they meet.

The true nature of Firmness is to give stability, fortitude, fixedness of purpose, and constancy of character; to enable one to stand up against the current of opposition, to hold one's faculties to their work until the duty is fulfilled. The influence of Firmness seems to terminate on the mind itself, giving the quality of permanency to the manifestations of the other powers. Thus, with Combativeness, it produces determined bravery; with Conscientiousness, inflexible integrity. It is not the source of energy, but serves merely to hold the faculties of energy to their object. Combativeness and Destructiveness give propelling energy to character, as the sails or engine give propulsion to a ship; while Firmness keeps the working faculties to their purpose, as the rudder keeps the ship on her course against winds and currents, thus making the elements of propulsion available for reaching the desired haven. A man without Firmness is governed by a moment

ary impulse, and, like a ship without a rudder, is blown about by every wind or floated at will by all the devious currents that cross his path. A man without Firmness can not be trusted, however honest he may be, because he can be persuaded in the direction of any of his strong faculties; and if he can't say *no*, he is liable to be overruled by everybody and every circumstance. When his Benevolence is aroused, he will be all sympathy, will not be able to hold his feelings under proper check. We have known a man to start off to pay a debt long due, and meeting some friend in trouble, he lent or gave the money which belonged to the patience-worn creditor. The person could not help it.

Firmness in proper development gives endurance to all the other mental powers—a kind of fortitude and determination to the whole character; it gives a stiffness and uprightness to the gait, a positiveness and hardness to the manner, especially when opposed; a strong, steady countenance, a firm step, and a decided and emphatic tone to the voice. In the training of children, therefore, as well as in our intercourse with mankind, we should never forget the true functions of Firmness. If we find it large in a person, we may feel assured that mild, persuasive measures are most suitable to produce on him any desired results. If we attempt to force such persons abruptly, they instinctively resist us, and positively refuse to do that which their judgment, inclination, and conscience would suggest as proper and desirable if they were allowed to choose their own course and act freely; but if compulsory measures are employed, they will resist until left to freedom of choice, when, of their own accord, they will perhaps take the very course we had wished, and which they had refused to take so long as compulsory measures were used.

Whoever has seen a pair of oxen which crowd or haul,

one against the other on the road, will have seen a fine illustration of Firmness. When worked on a narrow road one wants more room, and to get it crowds his mate. He instantly resists so as to keep room enough for himself; thus they will travel for miles, each leaning against the other at an angle of forty-five degrees. When oxen are worked in a yoke which is too short, they *haul*, that is to say, lean outward at a similar angle, their feet often crossing; and thus they labor, laying out more strength in trying to maintain their footing than it requires to draw their load. If either ox would cease his efforts against the other, it would break up the habit in the other at once. Each crowds because the other crowds him.

Nearly everybody has learned that a stubborn horse that refuses to go is made worse by rough treatment and by whipping; while by patience, mildness, patting on the neck, and other soothing influences, his stubbornness is made to yield. It is said that by hitching a good draft-horse to the tail of a cart to which a balky horse is attached, and pull him backward for a few yards, he will rush forward and never trouble his driver afterward by stopping. He thus finds his Firmness opposed by counter-firmness, and to gratify the faculty which makes him refuse to go, he rushes ahead in the very direction his master wishes him to go, and thus the habit of stopping is cured.

So in the management of children in respect to Firmness. If we undertake to drive a child by austere means, every element of resistance is awakened in him. He may yield because his judgment may convince him that he must, or do worse; yet it is with an ill grace, and a concealed determination to be more obstinate when it can be done without personal detriment. Children sometimes thus reluctantly comply with the letter of the imperative demand, while they disobey the spirit of the requirement.

A hungry child will even refuse his dinner if an attempt be made to compel him to eat it. It matters not whether the thing to be done is desirable in itself or not, if he feels restrained in his course, he inclines to repel the domination and braces himself up against it.

If the organ of Firmness be too small, there is a consequent vacillation in the effort of the child. If he lack fortitude and patient endurance in effort, he should have objects planned for him to overcome, and be encouraged to hold his faculties in steady, stern action, until he achieves his victories over the obstacles which obstruct his pathway. Every successful effort we make, every triumph over difficulties, strengthens the faculty of Firmness, and imparts power and a disposition to meet opposition, and to rely upon self for success. If a mother will stand by a child and cheer him on in his attempts to conquer difficulties, urge him to try and to try again, she will create in his mind a habit of unyielding effort, and the feeling that any possible end can and must be achieved by it. If children are not well endowed with Firmness, give them easy tasks at first, then more difficult ones; but never overtask and thus discourage them.

As the office of Firmness is to produce stability, perseverance, and permanency to the feelings and actions, it should be cultivated when deficient. Without it man vacillates and gives back under trial and hardship, and he fails to realize the proper results of his plans and purposes. Intellect may reason and plan, desire may urge to action, ambition prompt to effort, and courage act in vain. If a man be deficient in Firmness, he will be like the steamer with her machinery working vigorously, with nobody at the helm. It is a great hindrance to success, therefore, to have this organ weak; and hence it should be cultivated whenever it is deficient, especially in children. If a child inclines to give up, because the work is difficult or the

journey long, special pains should be taken to brace up and encourage him in the exercise of Firmness and stability.

On the contrary, though large Firmness be often a help, it is sometimes a hindrance. Those who are always inclined to have their own way, to be stubborn and contrary, apparently for the sake of carrying their point, are apt to be opposed by everybody. Whoever has anything to do with such persons is apt to plan beforehand, in such a way as to compel the stubborn one to yield his point. There seems to be a delight on the part of everybody to get such people into close quarters; hence they lay plans purposely to head them off and circumvent them. Besides, stubborn characters are not only unpleasant to get along with, but often positively offensive in their tone of mind and in the character of their manifestations, and thereby are rendered so unpopular, that people seem to take a pleasure in disobliging them. Again, the stubborn man, when he has committed himself to any course of action, has so strong a disinclination to modify, change, or retreat from his position, that he forces it through, often to his inconvenience, loss, and perhaps disgrace. And there is no greater tyrant over a man than his own inordinate Firmness. It even tends to silence the kindliest sympathies, and to shut in the most tender and generous emotions of the soul. We have seen some instances of perverted Firmness almost as pitiable and ridiculous as the story of two brothers, who owned contiguous farms, parts of the old homestead, having quarreled about line fences and other trivial matters for twenty years; one being sick, and on his death-bed, invited the other to call on him before he died. Feeling that he was near his end, he desired to make up their quarrel and die in peace, which was accordingly agreed to. But the excitement of the conversation aroused the sick brother for the moment

and made him feel comparatively strong; and as his visitor was about leaving him, he remarked: "Now, mind, if I die, the difficulty is settled, but if I get well, *the old grudge holds good!*"

CONTINUITY OR CONCENTRATIVENESS.

The offices of Continuity and Firmness are often confounded by those who are not well versed in the phrenological theory and in mental analysis; so also are those of Combativeness and Destructiveness, Ideality and Sublimity, Self-Esteem and Approbativeness, and Cautiousness and Secretiveness. We will endeavor to draw the line of distinction between Continuity and Firmness.

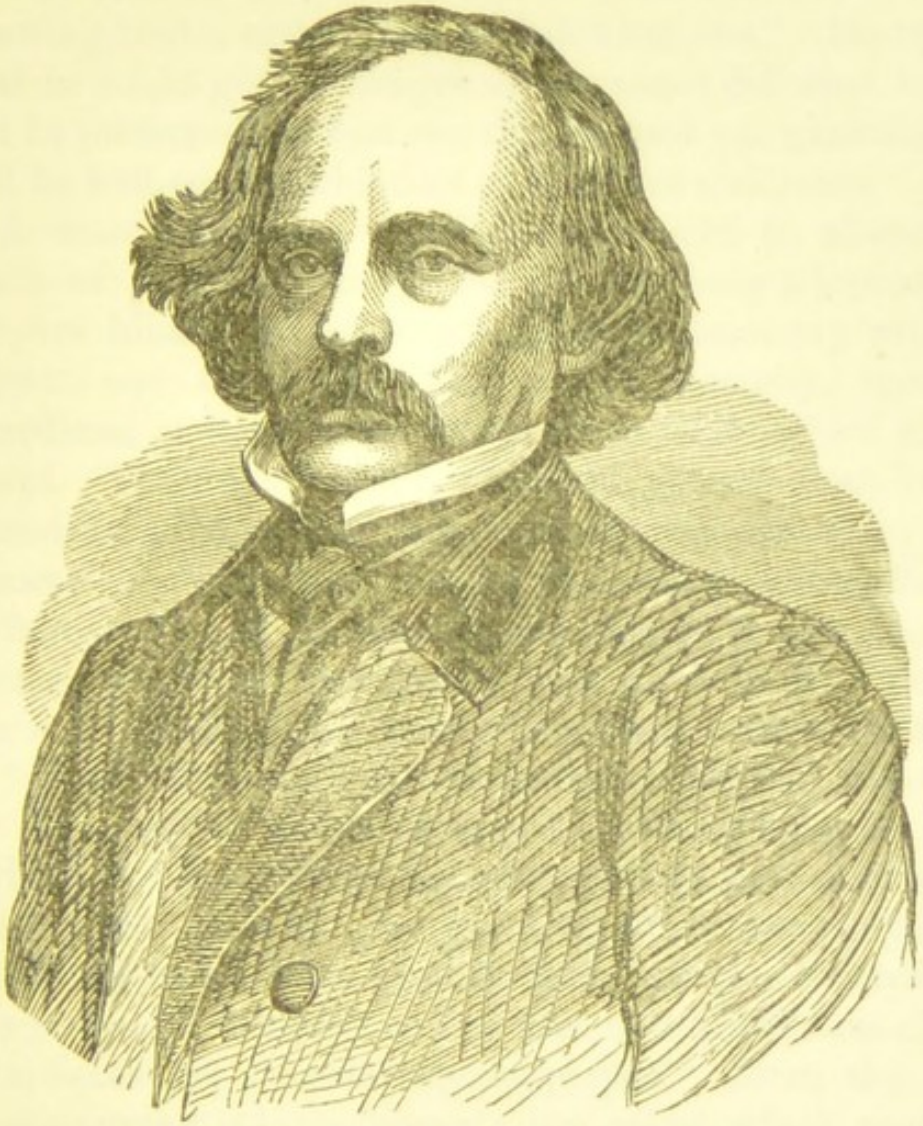
The faculty of Continuity gives the power of mental abstraction, ability to devote the intellect or the feelings to a given subject or object with a patient, consecutive application—to become so much absorbed in its contemplation as to lose the consciousness of all other ideas and surrounding circumstances, such as the striking of a clock, the passage of time, the voice of a friend, hunger, cold, and even bodily pain. Firmness gives a stiff, determined fortitude, decision of character, and serves to brace up the other faculties, whether the action of those faculties be continued for a moment or prolonged for days. Firmness gives a kind of determination and obstinacy of purpose, while Continuity gives a patient, perfecting, plodding application. We may, perhaps, illustrate the action of these faculties in this way: two men are working in stone; both have large Firmness, and they are alike thorough and persevering. But one has large Continuity, and prefers to use the *drill* in one place for hours, while the other, with small Continuity, craves variety, and prefers to use the *chisel* in cutting and dressing the entire surface of the stone. Each exercises Firmness and energy in an equal

degree, but one brings his whole mind and energy to a single point, while the other indulges his love of variety in giving only a single blow in a place.

Continuity existing in excess gives to persons a dreamy absent-mindedness, a neglect of the pressing duties of life, to pertinaciously follow some single idea. They are those who make a hobby of whatever they do, and think the world hinges on that which engages their attention, and they are utterly astonished that all mankind do not embrace their subject at once, and see it as they do. They throw their whole power upon a single object or theme. Their minds become to that subject microscopic, which magnifies it into mammoth importance, while they leave unnoticed all the rest of the wide domain of thought as if it did not exist; or if they deign to consider it at all, it is only as the mere granite pedestal of their adored Parian statue, or as only the indistinct background to that picture on which the entire light of their soul is thrown. As speakers, they are tedious in the careful examination of details; as writers, prosy and voluminous.

The heavy, lumbering, long-winded style of many English authors, contrasted with the terse, nervous, pithy style of American writers, evinces the action of large and small Continuity. The mode of doing business and manner of working of the people of the two nations is in good keeping with their style of writing. In England, an artisan serves seven years to learn, and follows for life a single branch of a trade, and bends his entire mind to that, which gives facility and perfection to his skill in that one line of effort; while in America, a man is in turn a farmer, a carpenter, a blacksmith, a shoemaker, a peddler, a teacher, a lecturer, and a lawyer, and can pursue each with tolerable success.

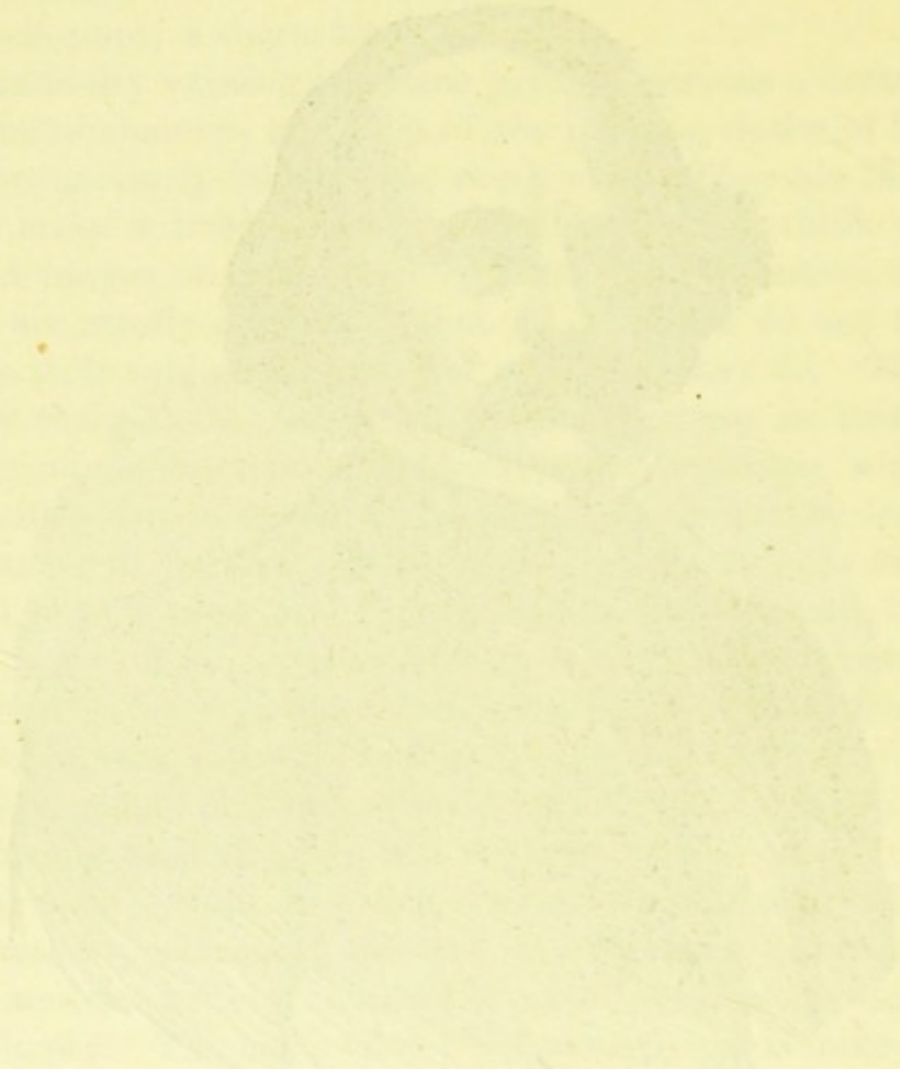
A man residing in Indiana, about forty years of age, recently called at our office for an examination, and we



NATHANIEL HAWTHORNE,

EMINENT AS A GRACEFUL WRITER.

As a writer of stories and romance he had no superior in his line on the American Continent. "His books," says George William Curtis, "are full of glancing wit, of tender satire, of exquisite natural description, of subtle and strange analysis of human life, darkly passionate, and weird." He was born in Salem, Mass., July 4, 1804, died May 19, 1864, graduated at Bowdoin in 1825. He is well known as the author of "Twice Told Tales," "The Scarlet Letter," "The Wonder Book," and was a prolific writer for the best magazines.



told him he had "so much ingenuity and such small Continuity that he would be likely to spend his whole life in learning trades rather than in following one." He replied that he could get full wages at seventeen different trades, but he preferred the last one that he *took up*, gunsmithing, and he had confined himself to it for several years.

A man sometimes finds it convenient to abandon a trade or profession which he has unwisely adopted, and prepare himself to follow one more in harmony with his talents and taste than that which necessity, ignorant guardians, or the fanciful whim of his boyhood led him to adopt. With a versatility of talent, so prevalent in the American mind, arising from an active temperament, large perceptive organs, and average Continuity, a man, in case of failure in one occupation, can assume a new one, and become proficient and highly successful in it. Yet we ought to guard against having too many irons in the fire—to find an appropriate pursuit in the outset, and adhere to it. In a highly advanced state of society labor becomes divided into its different branches, so that each may follow one for life. In a city, for example, where men are numerous, business becomes thus divided. In the construction of a house, for instance, no less than eleven different classes of artisans are successively employed. First, the class whose pursuit it is to excavate the cellar, which requires, perhaps, twenty carts, according to the distance the earth is to be carried to a place of deposit; next come the *stone*-masons, who leave when that part is done; the brick masons follow; the carpenter succeeds; then the plasterers; next the joiners; then the stucco-plasterers; then the glaziers; next the plain painters; then the grainer; and last the paper-hanger. But in the country, the mason will excavate and stone the cellar, and do all the brick work and plastering, and the carpenter will put up the frame and do all the joiner work, glaze, paint, and paper

the house; and not a few will do the entire work of a house in decent style, embodying eleven distinct trades, as they are recognized in the city.

In the new regions of the West, from a lack of tradesmen, or from lack of means to pay them, men are compelled to turn their hands to all branches of business which their necessities demand, embracing tilling the soil and constructing nearly all their agricultural implements, building their houses, making their shoes, household furniture, etc., and although the things made may be rude, they answer the purpose, while this discipline gives a versatile tone to the character. Is it strange that such people should have small Continuity? It should be remembered that this mode of American life, although it renders Continuity small, has the effect to stimulate the faculties of perceptive intellect, Constructiveness, and all those elements which give self-reliance; but does it not also impart to the character a tendency to vacillation, restlessness, and impatience? As society becomes older, and the branches of labor are more divided among artisans, a less degree of enterprise and versatility of talent may be the result, but we shall have a higher order of skill and perfection in the industrial arts.

The faculty of Continuity should be cultivated in the American mind; there is too much shifting and changing, too great fondness for variety; a curiosity to make all parts of an article, a rifle, for instance, when several distinct trades are necessarily involved in its construction. The result is, that it takes three times as long for a man to make all parts of a rifle indifferently well, as it would if the different parts were allotted to different men who had followed each his part until it was perfectly mastered. We often find a kind of mechanical pride among artisans to have it to say, though perhaps a mason, "I made that bass-viol, tuning-fork, rifle, writing-desk, table, carving

knife, set of spoons, a pair of boots," etc. Thus, men will neglect their regular business and spend their time in tinkering at things which they could earn in half the time at their own trades, and those of a better quality, while their prosperity and the comfort of their families are sacrificed on the altar of this foolish vanity. Such "rolling stones gather no moss." Whatever has the quality of steady perseverance and close application in it, they dislike. As students, they are superficial—they read rather than study—know a little of everything, and are well versed and profound in nothing.

The advancement of society requires that he who is an assayer of metals, or a chemist, should apply the entire strength of his mind to perfect himself in his science; so should the lawyer, the engineer, the navigator, the painter, the sculptor, the musician, the glass-worker, the machinist, the ship-builder, the engraver, the printer, the architect, and so on to the end of the catalogue, in order that the highest degree of facility and perfection may be attained. It is folly for every man to expect to range the whole circle of the sciences—to demonstrate every species of knowledge. After a man has completed his daily duties in his own sphere of usefulness, he may sit down with the works of Liebig, or Lardner, Humboldt, Audubon, Cuvier, or Sir Humphrey Davy, and drink in the fruit of their extensive research in the great arcana of nature, and become wise, without indulging in the vain pride of trying to make all the discoveries and demonstrations for himself. It is so in mechanism. "Mind your business," is an excellent motto, and suggests the exercise of Continuity.

Let mothers and teachers seek to lead the minds of children to a habit of patient, concentrated labor. Teach them to do or study one thing at a time, and that thoroughly. The habit of requiring students to get half a dozen lessons on different subjects in a single half day

dissipates the mind at the same time that it overtasks it. A judicious variety, which calls out different classes of faculties, serves to rest the mind. If a child have small Continuity, keep him more strictly to one thing; if too large, give him, and require him to follow a variety of pursuits or studies, to impart a necessary elasticity and versatility of mind.

We would urge the due exercise of all the faculties, but let every man have one leading, reliable occupation to lean upon, in which to exert his power and perfect himself, and let other subjects and branches of business be employed as a collateral recreation and pastime. Many persons, by trying to do and know everything, fail in all, and remind us of a cat of ours, which, when let into a room with a number of mice, seized one in her mouth, and one with each fore paw, and then stood and growled because she could not catch the rest, and did not seem to know how to dispatch those in her power. She had her "hands too full."

The office of Firmness seems to be to stand up against positive opposition, and to meet and overcome difficulties in conjunction with Combativeness, while Continuity is shown more in a patient waiting for a chance to act, and quietly improving that chance when it arises. It is in no hurry, but merely takes hold and works as it has opportunity; if obliged to suspend, it remembers where it left off, as the plow, left in the furrow over-night, moves off, on the arrival of the team, in the same channel as if it had not been interrupted.

Continuity works with any of the faculties equally well. Does Ideality inspire, it ministers to disconnect the mind from diverting influences until Ideality has wrought out its purposes. To the mathematician it gives patient, continuous effort to the mathematical faculties; to the reasoner or linguist, united action to the reasoning and the literary

faculties, in like manner as it inspired the Philoprogenitiveness of Rachel, who "refused to be comforted," when mourning for her children, "because they were not."

CONSCIENTIOUSNESS.

No quality of the mental constitution is more important than Conscientiousness; none is more talked about, and none less understood. Certainly the metaphysicians of the last three hundred years have not settled the question as to its nature and uses; and we may confidentially remark that Phrenology at a single bound has dissipated the doubt and darkness which hitherto had enshrouded the subject; and if it had conferred no other benefit on the human race, its discoverer would deserve honorable mention and perpetual remembrance by every thinker and every lover of his race.

The location of this organ is on each side of the organ of Firmness, which organ is situated in the middle of the back part of the top-head. If a line be drawn from the opening of the ears to the top of the head, it will rest on the front part of Firmness; the organ of Conscientiousness being situated outward from Firmness on each side, it gives, when large, elevation and expansiveness to that part of the head. When Conscientiousness is small, the head slopes like a steep roof.

When this faculty is powerful, the individual is disposed to regulate his conduct by the nicest sentiments of justice. In his manner there is earnestness, integrity, and truth, which inspires us with confidence and the conviction of his sincerity.

It is interesting to observe the conflicting opinions which have been entertained on the subject of moral consciousness by various writers. Some seem to have a clear perception of the truth; some regard the moral faculty as

being the action of Approbativeness, Cautiousness, or the elements of self-interest. Hobbs, for example, taught that "we approve virtuous actions, or the actions beneficial to society, from self-love; because we know that whatever promotes the interests of society has, on that very account, an indirect tendency to promote our own."

He further taught that "the laws which the civil magistrate enjoins are the ultimate standards of morality." It is easy to see that with this writer reasoning and considerations of self-interest took the place of Conscientiousness.

Mandeville maintained as his theory that, by nature, man is utterly selfish; that "among other desires which he liked to have gratified, he received a strong appetite for praise; that the founders of society, availing themselves of this propensity, instituted the custom of dealing out a certain measure of applause for each sacrifice made by selfishness to the public good, and called the sacrifice—virtue." This idea, of course, arose from a man in whom Approbativeness was the prevailing characteristic, and in whom also the faculty of Conscientiousness was naturally weak.

Mr. Hume wrote an elaborate treatise to prove that "utility is the constituent or measure of virtue." According to this system, "virtue is the mere search of pleasure or personal gratification; it gives up one pleasure, but it gives it up for a greater; it sacrifices a present enjoyment, but it sacrifices it only to obtain some enjoyment, which in intensity or duration is fairly worth the sacrifice. Hence, in every instance in which an individual seems to pursue the good of others *as good*, he seeks his own personal gratification, and nothing else."

Doctor Paley, the most popular of all authors on Moral Philosophy, does not admit a natural sentiment of justice in the human mind as a foundation of virtue, but adheres

to the selfish system under a modified form. He makes virtue to consist in "the doing of good to mankind in obedience to the will of God, and for the sake of everlasting happiness." According to this doctrine, "the will of God is our rule, but private happiness our motive." It is only selfishness in another form.

Doctor Adam Smith in his theory of the moral sentiments labors to show that "the standard of moral approbation is *sympathy* on the part of the impartial spectator with the action and object of the party whose conduct is judged of."

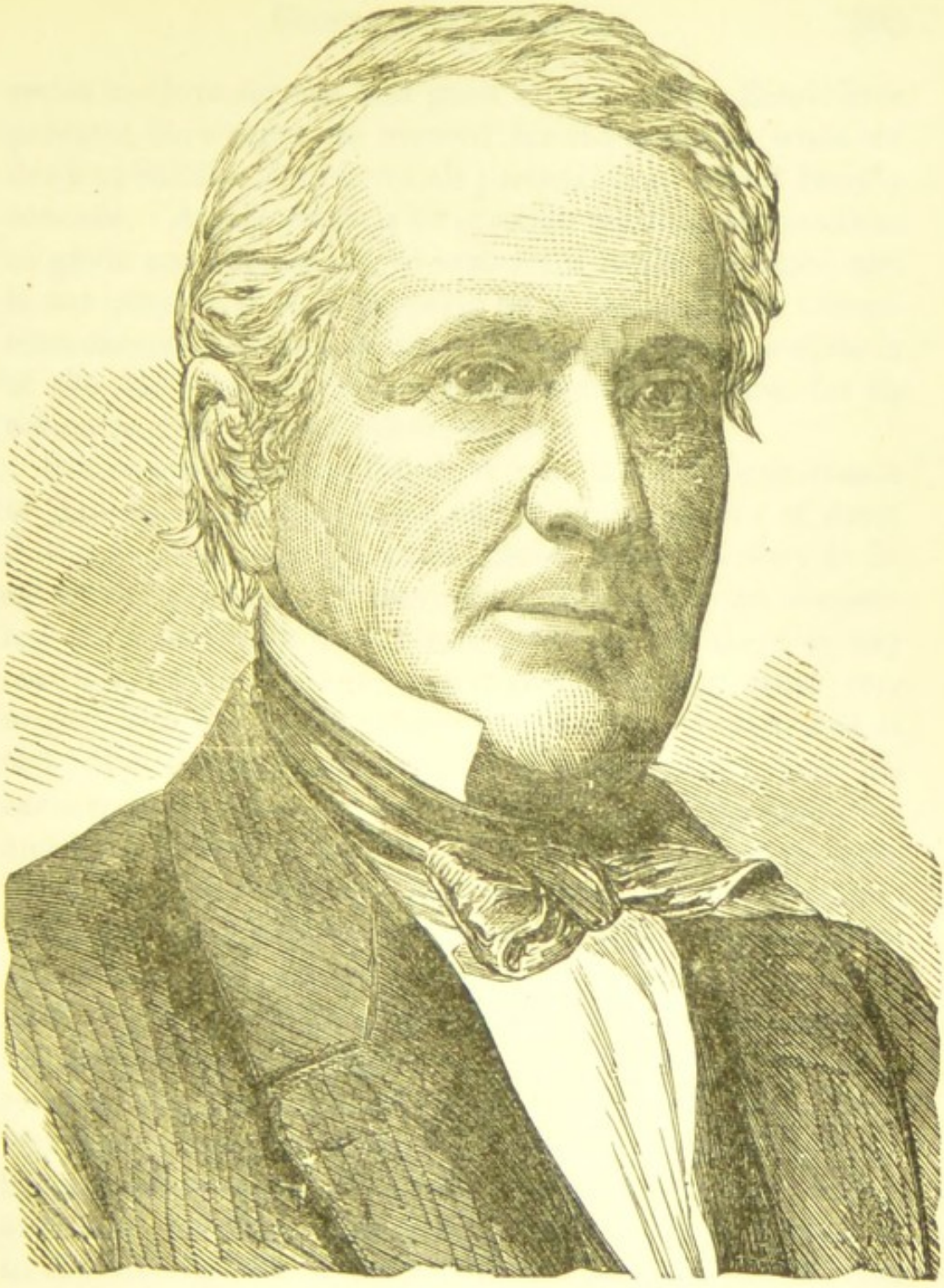
Doctor Clarke, Doctor Hutcheson, Doctor Reid, Lord Kames, and Mr. Stewart recognize the existence of a moral faculty which produces the sentiment of right and wrong independent of other considerations.

These conflicting theories will convey to the reader some idea of the great value of Phrenology if it can fix on a firm basis this single point in the philosophy of the mind. According to phrenological teaching, there exists a power or faculty distinct from all others, the object of which is to produce a sentiment of justice, a feeling of duty and obligation independent of selfishness, fear of punishment, or hope of reward. Those persons who have the organ large, experience powerfully the sentiment of justice; while those in whom it is small, are little alive to the emotion. It is as easy to observe the difference existing between persons in regard to this development and the corresponding manifestation, as it is to demonstrate any palpable conclusion of physical science.

It is the office of Conscientiousness to produce the feeling of obligation or incumbency. Justice is the result of this sentiment, acting in combination with the intellectual powers. In moral investigations this faculty is highly essential to produce a truly philosophical mind; lifting the individual above prejudice and interest, it leads him to

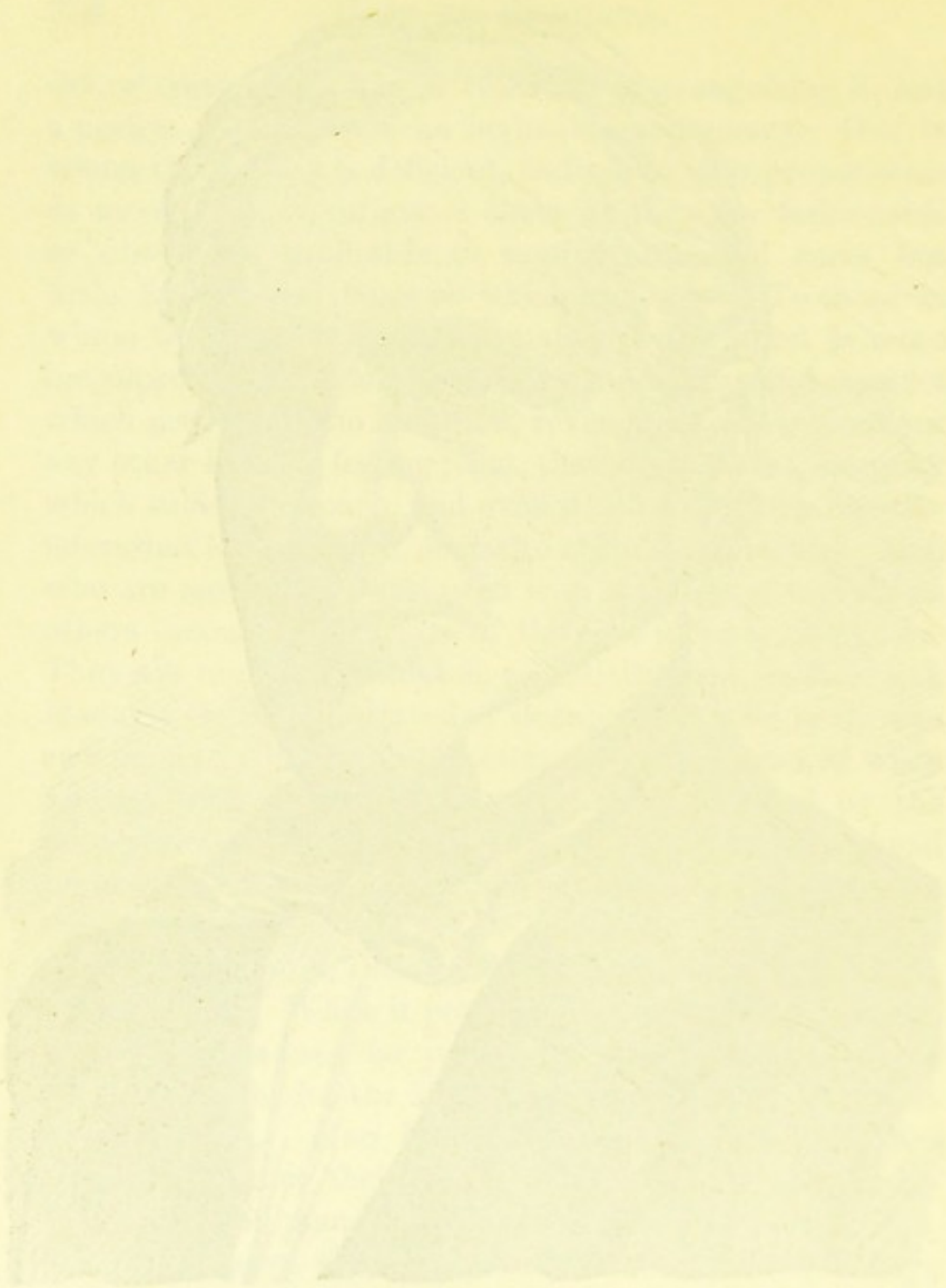
desire truth, gives him a readiness of recognizing it, and a perfect reliance upon its invincible supremacy. One in whom this faculty is deficient, inclines to view propositions as mere opinions, estimates them as they are fashionable or obnoxious, profitable or unprofitable, and cares but little for the real basis on which they rest. To those in whom the organ is small, no quality of the mind is more incomprehensible than this. They can understand conduct which proceeds from ambition, revenge, or self-interest, or any other inferior feeling; but that high moral integrity which suffers reproach, and even death itself, from the disinterested love of truth, seems to them inexplicable. Men who are more highly endowed with this love of truth than others become the martyrs of the ages in which they live. They are regarded as insane, essentially mad, or fanatical. Madame De Stael narrated of Bonaparte that he never was so completely baffled in his estimate of character as when he met with opposition from a person actuated by the pure principle of integrity alone; he did not comprehend the motives of such a man, and could not imagine how he might be managed.

As we have said, this sentiment must act in conjunction with intellect. While it produces in the character a desire for the right, a love for justice and duty, a willingness to labor and suffer for the right, it is not a sure guide as to what is right. Man has to be educated; parents are bound to instruct their children as to what is right between man and man; and when this instruction is received, those who have Conscientiousness feel bound to obey; those in whom it is weak obey according as interest or convenience may dictate. Every emotion requires intellect to guide and regulate it. Anger springs into spontaneous activity; reason, prudence, and policy pave the way for its progress, or barricade it. Parental love is awakened; the reason must teach the mother how to ex-



SOLOMON FOOTE.

We insert this portrait to emphasize the integrity and high moral character of the original. No stronger or purer spirit ever left the scenes of public life with a sweeter or richer fragrance in the memory of all who knew him. Born in Cornwall, Vt., November 19, 1802; died in Washington, D. C., March 28, 1866. Educated at Middlebury College, Vt., admitted to the Bar 1834, in '42 elected to Congress, in '51 elected to the United States Senate, and continued to serve until his death. He was, in the best sense, a Christian statesman.



ercise her love for the best good of the child. Sometimes parental love must be crossed for the moment, while we deny to childhood that which parental love would blindly concede. Amativeness is an emotion which needs intellect to guide and regulate it, to instruct it in the direction and in the manner it may properly be exercised; and Conscientiousness, though it seems to be the supremest sentiment of the whole mental nature, needs light as a basis for its action as much as any other emotion.

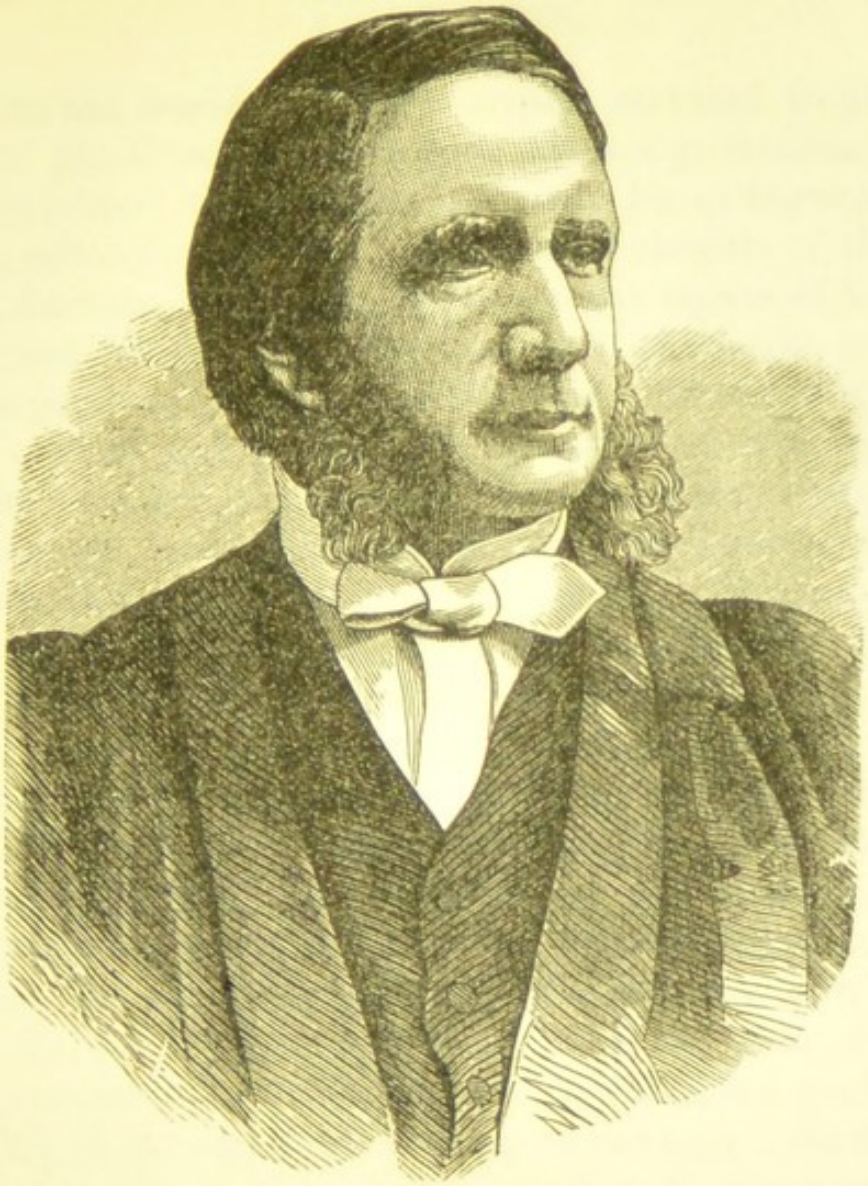
In the training of children, it is of the first importance to impress them with clear and distinct notions of duty. A thousand opportunities are offered in the nursery to instruct the child in the exercise of this sentiment respecting his intercourse with his fellows; and if there is any one injunction of more importance than any other connected with the whole subject of domestic education, it is this: that the child shall receive the impression from his earliest years, that he may expect unswerving integrity and justice from his parents; that he may rely upon their word, their truthfulness—that they will not deceive him; and that if he be promised a penalty for wrong-doing, he is just as sure of receiving that penalty as that he lives; or if any excuse or extenuation be given, the child should be made to see the justice on which he is forgiven—the reasons why he is exempt from punishment. The little girl who, when her mother's word was doubted, opened her radiant eyes and said, "My mother never tells a lie," expressed precisely what every child should have reason to feel and believe in respect to the parent. We do not believe in telling children everything, of having no concealments; but what *is* told to the child should be the truth. If he may not know a fact, it does no harm to let him understand that you conceal it intentionally for good reasons. There is no duty which the mother can perform with such hope of reward or neglect with such prospect

of moral disaster as the personal training of her children. Those who leave the young in the hands of selfish and ignorant servants who, to further their own convenience, will frame any story to allay the curiosity of the child, and mislead it, or frighten it into obedience, or deceive it into compliance, do more to deprave the morals of the rising generation than all the Sunday-schools and pulpits of the land can eradicate.

VENERATION.

The function of this faculty is to produce the sentiment of reverence or veneration in general. It is the foundation of the sentiment of piety or religion, and of that tendency to worship a superior Power which manifests itself in every tribe of men yet discovered. The faculty of Veneration does not tell us what to worship or reverence, but produces an emotion leading us to respect whatever is great, powerful, or good; and the other faculties, the intellect especially, has much to do in deciding what is great, good, or venerable. Veneration, like Conscientiousness, was designed to have intellect as its guide. Heathen nations worship things which their own hands have made, but which we suppose they regard as mere symbols of power, of goodness, and of greatness. This emotion in itself being blind, is clamorous for an object toward which to send its prayers and its reverence, and when unenlightened, it still acts with all its strength, but is misguided and erratic.

This sentiment also produces the element of filial love and reverence. To the little child, the father and mother occupy the position of God. Burns somewhere says that "man is the god of the dog," and describes, in glowing terms, his fidelity and submission; and intimates that if man were half so faithful to his God as the dog is to his



RICHARD S. STORRS, D.D.

Born in Braintree, Mass., August 21, 1821, graduated at Amherst College in 1839, and finished his theological course at Andover Seminary in 1845. The same year he accepted a call to the Harvard Congregational church at Brookline, Mass., and the year following he was called to the Church of the Pilgrims at Brooklyn, N. Y., where he still remains. Dr. Storrs is one of the most accomplished scholars on this continent. His lectures on biography and history are among the most fascinating and brilliant productions in the language. His sermons, delivered without notes, are finished productions as they fall from his lips, and deserve to be classed with the most polished of pulpit compositions. His delivery is slow, distinct, emphatic, and impressive; his illustrations are drawn from nature, science, and history; his subjects are well-chosen, and his learning, eloquence, great talents, and genius have given him an enviable position among the foremost of our religious teachers and orators. He has a powerful body, and a large head, with all the moral and religious organs amply developed. Veneration is specially strong in head and character.

master, the world would be greatly elevated in this respect. Mr. Combe remarks that, "It is a groundless terror to apprehend that religion will ever be extinguished or even endangered by the arguments or ridicule of the profane, because Nature has implanted the organs of Veneration and Wonder (or Spirituality) in the brain, and the corresponding sentiments in the mind. Forms of worship may change, and particular religious tenets may now be fashionable, and, subsequently, fall into decay; but while the human heart continues to beat, veneration for the Divine Being will ever animate the soul. The worshiper will cease to kneel, and the hymn of adoration to rise, only when the race of man becomes extinct."

We have said that Veneration does not teach us *what* to worship, but to worship whatever the other faculties aid us to recognize as great, good, or wise; in short, superiority. Parental Love teaches the mother to love her own offspring *par excellence;* but Parental Love does not enable the mother to determine which is her own child; and if it could be removed from her at the hour of birth, and another woman's child put in its place, she would love it with all her maternal fondness as her own. At the end of a year, let her, through her intellect, be convinced that the child belongs to another, and have her own child pointed out to her, and without a doubt she would transfer her love from the alien to her own child. She would, however, feel a tenderness toward the one she had nursed so long; for we know that women who take children to nurse, knowing they belong to others, will retain for them for years a tenderness which they do not feel toward other children of the same family who are in all respects as beautiful and as good. In like manner Veneration can be misled. A child just as naturally, until he learns better, pours out reverence before an altar consecrated to a false deity, with a fervor worthy of the true God. But instruct

his judgment, and he will employ the same Veneration, with equal fervor, but toward the right object.

The faculty of Veneration requires training and culture, especially in a republican country. Where each man is equally free, and every position of trust and honor are open to him, he is not apt to have his Veneration much cultivated in the direction of reverence for superior classes; and the sentiment not being strong in such a people toward rulers and men of position, it ceases to be active and vigorous in its exercise toward the Supreme Being. The children of such parents are liable to inherit less than their parents have, and by their want of culture, in this respect, Veneration is not increased, and it is not strange, therefore, that Young America, at the age of twelve, speaks of his parents as the "old folks," and assumes in the society of his parents and their friends such conversation as properly belongs to persons of full age. In other words, Young America is fast, saucy, pert, independent; and if we were to say that this is one of the chief faults of the American character, we should not be disputed by any of our countrymen who have carefully and properly studied the subject; and we would probably have the unanimous verdict of all cultivated foreigners.

In monarchical countries, where they have lords, nobles, and privileged classes, where the property is entailed, where rich men are very rich, and the great masses, if not very poor, have no opportunity of becoming rich, where there is a state church, and the form of religious worship is mostly of a devotional character, surrounded by signs and symbols, by ceremony and parade, Veneration becomes large and active, and the idea of the "divine right of kings" is easily inculcated, because the people are adapted to accept it. For a country, however, where every man may vote or hold office, where the poorest orphan boy may rise to be the chief magistrate; where there

is no State church, and the tendencies to plainness and democratic simplicity in religious observances prevail, how can it be expected that Veneration can be much encouraged in the mental constitution? Profane swearing is believed to be more common in the United States than in any other country in the world! It certainly is more prevalent than in England; and we suspect that the reason is to be found in the smaller Veneration in the American head, and its greater development in the heads of other nations. It is said the language of the Indian has no words for cursing one another, or for insulting the Great Spirit.

We deprecate the smallness of this organ in our country. We are less polite to each other than would be agreeable; the aged receive less respect from the young than they deserve; and in our worship there is less of the devotional element than is desirable. We are coming to have an intellectual and ethical Christianity, with too little Spirituality and devoutness. This is as great a mistake as it would be to undertake to build up society and the family relations on intelligence and conscience alone. People do not love one another simply because it is their conscientious duty to do so, nor because the intellect approves affection as appropriate, but because there comes welling up from the fountains of friendship, parental love, conjugal and amatory affection, an affluence of sympathetic tenderness, and, in spite of reason and conscience, these feelings glow with a fervor that defies extinction, though susceptible of and requiring guidance.

Veneration is liable to abuse. When not subjected to the guidance of reason and conscience, it may produce a blind bigotry for old customs and absurd institutions, if they be only sanctified by time. It tends to give reverence for great names and authorities in religion and philosophy; and this often presents obstacles to the propaga-

tion of important truth. Those in whom this sentiment is weak are generally ready to adopt new ideas; those in whom it is strong, adhere to old customs because they are old. There is some danger of excessive radicalism when moderate Veneration leads men to ignore the line of "safe precedents." The most religious people in the world, those most sincerely pious, have always been slowest to adopt scientific discoveries as true. Astronomy was ignored by the priests, and its advocates were condemned to suffer. Geology, Phrenology, and even many of the important mechanical inventions which bless the world, have been held at a distance by sincerely religious people for fear that they would unsettle the foundation of the world's faith. On the other hand, persons nearly devoid of Veneration are liable to go to the other extreme, and adopt new notions without sufficient investigation. Lacking the conservative element which Veneration would give, they feel at liberty to adopt anything which seems to be true and useful, though it may prove fallacious. Excessive Veneration, without a very active and well-trained intellect, will surely lead to superstition and a blind bigotry for whatever is old, without much regard for merit; while an acute and powerful intellect, with moderate Veneration, will lead to the deifying of philosophy, and the ridicule of whatever is religiously sentimental. We say to our countrymen, cultivate Veneration in the children, well assured that we shall not live to see the day when it will be necessary to say to parents, "*Hold, enough!*"

INTELLECTUAL CULTURE.

INTELLECTUALLY considered, there are two classes of minds. In one, the reasoning organs take the lead; in the other, the perceptive organs predominate. The intellectual organs are located in the forehead, which, when large, give a prominent and massive development.

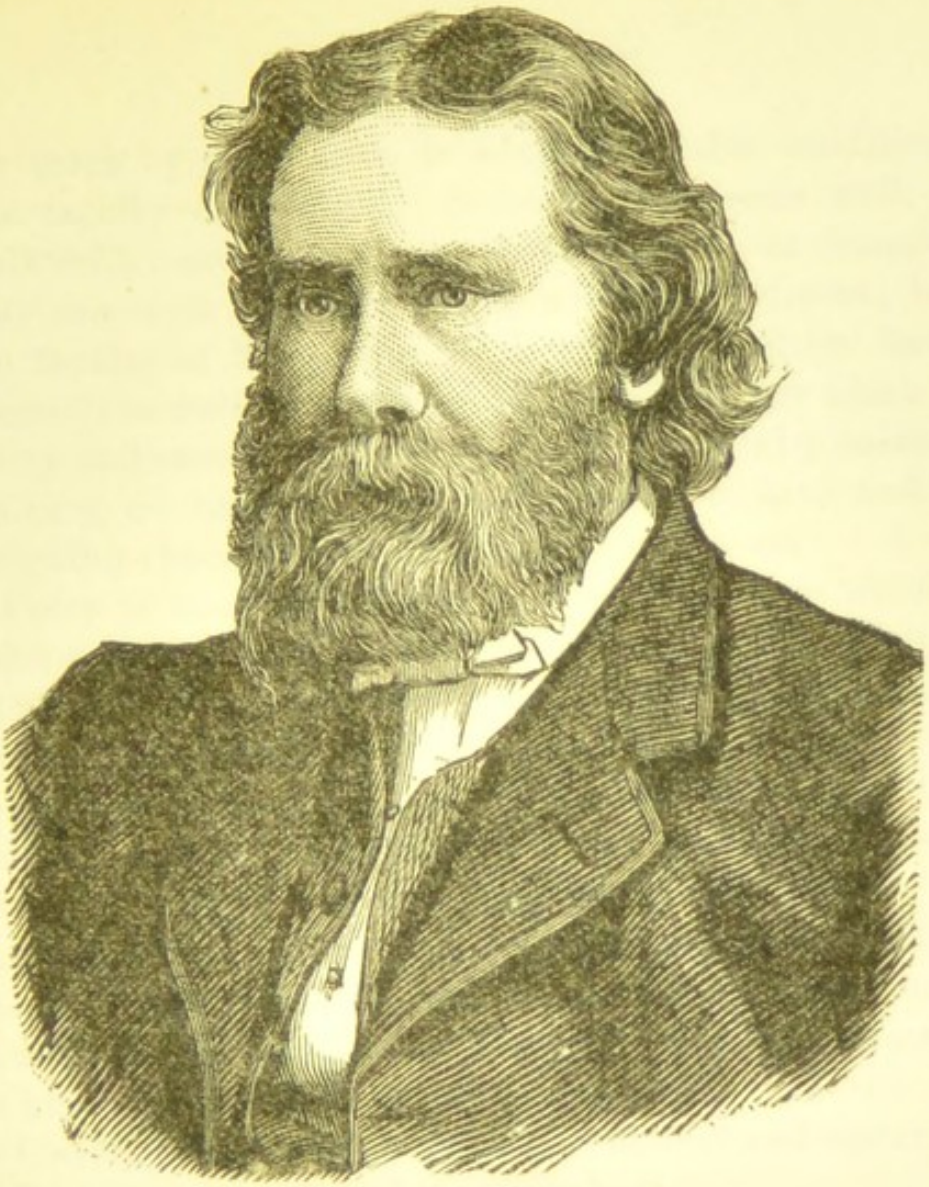
For every quality of matter man has a corresponding mental faculty. Individuality takes cognizance of things as mere existences without reference to bulk, shape, density, color, number, order, or place. It appreciates the *divisibility* of matter. Form judges of *shape;* Size, of *extension* or bulk; Weight, of *density* or ponderability; Color, of *hue;* Order, of *arrangement;* Calculation, of *number;* Locality, of *place* or direction; Tune, of *sound;* Time, of *duration;* and Eventuality relates to scenes, facts, or transactions. These give practical talent, and gather data for the use of the reasoning faculties.

The perceptive organs are located in the lower part of the forehead, and impart to it sometimes a retreating appearance, especially if the organs of perception are much larger than the organs of reflection, which are located at the upper part of the forehead. The size of these organs must not be measured by the relative prominence of the lower part of the forehead, because that prominence and the retreating appearance may be caused by a deficiency in the upper portion rather than by an excess in the lower portion of the forehead. The length from the opening of the ear forward is an approximate indication of the size of these organs. Some people have a short forehead, but it being perpendicular and high, it is supposed to show a good intellect, when, in fact, the anterior lobes of the brain, in which the intellectual organs are situated, are short and comparatively small. A retreating forehead, therefore, may indicate a full share of the reasoning intel-

lect, and a very strong development of the perceptive department of the mind. Observers should always note the length of the head from the opening of the ears forward, before they begin to study the shape of the forehead.

Individuality, the first organ of the perceptive intellect, is located just above the root of the nose, and gives a recognition of things and of the special points and facts of a subject. The old name—"Attention"—is well sustained by this faculty. Quickness of observation is an element in the acquisition of knowledge, which is very important; but this faculty has to do with the existence and not with the qualities of things; it recognizes things merely as things. The organs located outward from Individuality are, Form, Size, Weight, Color, Order, and Calculation. Things have form or shape, and those who are broad between the eyes have a good development of the organ of Form. They remember faces, forms, outlines, could be skillful at drawing, cutting, modeling, and forging. Artists and mechanics require this in ample development. Things have not only existence and form, but they have magnitude or extension, and the faculty of Size relates to this quality of matter. Some are good judges of the weight of things, the quality of which is known. The butcher is a judge of the weight of oxen by their size; horse dealers of the size and weight of horses. Men who buy articles estimating value by bulk require the organ of Size largely developed. Persons who work by the eye, as blacksmiths, turners, modelers—in fact, nearly everybody who works through mechanism—require a quick eye for distance and magnitude. This faculty can be much improved by use or practice.

Everything that has substance, form, and size must have weight. The faculty of Weight adapts us to this law of nature. Objects are attracted by the earth according to the mass of matter they contain. Man related to



JAMES RUSSELL LOWELL, LL.D.,

THE POET, PROFESSOR, AND DIPLOMATIST.

James Russell Lowell was born in Cambridge, Mass., within sight of Harvard College, February 22, 1819. He graduated in Harvard in 1838, entered its Law School, and was promoted to the Bar of Boston in 1840, and opened a law office in that city. Finding the practice not congenial, he abandoned it and devoted himself to literature. In 1841 he published his first volume of poems, in 1844 another. In 1848 he published a new collection of poems. During the Mexican war, 1847, he contributed a series of satirical poems, in the Yankee dialect, to the Boston *Courier*, by "Hosea Biglow." These and others were subsequently published under the title of "The Biglow Papers." In 1855, on the resignation of Mr. Longfellow, he was appointed Professor of Modern Languages and Belles Lettres in Harvard College. When the *Atlantic Monthly* started he was selected for its editor. During a visit to Europe in 1874 the English University of Cambridge conferred on him the degree of LL.D. He accepted the appointment of Minister to Spain, and at the end of several years he was called to the vacancy of the Court of St. James, where now, 1882, he still remains, greatly to the satisfaction of the people of both countries.

the earth by gravitation is adapted to this condition by this faculty of Weight. Some men balance well, they walk with ease and grace, they can ride on horseback, they can walk on high places without giddiness; but if the faculty of Weight be weak, they can neither balance themselves well, nor balance on horseback, nor climb with safety and success. All should cultivate this by balancing, walking on narrow timbers, by lifting objects and then weighing them, horseback riding, dancing, etc.

Color is another inherent quality of matter which enables us to distinguish things from each other which may be alike in form, size, and weight. Some people can not tell red from green; we have met a score of them. Color bears the same relation to sight that music does to the sense of hearing. To hear does not presuppose talent to judge of the quality of sounds musically considered. Noise and music are not necessarily the same, though music is noise. Light and shade are recognized by vision, but the quality of color is something besides mere light and shade, as music is something besides mere noise.

Order gives the appreciation of method and system, and Calculation gives the idea of numbers.

In the middle of the forehead, above Individuality, the organ of Eventuality is located. While Individuality recognizes the substantive quality of things, and the other perceptives the adjective qualities, Eventuality takes into consideration action, or the verb element. Individuality recognizes the horse, and there stops; Form perceives the peculiar shape; Size, the magnitude; Color, whether it be bay, sorrel, or black. Eventuality recognizes the motion of the animal, what it does, and takes into account the action of all the other mental faculties and dispositions as a fact or transaction. It is the faculty for stories and history.

Locality, outward from Eventuality, judges of directions, local position, and lies at the basis of the study of geog-

raphy. All these organs should be amply and equally developed, and well trained. The merchant requires the perceptive organs, because the qualities of the things in which he deals must be judged of and recognized by these faculties. The scholar should have these organs large, in order to give him ability to estimate the qualities of matter, the elements of science, as in chemistry, physiology, mathematics, geography, and physics generally.

The upper part of the forehead is the location of the reasoning organs, in the center of which the organ called Comparison is situated, that enables us to reason by analogy, to see the relation which one thing bears to another, and is the basis of analytical judgment. It is the foundation of all proverbs, fables, and illustrations. Those who in conversation, in writing, and speaking use similes and figures of speech, have large Comparison.

Causality is located on the upper and outer corners of the forehead, and sometimes presents a very square and bulging appearance. It enables us to reason from first principles, to understand the why and wherefore, and to take logical views of subjects. A person with a high, square forehead, with large Causality, and not very large Comparison, and rather moderate perceptives, is one of the dry, logical, abstract thinkers that rarely makes an argument or statement so plain that common people can understand it, while one with large perceptives and a full share of Eventuality will use his Causality and Comparison in such a way as to make every subject glow with apparent truthfulness and clearness. Such men are "apt to teach," bringing in things both new and old to illustrate the logic of the subject, and to make it stand out with a vividness which defies incredulity. Common sense, as it is called, comes from a harmonious combination of the various intellectual faculties, and such a state of the feelings, the sentiments, and propensities as shall not warp the judgment.

With large perceptives one is quick, practical, off-hand, and perhaps shallow as to strength of thought; while one who has very large reasoning organs may be dumb and dull and blind in regard to common things. He can solve an abstract problem, and reason deeply on some abstruse question, but he has not common sense enough to get a living.

All these faculties can be cultivated, trained to greater strength and activity than belongs to them naturally—more especially if they are medium in strength—and the way to develop them is to use them. We exercise muscle if we would cultivate muscle. We breathe deeply of pure air and thereby enlarge the lungs. The eye as well as the hand can be trained, and every faculty of mind may be not only trained by exercise individually, but also by being exercised in combination with others. Indeed, the whole mind ought to be so trained to act in harmonious relationship, faculty with faculty, and every faculty separately and in combination, in conjunction with the feelings, that the mind shall act automatically, without reflection, without conscious planning and determining. He is best educated who has learned how to use with facility and effect every faculty of his mind and all the powers of his body.

ORDER.

Few persons consider the importance of this faculty, yet most persons have enough of the organ of Order to be influenced by its workings. When we stop to think how Order is interblended with the creation, and how much we really depend upon the fixed chain of things, it would almost seem as if Order were not only "heaven's first law," but its greatest law. In nature, system, method, and uniformity have existence. We feel conscious of that element in ourselves, and we are sometimes surprised that man in his administration of affairs does not more strictly conform in his arrangement to this great natural law

Not only do the seasons come and go in their order, and the whole planetary system revolve according to the instituted adjustment of path and time, but everything connected with the growth and decay of plants, the development and characteristics of animals, are governed by system, rule, order. Every kind of fruit follows a given law of its nature. And though the characteristics of strawberry, cherry, peach, plum, apple, and currant are peculiar, yet we are inclined every year to rely upon similar recurrences in regard to each, forever. True, each kind of fruit can be improved, but this is done according to the philosophy of its nature. We never look for potatoes on corn-stalks, nor for ears of corn to grow on trees, or in the ground. "We never gather grapes from thorns, nor figs from thistles;" and even the silly hen, when she has been cheated into sitting on ducks' eggs, is terrified when her duckling chicks rush into the water for the first time. As she has no means of expressing her surprise at the extraordinary physiognomy of her brood, or at the singular feet with which they are endowed, we are left in darkness as to her views of those aspects of the subject. If man could not trust this law of method and uniformity, he would be entirely afloat. It is natural to have a place for things, and things in their places. It is so in nature—it should be so in all human affairs.

There are two or three aspects in which the faculty of Order is evinced; one is in having things always in particular places, and in having a uniform method of doing things. Another aspect of Order has to do with the best rule for doing things. We know persons who have the first kind of order; each thing belonging to them has its fixed place, and there it can always be found when not in use; but the appropriateness of the place where their things are kept is liable to question and criticism. One old lady had her tea-kettle stand before the right andiron of the

fireplace. When it was not being boiled over the fire, it was always standing in that particular place. From the time she commenced housekeeping until her life was closed, namely sixty years, it was never known to be elsewhere. A just sense of tidiness and propriety would have suggested a different place for the tea-kettle. We knew an old farmer who always kept his saddle hanging up in the kitchen and his axe behind the head of his bed; no one ever doubted where these articles could be found, day or night, yet every one doubted the taste and appropriateness of their location. We remember when all the pewter-ware of a household would be kept standing on what was called the "dresser," or the kitchen cupboard, flaming in all its brightness. In modern times dishes are kept in closets, concealed from light, dust, and observation.

Some persons, in their style of dress, pile on various incongruous things without regard to order or taste. Some persons, in their work, do that first which should be second or third, and lack method in all their plans, so that they fail to secure celerity and success in the transaction of their affairs. Some mechanics have everything mixed up; they have finished and unfinished work, raw materials, patterns, tools, chips, all mixed and confounded. Such men have their bench full of tools, and find with difficulty the one they wish to use, and are vexed perpetually with their work on account of the confusion. Another man has a rack in which his tools are kept, and when any tool is used it is returned to its proper place. He loses no time in hunting for his tools; they are not injured by contact with other things, and he has no chafing of temper in consequence of delay, disappointment, and suspense in hunting for them. In his plans, he does that first which ought first to be done, and each department or process follows in its regular order—as in nature we have "first the blade, then the ear, after that the full corn in the ear."

A man in whom Order is large, though he has a factory full of machinery and material, will be able to go into the mill in the dark, and without running against machinery find anything he desires, because each thing has a particular place, and he knows where it is and where to feel for it.

A housekeeper in whom Order is large, will have a particular place for each thing in the whole house, and she would be as much surprised to find the dinner plates on the fourth shelf of the pantry when they belonged on the second, as she would to find the gridiron in the parlor, or that the apples in the cellar had changed places with the potatoes during the night; that the coal had changed from one bin to another, or that the dining-table and piano had changed places. An orderly person will lay off his clothes at night in a particular way so that he can dress himself in the dark, if need be; he will have his clothes in a trunk, closet, or drawer so arranged that each keeps its uniform place. And if he does not find stockings, handkerchiefs, shirts, or cravats where they belong, he will not look in another drawer but inquire for them at headquarters.

Much is said against "red tape," but the formalities thus found fault with are a product of order, rule, method; and though it may seem in the way at times of emergency and necessity, on the whole such method is a safeguard against abuses, and is highly essential to the public service. If a school of a hundred boys be dismissed at a word, each one being in a hurry to get out of the room, there will be such crowding and confusion as to require much longer time to clear the room than it would to dismiss the school class by class and let them file out like soldiers, and how much more graceful and elegant is the latter process! Nature established the law of order, and we can not, if we would, abrogate that law in relation to our own purposes without serious detriment to interest and convenience.

Let this faculty be cultivated in children; let the little three-year-old child have something to do, have a place for its playthings, its shoes, and other clothing, and be required to recognize this law of arrangement. If the child may throw down its playthings at will and have them picked up by nurse or servant, it will become a slattern. But if the child have a basket or box in which to place everything when not in use, this faculty will become automatic in action and necessary to comfort and convenience. The sloven is always hindered and fretted from his disorder and want of arrangement, and though neat people sometimes fret and scold when disorder is practiced by others, the kind and amount of pleasure such persons experience from neatness and method will probably more than counterbalance these disturbances.

The parent or teacher does the child or pupil a wrong who neglects the training of this important organ, and that training can be done as easily as any other. It is not enough to inveigh against persons for disorder. Scolding does not teach method. It may irritate the disposition, but will not produce neatness and order. Kindness and good example will do the work.

LOCALITY.

The faculty of Locality, or, perhaps, more properly denominated Local Memory, or Memory of Locations, is situated on each side of the center of the forehead, outward and slightly below the organ of Eventuality. It is about an inch and a half upward and outward from the root of the nose, and, when large, gives prominence to that part of the forehead. Its office is to give an idea of the relative position of places.

Since no two things can occupy the same space at the same time, everything must, in respect to one's self, be located above, below, or in some direction outwardly.

Let the reader suppose himself to be investigating the nature of this faculty. Think of any object—the church where you worship, the place of your nativity, the capital of your State, your nearest market-town, your post-office; each of these places has its own locality; and if you can conceive correctly the location of each place as it respects yourself and of each place in respect to all other places, that conception originates in the faculty under consideration. Now, suppose you change your location in any direction, then stop and think where all these places are relative to yourself, what is the direction then to the capital of your State, your native place, your post-office? All the directions will have been changed. For instance, common sense or general intellect might understand that from the house or home of the person certain things were located northward, eastward, southward; but if that person were moved away from the accustomed place, he would find it impossible, without an active condition of Locality, to estimate correctly the new directions which all the places by his moving had assumed. Let a man reside in Albany; he thinks of Boston as east, Buffalo as west, New York as south. Let him go to Philadelphia, and instantly he must conceive Boston to be northeast, and New York nearly on a line in the same direction, while Buffalo would be west of north and Albany east of north; in a single day's journey, the relative direction of all these places would be changed. Persons accustomed to traveling will recall the fact, that at the close of each day's journey they are obliged to think of all places of interest as being in directions different from what they were in the morning. With these hints the reader can extend the idea and apply it in a thousand ways. The whole system of geography is based on this faculty, and those pupils who have the organ largest, succeed best in that study. Indeed, the study of geography is the proper method for cultivating the faculty.

In our boyhood, there was a custom among us of blind folding an individual and setting him to walk from a certain fixed point to some other; and it was amusing how few could maintain the direction when deprived of the use of the eyesight. It is said that when a man is lost in a forest or prairie, he walks in a circle.

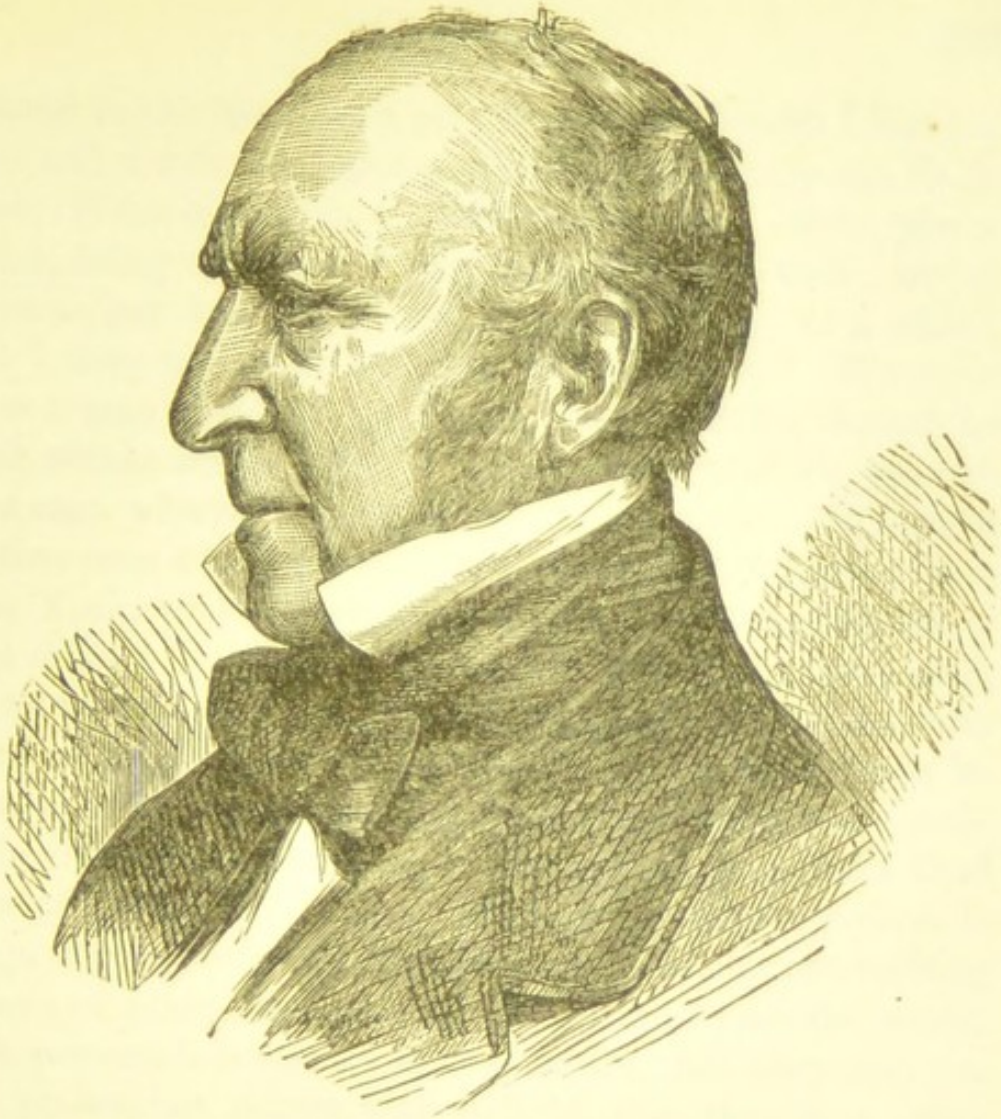
Certain animals evince this faculty in a high degree of perfection. Dogs may be removed from on shipboard to a strange country, and placed on a track which they will follow all day, among hills, ravines, forests, and jungles, and when the game is taken or the chase abandoned, they will instantly lead off in a straight line for the place where they ate their breakfast. It is known to most farmers that a pig which never has been out of the sty may be put into an open-topped barrel and carried in a circuitous route for miles, and without having seen the ground be put into a similar sty, and if he get his freedom he will lay a bee-line for the place whence he came without regard to roads or bridges, wallowing through clover fields, threading forests, and swimming rivers, to reach his old home. The horse will often find his way when his master is lost, and it is well known that the horses of mail-carriers who distribute newspapers along the way, also the horses of milkmen in the cities, learn every stopping-place; and the horses of physicians can hardly be whipped by places where patients have been many times visited. Carrier-pigeons evince a very active state of this faculty. Before the telegraph was invented, it was customary for generals, navigators, and others to take carrier-pigeons to the field or to sea, and when they desired to send dispatches to the government, to underwriters, or to lovers, they attached the important missive to the bird, which was then set at liberty, and it would fly with great rapidity and directness to its home, perhaps five hundred or a thousand miles away; nor was it necessary to get a permit for such a

messenger to pass over an enemy's country. The song once so popular, "The Carrier Dove," beginning—

"Fly away to my native land, sweet bird,"

is based on the extraordinary capacity of that bird for remembering places and direction.

The organ of Locality was perhaps the second one discovered by Dr. Gall. He mentions that his taste for natural history led him frequently into the woods to catch birds or to discover their nests; but he generally found it impossible to retrace his way to the nest which he had discovered, notwithstanding his precaution to cut marks on the trees and stick branches into the ground. He was obliged, on this account, to take with him a schoolmate, who, with the least possible effort, went directly to the place where a snare was set, though they had laid ten or fifteen snares in places not familiarly known to them. Though Gall's friend cared nothing for birds or natural history, and had no interest in finding places except to oblige his friend, he remembered the places without difficulty, while Gall, having an urgent reason to revisit the places, was not able to do so. Gall afterward molded the head of this lad, and also that of a celebrated landscape painter who had an extraordinary memory of place, and found a similar fullness where this organ is located. We meet many persons who are fond of roving, who go to sea and suffer all the hardships and privations before the mast, that they may see London, Liverpool, Gibraltar, and other places. We examined the head of a man in whom Locality was extravagantly developed, and he related to us that, being born at the east end of Lake Ontario, he went into lake navigation when seventeen, that he might see Buffalo, Niagara Falls, Detroit, Cleveland, and Chicago. He had not the means of making this journey independently of working his way; "and now," said he, "I have



SIR RODERICK MURCHISON,

THE EMINENT GEOLOGIST.

Roderick Murchison was born in Scotland in 1792, and prepared for a military career. In 1808, when only sixteen, he obtained his commission, serving with the army of Spain and Portugal, under Lord Wellington. He was appointed to serve in Sicily, and finally attained the rank of captain. After the peace of 1815, Mr. Murchison left the army and married the daughter of General Hugonin. Mrs. Murchison was a very good conchologist, and, meeting Sir Humphrey Davy, his conversation directed her husband's attention to geology. In 1825 he became a member of the Geological Society, and soon after we find that he is launched on an independent course of experiment and inquiry. Murchison and Brewster were foremost in helping to establish the British Association for the Advancement of Science, and it was at their first annual meeting in 1831 that the former laid before the Association his ideas of the distinctive divisions of English geology. In the year 1840 M. de Verneuil, the great paleontologist, proposed to Mr. Murchison that they should go together on a scientific tour to Russia, the geology of which country was almost unknown. In 1845 Mr. Murchison published his great work on the "Geology of Russia and the Ural Mountains." In consequence of this splendid contribution to science, the Emperor Nicholas conferred upon him several Russian orders, besides various magnificent presents. Soon after the publication of the work on Russia, Mr. Murchison received the honor of knighthood from Queen Victoria, and in 1866 he was made a baronet. He died in 1881.

enlisted in the army as a private soldier, though I leave a farm and a wife and family at home, that I may see Baltimore, Washington, New Orleans, or any other places which, being a soldier, I may be required to visit; and if I live to get back," said he, "I intend to go as a sailor, that I may see other portions of the world." We once knew a man who had never seen Niagara Falls, though he lived within seven miles of it and could hear the roar of its waters whenever the atmosphere was clear. We knew another man who lived on Long Island, not fifty miles from New York, who had amassed a fortune of over fifty thousand dollars by sending his various products to the city; yet he never had visited New York, and was then seventy years of age. The organ of Locality in both these instances, with the perceptive organs generally, was small, while their Inhabitiveness, which gives a love for a fixed place of abode, was strong. Persons sometimes possess in a high degree both Inhabitiveness and Locality, one inciting to love of place, the other a disposition to see the world. Such persons leave home with pleasure, that they may see new places, but return with delight, that they may enjoy their home. Persons who are very fond of reading the history of voyages and travels are generally well endowed with this faculty. Such persons will follow Humboldt, Bayard Taylor, Doctor Kane, or any other explorer or traveler, with the greatest interest, and read of all their wanderings. To one in whom this organ is weak, to lead such a fugitive life would be painful. They might read descriptions of places with pleasure, but the account of journeys, the making ready to start, bidding adieu to a pleasant place, and struggling with storms, mountains, and other transit difficulties, would be annoying and painful to them, even in contemplation. We remember examining the head of a lady thirty years ago, in Sunderland, Massachusetts, who could not remember the direction of the

cardinal points nor her right hand from her left, except she remembered which one she wore the thimble on; and the only way she could remember north was to think which way it was said her father's house faced, then, by placing herself in imagination facing north, she had heard that the right hand or the thimble hand would point to the east, the left hand to the west, and that south would be behind her. Yet she was teaching the principal school in the village, and in all other respects appeared to be very intelligent and accomplished. Her organ of Locality was so small that it attracted our attention, and she related these facts proving her want of it.

The North American Indian cultivates this faculty by his vagrant mode of life. He has occasionally a trail, but no roads fenced in, no guide-board naming the place desired, with the distance, and a hand pointing in that direction. He wanders off five hundred miles through dense forests, without a path or a marked tree, in a zigzag course; finds little villages of tents nestled in the center of the trackless forest—villages covering, perhaps, not a hundred acres, yet he misses not one of them. He remembers directions and distances, is a natural pioneer, and all his perceptive organs, including Locality, are large.

It is well known that fish not only have a home for spawning, but also a winter home, returning yearly to their summer haunts. The little phœbe that built her nest under a bridge in the State of Maine, will find a home for winter in Maryland, or farther north. When the spring returns, she will find her way back where she built her nest last summer. Doctor Gall imagined that the migratory species of birds had an extraordinary periodical activity of the faculty of Locality, prompting them to go they knew not whither.

The organ was large in Columbus, in Captain Cook, and in all other eminent travelers and explorers. All who

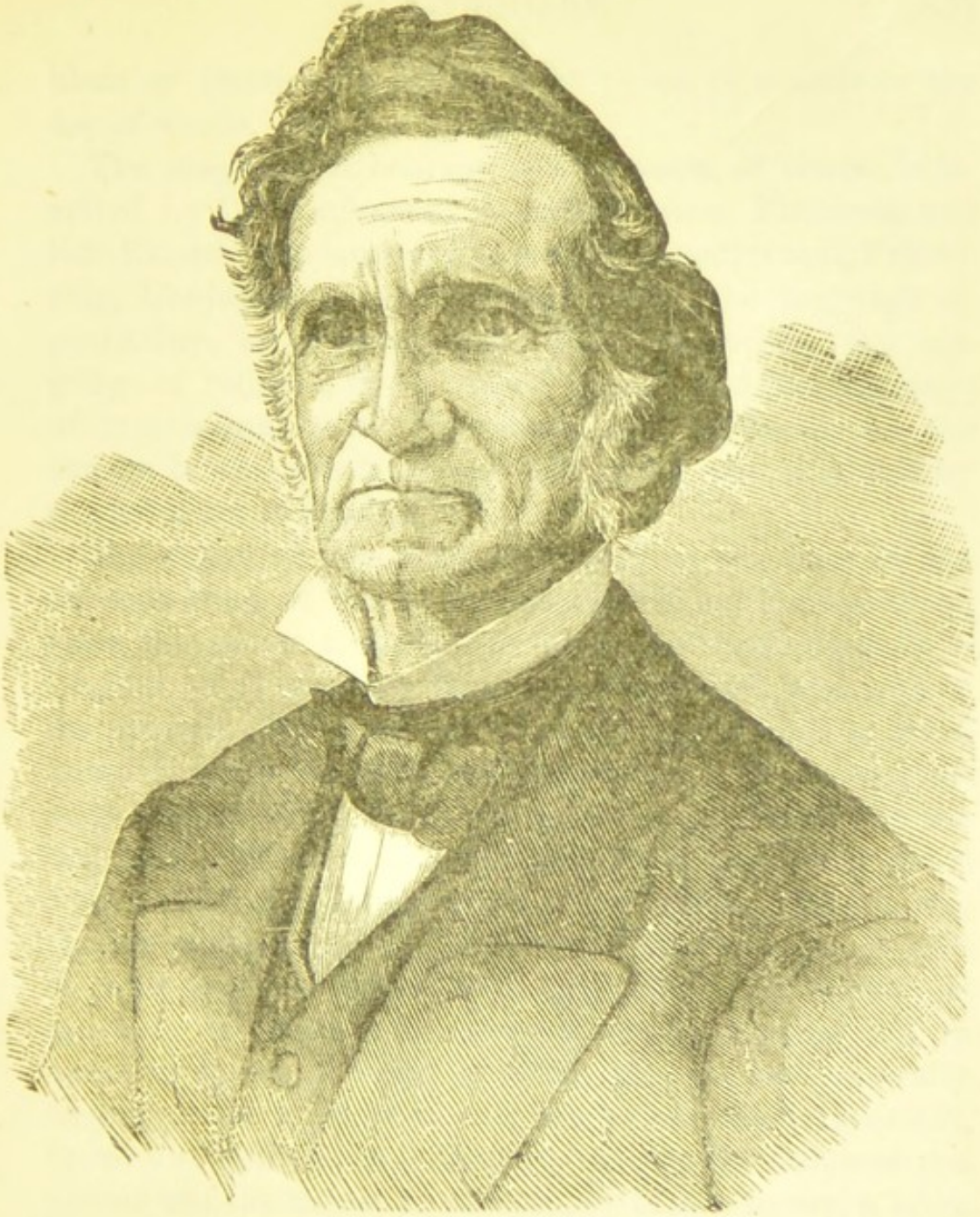
have the portrait of Bayard Taylor will see the prominence there is in his head above and about the root of the nose. Successful players at chess, checkers, billiards, tenpins, and quoits require this organ large, together with large Form, Size, and Weight.

LANGUAGE.

By language we mean the vocal expression of ideas and emotions. This may be done by articulate language or by inarticulate sounds; and there is another method of expressing ideas, namely, by the natural language of the faculties through pantomime or action. Articulate language is an invention. Inarticulate speech is common to the human race. The sigh, the groan, the laugh, the sneer are the same in all nations, and instinctively understood by all, whatever their nationality. The babe in the snow-hut of the Esquimaux, the pampered child of wealth in the palace of European kings, the yellow babe in the bamboo cot in India, the ebon infant of Africa, and the child of Brazil and Patagonia utter their natural wants by cries precisely alike. The sigh of sadness, the groan of pain sound alike from the father of each of these children. The merry laugh of joy is the same with all. Music also expressed vocally sounds alike to every tongue and kindred of men; the German, the Spaniard, the Frenchman, the Italian, the Greek, or the Russ may sing the notes of Home, Sweet Home, or Old Hundred, and no man can tell that the voice has any nationality. Out of this natural language of inarticulate sounds and monosyllables has grown conventional or artificial language. We use the term conventional because men in different parts of the world have adopted certain sounds for the expression of particular ideas. We find, by the common consent of different nations, that different words are employed to express the

same thing. In England, they say *tree;* in Germany meaning the same thing, they say *baum.* Many primitive words, rudimental, radical in their nature, are similar among the various nations of the world, however diverse their language. *Ma*, for mother, and *pa*, or *papa*, for father, are uttered by nearly every child, and there are very many other words equally generic and common. These monosyllables are easily spoken, hence their universality. Even the lamb, the kid, and the calf utter a cry similar to *ma*, as spoken by the child.

The faculty under consideration has to do with remembering sounds, simple and compound, as expressive of particular ideas and emotions. It might, perhaps, be called the organ for names, since *horse*, *mountain*, *rock*, *tree* are names, and express to us the simple idea of these objects. Branching out farther, we append to the substantive, words which we call adjectives, and say *large* man, *strong* man, *white* man. These additional terms are simply names of qualities belonging to the man himself, so that we use words expressing peculiarities of ideas, and those who are most gifted in the use of adjectives, and are most fertile in language, are those who have, in addition to the faculty of Language, the perceptive organs large, which organs take cognizance of the peculiar qualities of things. If we observe the likenesses of writers who are remarkable for their descriptive power, we will find that they are not only well endowed with the organ of Language, but that the lower and middle parts of the forehead are generally prominent. Writers, on the other hand, remarkable for their tendency to write on metaphysics and discuss abstract questions, have the upper part of the forehead amply expanded. In other words, the ideas or emotions must originate in the various faculties of the mind and disposition, and become an inspiration of speech or an excitant of the organ of Language, whose duty it is to make these



ELIHU BURRITT,

KNOWN AS "THE LEARNED BLACKSMITH,"

Mastered three languages while working over the anvil, and afterward forty-nine more. He was born in New Britain, Conn., December 8, 1811, and died there about March, 1879. His forehead is extremely full across the brow, in the region of perception and memory, but the upper forehead was not full enough to give an original, philosophic mind. He was the eminent scholar, not the solid thinker. He was most amiable and religious

ideas or emotions understood by means of sounds or the use of words.

The language of courage and heroism, of course, is inspired by Combativeness, Destructiveness, Firmness, and Self-Esteem; the language of love, by Amativeness, Friendship, Conjugality, and Parental Love; the language of patriotism, by Inhabitiveness and Veneration; the language of religion, by the moral group; and the language of mechanism, poetry, property, and prudence, by the organs in the side-head, and all guided and modified by the influence of the intellect.

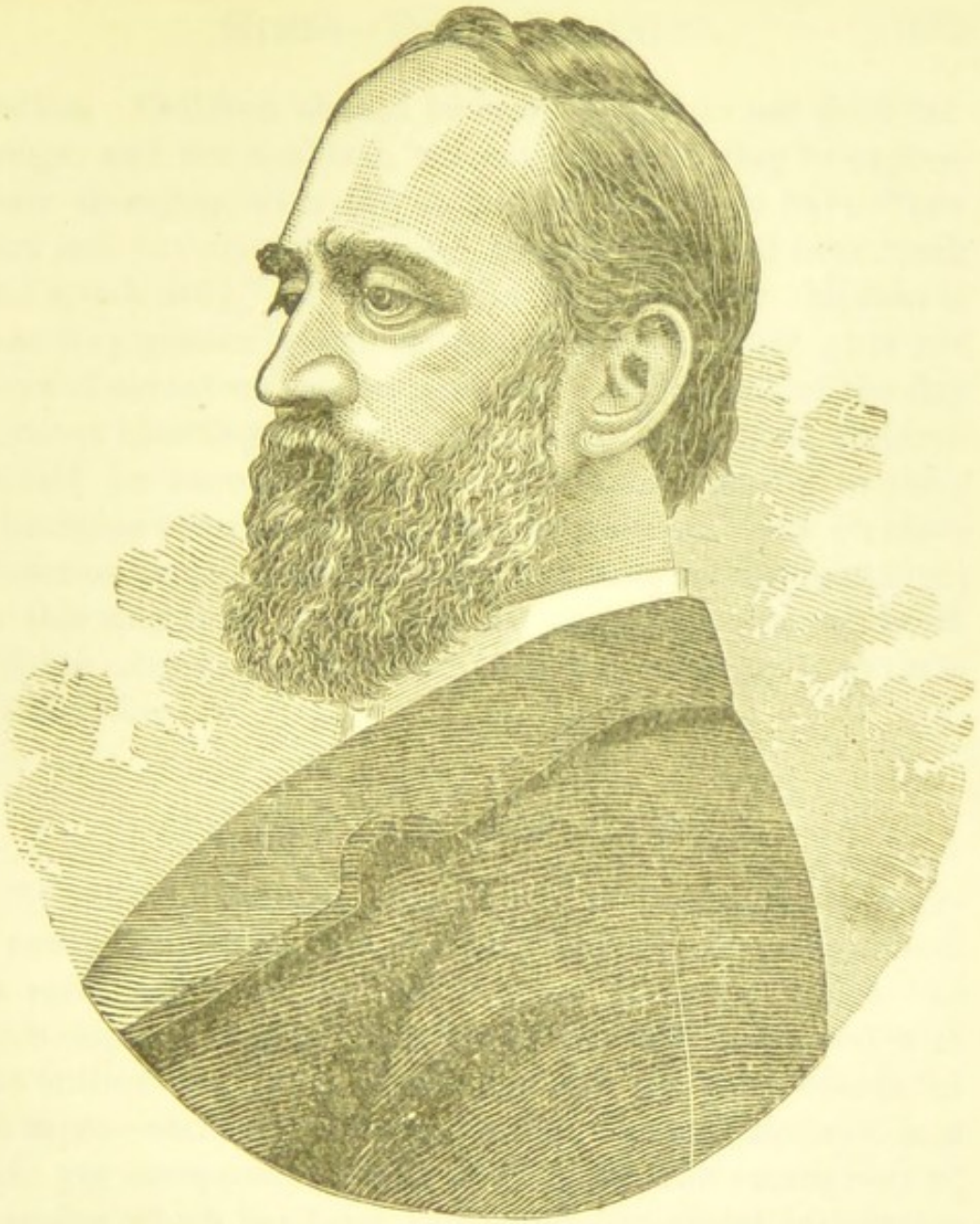
The organ of Language is located at the base of the anterior lobes of the brain, directly behind the eye-brow, upon the upper arch of the eye-socket; and when it is large, it tends to press that arch downward, and with it the eye-ball. The consequence is, the eye is made to stand forward, and press downward, indicating a swollen appearance beneath the eye-ball, as well as a prominence of the ball itself. What would be called a full, prominent eye is a sign of a good development of this organ. During life, the organ itself can not be reached, and must be judged of from external appearance only; and care should be taken in estimating the amount of the development in question by considering whether the eye-ball be really large or small in proportion to the socket which invests it, because sometimes an individual inherits the frame of one parent and the tissues of the other; that is to say, a large frame, and with it a large eye-socket, together with light muscles, delicate tissues, and, of course, a small eye-ball with small surrounding investments. In such a case, the eye will not seem to be protruding forward or downward, and the individual will possess more talent for expression than would at first be supposed by the appearance of the eye. On the other hand, some persons inherit from one parent a small frame, and from the other parent supera-

bundant tissues; then the eye-ball will be large and the socket small. In such cases, we have what is sometimes called the "pop-eye," or the "ox-eye," without a corresponding manifestation of lingual power.

There seem to be two modes of manifestation of the faculty of Language: in the first, the eye seems pushed directly forward without any depression. This indicates precision in the use of words, the tendency to select just *the* word, and to use as few words as will express the thought or emotion. In the second, the eye is pushed far down from the brow, and the lower lid seems to hang in a swollen sack on the surface of the face, giving volubility, wordiness, even exuberance. Charles Dickens is an instance of this development and its manifestation. He appears not satisfied with simply encompassing a subject with words; he hangs them in gorgeous festoons, amplifies and enlarges sometimes, we think, to excess. Another will select with care and compact with precision his words, so as simply to form a chain of expression to compass the idea. The Dickens' style is like covering a wine cask from bung to chime with wooden hoops, each of which goes around the barrel and laps half a yard; the other style is like putting six iron hoops on the cask, the ends of which lap an inch, just enough to take a rivet.

Perhaps no other faculty is more susceptible of extended cultivation than this. Every man who feels in himself a lack of conversational power should set about cultivating the faculty by using it. Reading aloud is an excellent way; writing serves tolerably well, but outspoken speech is that which gives most natural action to the faculty.

Some nations are better talkers than others. Africans are very sociable, talk much, and, if they have opportunity to learn, they talk well. In them the organ of Language is large, and their eyes are proverbially full. The reverse, in habit and development, is true of the American



WILLIAM ORTON,

LATE PRESIDENT OF THE WESTERN UNION TELEGRAPH COMPANY

A bright, capable, clear-headed man of business. Born in Cuba, N. Y., June 14, 1826. With few aids to education, he made the best use of them. From 1845 to 1861 he was in the book trade in New York. In '62 appointed Collector of Internal Revenue in New York; in '65 Commissioner of Internal Revenue in Washington; in '67 unanimously elected President of the Western Union Telegraph Company. The multitude of duties and his willingness to do the work of four men broke his health, and he died of brain exhaustion in 1878.

Indian. Children should be early taught to use good language, and not snubbed, when they are trying to express their thoughts, with the statement that they have "two ears and but one tongue, and, therefore, should hear much and speak little." Persons who train up their children in that way generally feel embarrassed when their girls and boys of seventeen can not pass the compliments of the day without blushing and embarrassment. In school, children should be encouraged to write familiar letters to their friends, as compositions, not try to write an essay on some abstruse question with which they have no acquaintance; in this way they could learn an easy, colloquial style of writing, and would find such training serviceable to them all their lives.

TRAINING OF GIRLS.

"I have finished my education," has been said by many a young lady fresh from the boarding-school; and, indeed, so restricted were the ideas of an education which had been impressed on her mind, that she felt contented with the culture she had acquired, and she put forth efforts for no more—satisfied to hang up her framed diploma in a safe yet conspicuous place, and to use the smattering of learning which her brief years and superficial instruction had afforded. One might as well expect to raise giant oaks or imperial cedars in flower-pots as to look for great and noble lives with such stinted notions of education.

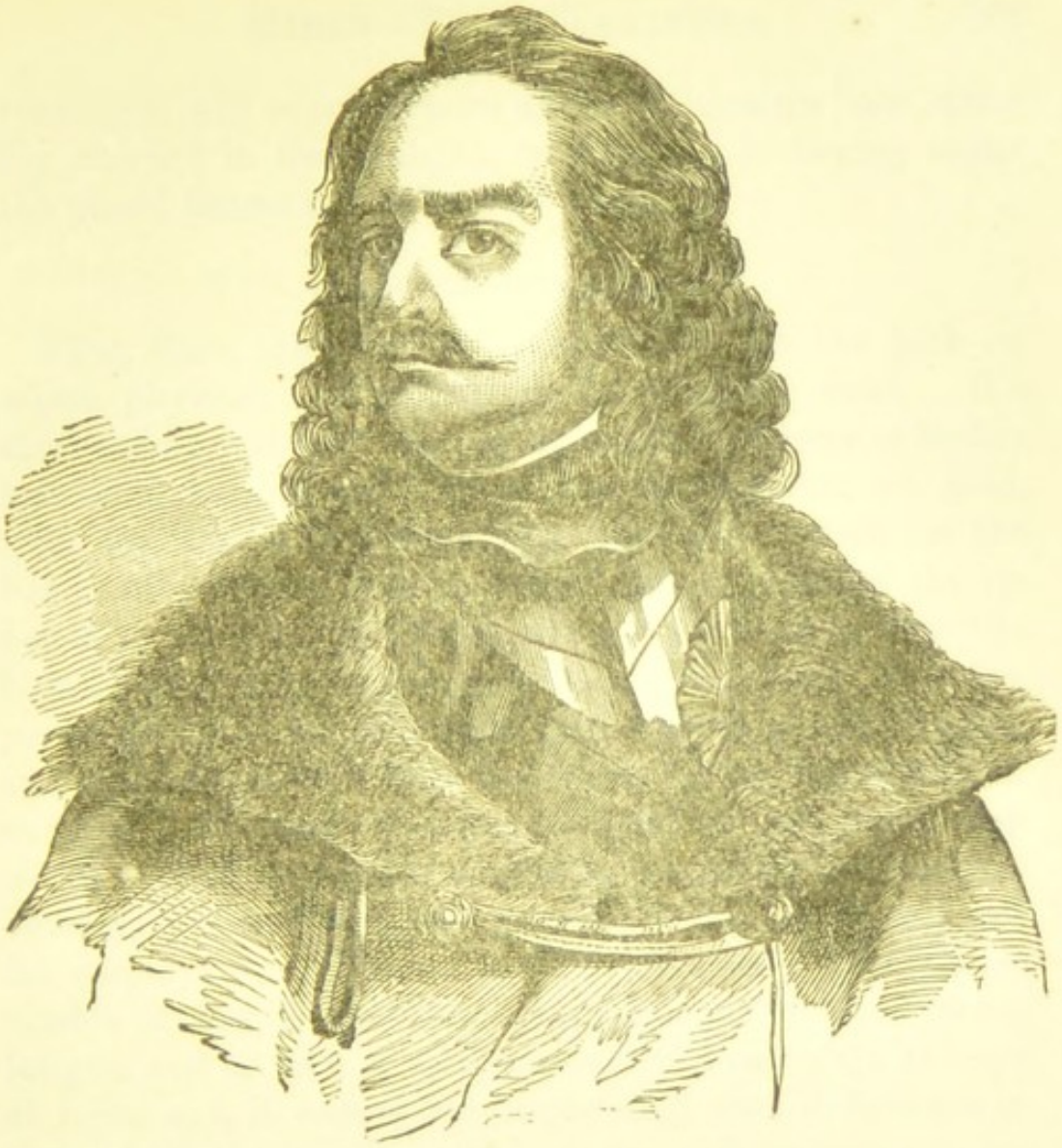
THE SEXES BLENDED

If the education of woman were not constrained and artificial, she would stand forth in all the plenitude of her rights individualized, not isolated or independent, as some modern advocates of "woman's rights" have unwisely taught, nor a mere cipher, silent drudge, or slave of her

supercilious lord; but, like one of the strings of a well tuned harp, a prime necessity of social harmony. Christianity was the dawn of woman's emancipation from that mute serfdom imposed on her by pagan ages; and now under the best culture which the best civilization has awarded her, she does not occupy, comprehensively, in any community, a position equal to the talents and moral forces with which the Creator has endowed her. No theory, no training can educate the masculine and feminine minds to occupy the same plane or to flow in precisely the same channel, nor would it be desirable if it were possible. The duties as well as the tastes of the sexes are not identical; but if properly developed, the difference which nature has implanted will produce harmony, as the bass and treble strings of an instrument enrich the music by combination, each freely contributing all it can to the common stock, and enhancing the quality as well as the quantity of sound.

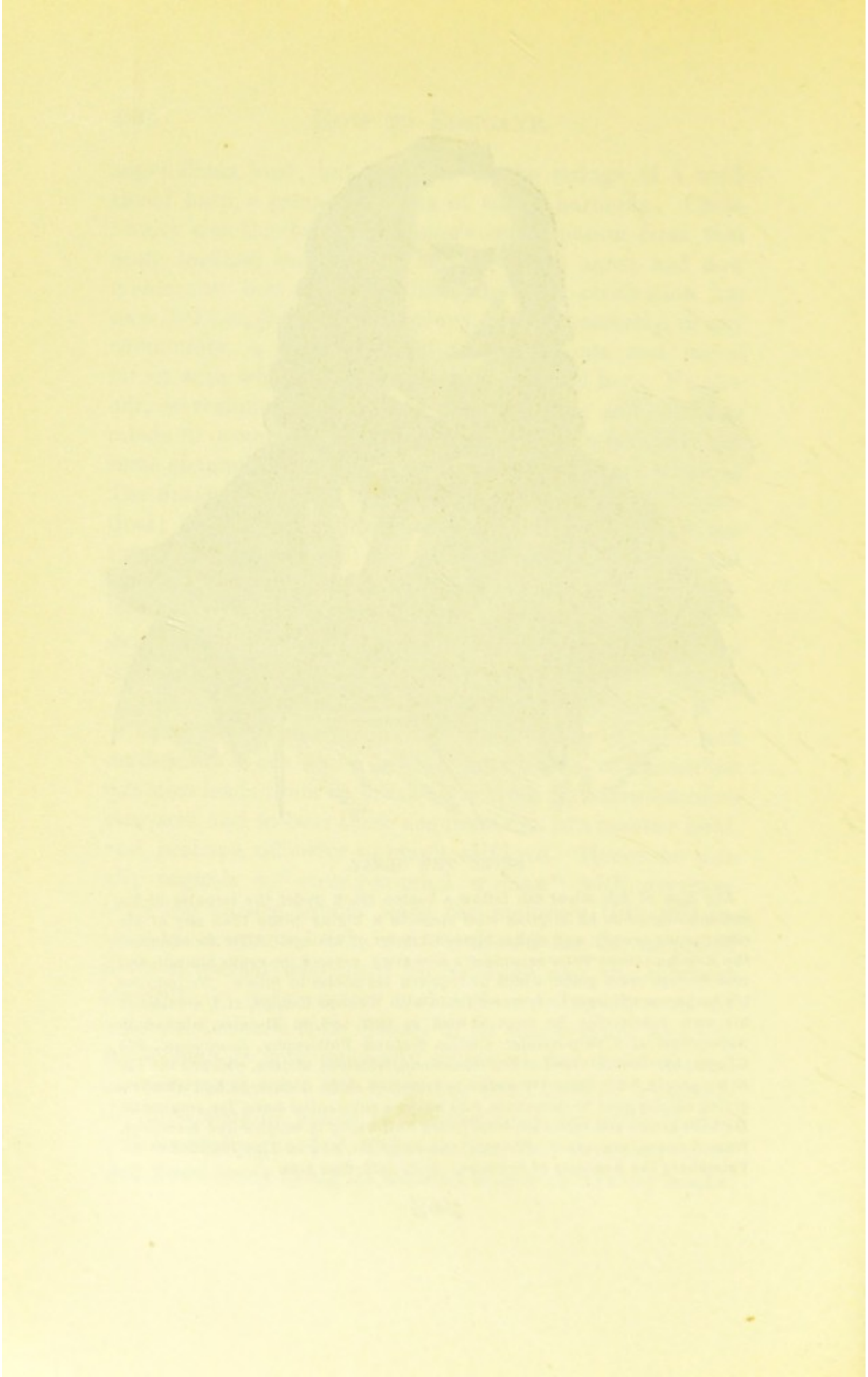
MASCULINE WOMEN.

The few women who persist in the study of logic and mathematics are those whose inheritance of masculine qualities leads them to break away from the more feminine channels, and to bear these acquirements in a manner bold, and, perhaps, offensive to man's self-love. Hence he usually regards a "strong-minded woman" with aversion. Only the daring animal leaps the inclosure that still retains the common herd; and we should not be surprised if those women who have the courage and the inherent strength do defy custom and scale the impediments of usage, should use their liberty in an extravagant manner. As woman is now generally educated, her freedom and her career resemble far more the dead level of a canal—the monotony of which is relieved only by well-adjusted and carefully-guarded locks—than the sweeping river that flows freely along its wooded shores or flowery banks



PETER THE GREAT.

Any man of fair talent can follow a beaten track under the impulse of his surroundings, but he is great who steps to a higher plane than any of his countrymen occupy, and makes himself master of his age. After he ascended the Russian throne Peter organized a new army, entered the ranks himself, and rose through every grade, which he required his nobles to follow. To improve his barbarous subjects he fostered trade with Western Europe, and, sensible of his own deficiencies, he went abroad in 1697, and, in disguise, worked in Amsterdam as a ship-builder, studied Natural Philosophy, Astronomy, and Geography. He returned to his dominions, reformed abuses, widened the life of his people, built defensive works, constructed ships, dockyards, and wharves, giving employment to thousands, and laying a substantial basis for commerce. He built canals and factories, established uniformity in weights and measures, framed codes, organized tribunals and hospitals, and in 1723 founded at St Petersburg the Academy of Sciences. Born 1672, died 1725.



roaring at will over cascades at the mountain's base, dancing onward in the sunlight, or reposing in beauty under the placid beams of the harvest moon.

GIRLHOOD RESTRAINTS.

First, then, the body needs education, for the lack of which physical and mental ills innumerable exist. We shall not now stop to discuss, at length, the laws of bodily nutrition, but simply remark that highly-seasoned food, with tea and coffee, are doing destructive work on the health of woman. It is no small item to regulate the appetite and dietetic habits of the young, in order that the highest degree of health may be secured; and that dyspepsia from the use of stimulating and concentrated food, and shattered nerves from the effects of narcotics, may be avoided. We call attention to another and much neglected branch of female education necessary to physical development, including air, exercise, and pleasant and useful employment. Why is it that our young girls are as nimble of foot, as ample in breath, as capable of enduring fatigue, and as fond of romping over hill and plain as boys of equal age, if *nature* has made such vast differences in their physical capacities and taste for such exercises as we see so firmly established a few years later in life? Except in the wildest of rural districts, girls are trained from the cradle to remember that they are "*girls.*" They must walk, sit, speak, laugh, and live in a particular way, not because they are immortal, responsible *human beings*, but because they are *girls.* Thus all naturalness and freedom are driven out of them by this interminable reminder of their girlhood. In present fashionable society, a girl, as she approaches womanhood, is expected to lay aside all vigorous physical effort; to walk in a restrained, mincing manner, with arms and hands motionless; to dress in such a manner as to cramp the lungs and other vital organs,

and to restrain the free action of the muscles of the entire trunk. She is expected to avoid everything in the way of industry that can by any possibility harden the hands or develop the muscles, or send the blood bounding with a healthful vigor through the system. Add to this, confirmed sedentary habits, delicate needlework, reading exciting books, and keeping late hours, and if we see them with small waists, narrow chests, attenuated muscles, pale cheeks, colorless lips, sharp faces, nervous irritability, headache, dyspepsia, and consumption, it is only what might be expected from such an erroneous system of training and education. To the physiologist it would appear miraculous if it were otherwise. How different is this every-day picture from that of their earlier years, when fashion did not deem it necessary to mar nature's work by such artificial habits and appliances!

The little girl driving her hoop, or jumping the rope in the open air, or rambling for flowers or berries on the rugged hillside, without dreaming of fashion or restrictive propriety, is such a contrast in appearance, as well as in health and stamina, to the fashion-bleached *lady*, which by false education she is destined in due time to become, that nature, though charmed by the child, would disown the woman.

CAUSES OF INVALID WOMEN.

The public sentiment is, we think, grossly at fault on the subject of the physical education of females. The false idea that they must be shut up in heated apartments badly ventilated, reclining on sofas or lounging in easy-chairs; that they must do nothing but fancy-work, and never walk vigorously in the bracing breezes; but, on the contrary, to be respectable and fashionable, they must dress in such a manner as to restrain all freedom of motion, and thereby lose all the natural advantages of exercise; that they may attend balls and parties in mid-winter with arms and necks

bare, and after dancing in heated rooms till near morning are permitted to go forth in the frosty air to their homes, to obtain, in cold rooms, such fevered and untimely sleep as may be possible. With habits such as these, can we wonder that we have a nation of invalid women? If this is a picture of the life of the wealthy and fashionable, there are, on the other hand, thousands of the poor who toil with the needle sixteen hours a day in small rooms, merely to sustain life, who have been so educated by public sentiment as to deem it a disgrace to pursue, instead, the healthful avocation of housework.

In this country sound health is the exception among women, unsoundness the rule. In England, health is the rule, as all know who have visited that country, and as all may infer who will observe the immigrants from her shores—not the laboring classes merely, but the wealthy, the educated, and the refined. They have red cheeks, full chests, stout muscles, energy of action, fine health, and a good appetite. The reason is, they exercise much in the open air, and dress in a manner adapted to that exercise. An English woman of education and refinement thinks nothing of walking six miles, or of riding on horseback twenty. A celebrated American journalist (N. P. Willis), writing of the habits of the women of England, remarked:

"I remember once being at William and Mary Howitt's, when some one proposed that we should make a little family visit to Epping Forest, distant some four or five miles. The thought never entered my head that they proposed going on foot. As we crossed the threshold of the door, I was expecting the next moment to help the two ladies making our party into the carriage; but I saw no carriage; and when I asked where was the carriage? I got for a reply, 'We are going on foot, of course.' And so we walked all the way there, and rambled all the day long over the beautiful forest, and at night walked back

to 'The Elms.' I kept looking at the ladies while we were returning, expecting to see them faint away; and finally, I ventured very quietly to ask one of them, 'Are you not very tired?' I got for a reply a merry ringing laugh and a 'To be sure not; I could walk half a dozen miles farther yet!' When I got home I was so fatigued as to be unable to stand without great pain and trouble, and was obliged to acknowledge that the English ladies were my superiors in physical powers of endurance. I saw at once the secret of their glorious health, their buoyancy and flow of spirits. It was their habits of exercise out of doors.

"I was once conversing with an English lady who was near eighty years old—the mother of a distinguished writer—upon this capital habit of walking which the ladies of England have, when she broke forth with, 'When I was a young woman, and in the country, I used to walk ten miles to church on a Sunday morning, and back again after service.'

WOMAN IN THE GARDEN.

"Another cause of the brilliant health of English women is their natural love of horticulture. An English lady is at home in her garden, among the flowers, and I know of no more beautiful sight in the world than that of a fair, open-browed, rosy-cheeked woman among a garden full of flowers. Talk of your merry creatures in hot drawing-rooms, 'by the light of the chandeliers,' to the marines! Here is beauty from God's own hand and nature's; here are human flowers and those of nature blooming together."

EFFECTS OF CLIMATE.

Our American climate, we are aware, is drier and hotter than that of England, and much more conducive to mental activity and nervous excitement, and, as a consequence,

somewhat less favorable to the expansion and health of the physical organization; but there is ten times more difference in our actual condition, in these respects, than the difference of climate will account for. Our men, descendants of the English only three or four generations back, have relatively more bone, and drier and harder muscle, more sprightliness of mind and activity of body, and in advanced life have less of that corporeal roundness and youthfulness of appearance than are seen in the English; but the difference is by no means so great between the *men* of the mother country and this as that existing between the women. As we are largely descended from British and German ancestry, we ought, at least, to inherit in some good degree the health and robustness of constitution so pre-eminently belonging to those nations.

To this statement it may be responded, that many of the English, Irish, and German women work in the fields like the men, and that their robustness and endurance thus acquired is but a species of masculine coarseness incompatible with intellectual culture and refinement of feeling which no woman in America should be expected to imitate even for so great a boon as health. If this were the only means of acquiring or of developing and retaining the native health and vigor of woman, we might, perhaps, justly claim that so valuable an acquisition is richly worth the cost. But while we aver that this particular course is not the only one open by which women may acquire bodily health and vigor; that other more ladylike, yet useful, occupations are open to all, and equally valuable as effecting health, we beg to cite the health and vigor of the British Queen, which was not obtained by labor in the harvest field. Her health has been the subject of care, not of the hot-house order, but on horseback, galloping over the fields, or walking for hours, and by calisthenics and other equally appropriate means. Her large and

healthy family is an evidence that her full cheeks, rounded arm, and plumpness of figure are not counterfeit indices of constitution and well-preserved vital power. True, she has the wealth of the British empire to procure for her the leisure and the means for such exercises and regimen, together with the wisdom of the most talented and learned physicians to prescribe and direct them. The expenditure of such wealth and wisdom, with such valuable results, should not be lost as an example to our countrywomen who have wealth, and who ought to value their lives enough to sacrifice as much time, money, and effort to preserve their health and happiness as they now do to endure sickness, pay physicians, and be miserable.

THE GREAT MIDDLE CLASS.

If the wealthy will not be wise, and for the sake of health rise above their repugnance to perform any exercises that seem like work, we may appeal to the great middle class, for it is this large class that makes up the majority of society and sways the destiny of mankind in America. To these we say, useful and pleasurable exercise, indoor and in the open air, is within your reach. The modern light gymnastics can be introduced into public schools, female seminaries, and families. Moreover, you pay strong and healthy servants—and they are healthy and strong because they work—to do all your household duties that have in them any health-invigorating labor, while you daintily creep about and dust parlor trinkets with gloves on, attend to birds or a few house-plants, or confine yourselves to needlework or other sedentary occupations. When you go abroad, as an apology for exercise, it is with thin shoes, with some parts of the person overclad and other parts exposed; and such walking is so demure, restrained, and artificial as to serve no valuable purpose as a means of healthful exercise and development.

Do you reside in the country, or in a rural city, where you can have a garden? let your own hands cultivate it in the main. In the house, divide between yourselves and your servants the health-giving effort required to wash, iron, sweep, etc., that you may share with your servants their health, and also divide with them the drudgery of needle-work, that you may escape the debilitating effects of constant application to sedentary pursuits.

The luxury of rest and leisure is rarely or never known to persons wholly devoted to light and sedentary occupations. The toiler, when he becomes wearied with labor, would gladly exchange it for one hour's *rest* at the tailor's or watchmaker's *work*, constant application to which is sending them to untimely graves; and the latter, by engaging for several hours each day in some manly avocation, like working in a garden or sawing wood, could return to his sedentary pursuit as a pastime. Will not the same law apply with equal force to woman's domestic sphere?

EARLY HABITS OF GIRLS.

In childhood and youth, girls appear to be as healthy, hardy, and capable of enduring fatigue as boys, because nature has kindly endowed them with equal constitutional power to perform the duties of life. Then they run and romp in the open air, and thus secure health by obeying the promptings of unsophisticated nature. Yet when these children are matured, the men are much more healthy than the women. Take the families of the merchants and business men—not the purse-proud nabob on the one hand, nor the mere delver on the other—and how stands the matter? The men are active, industrious, accustomed to a good degree of bodily exertion; they are busy with bales and boxes, among draymen and porters; they are driving about the streets and wharves, managing their affairs, their minds as well as their bodies being fully employed

all day, and they go home with a keen and well-earned appetite; while their wives and daughters, standing of course on the same platform of respectability, have dragged through the wearisome hours of the day in listless idleness or sedentary pursuits, and they approach the table without an appetite, spurning the repast which other hands have prepared, and in answer to inquiries as to their health, they fill their anxious husband's or father's ears with complaints of a thousand ills, to obviate which large doctors' bills and expensive trips to watering-places are incurred, but with little permanent benefit. Poor creatures! they have not been properly educated. Many masters have been employed to educate the mind, but the culture of the body has been considered of little moment, and it has therefore been neglected.

FASHION FORBIDS FEMALE EXERTION.

Fashion would toss its brainless head and pout its contemptuous lips at the idea of useful toil for the wife and daughters of a wealthy merchant or manufacturer; but that same fickle goddess has not the slightest objection to the father and the son going into the store or manufactory and laboring all day earnestly among goods or machinery, which for *them* is all very well and quite respectable; but she denies to the daughter any part in household affairs, because it is vulgar and disreputable for a lady to work, and consigns her to the practice of music, drawing, and ornamental needlework, and they are dying for lack of something to do, and they don't know it. What matters it if the *son's* hands *be* hard, his chest and muscles brawny, his face browned by the sun and wind, and with these firm health? but the daughter must be slim, fragile, pale, and delicate, with small, soft, white hands to be worthy to rank with the sons of merchants who are every day employed just like her brother, and with like results

Women are as good as men—Nature has not said they are better—and they have a right to all the advantages which good health affords, and to all the means for obtaining it in a natural way. If work is the parent of health, that fashion which would deprive her of it is a curse.

But our patience wanes in the examination of the many errors of female education as it relates to the body, and we now turn to consider her *mental* training.

MENTAL CULTURE OF GIRLS.

As the action of the mind depends upon a healthy condition of the brain, and that upon a sound and vigorous body, it follows that too much care and thought can not be bestowed upon the health of girls who are to become the mothers and teachers of the next generation. The old maxim, "A sound mind in a healthy body," is remembered by nearly everybody; but people do not seem to appreciate the fact that health and vigor of body are as necessary to mental clearness and vigor as the framework of the steamer, with its boiler and fuel, are necessary to the engine, which is the life and soul of the powerful steamer which proudly plows the sea. The engine can not make a single revolution or serve any valuable purpose without a frame to sustain it, and steam to impart propulsion. Neither can the mind in the present life evince its capabilities without bodily health and strength. If we cast a glance over the catalogue of our mental giants, our leading speakers and thinkers, in the pulpit, senate, and lecture-room, we will find them, every one, having a vigorous body as well as a vigorous mind. Men can think with a comparatively slender constitution, but they can not as speakers and actors move mankind and electrify the world. He who would do more for the world than merely to exert an occasional gleam of genius, should lay the strong and

deep foundation of his power in a sound, well-trained body then he will have the vital force requisite to sustain the mind in long and vigorous action, and realize the hopes himself and friends cherished in the development of his mental nature. If this be true of man, with how much more force can the principle be applied to the education of woman, whose habits, we regret to say, have been more widely warped by fashion and false custom in respect to health and education than have those of the other sex!

Many boys smoke, drink, frolic, and in many ways dissipate, but there is in their broad exercises, their untrammeled liberty, something which partly counteracts the evil influences of their bad habits. On the whole, men are more healthy than women.

In regard to the mental education of girls, we remark first, that, as the continued education of the body is necessary, the mind should be educated in such a manner and with such speed only as shall comport with health. The feminine temperament is usually more active and the mind more susceptible than those of the male. Secondly, girls usually learn faster, become excited by the praise bestowed upon their excellence in scholarship; hence the extra exertion of the brain and nervous system, and the extra sedentary habit which still closer application to study involves, shatter their constitutions at a very early age. Your fat, awkward, red-faced girl, who loves the bracing breezes, enjoys fun and frolic, and likes to sport in the open air more than she likes books, is not likely to be injured by the above influences. If she be rightly trained, her mind will ripen at sixteen, and at twenty she will be a good scholar.

On the other hand, the little, delicate, susceptible girl, with thin, sharp features, expanded forehead, large, intelligent eyes, with a strong endowment of the love of approbation, is the very one to be driven by praise and encouragement almost to madness in mental activity. She bends

soul and body over her books, becomes a prodigy in education, and her friends, misguided teacher, and all, lavish praises on her educational superiority, which serves still more to inflame her brain and add fuel to that fire which is consuming her vitality and preparing her for the tomb. Not in school only does she struggle in the mental pathway, but she is not only permitted but encouraged to take her books home, to con her lessons late and early; or if she be permitted a moment's respite from her books, it is to be shown up in company as an intellectual pet, to listen to adulations of her great achievements and her mental brilliancy. Such gifted hot-house plants are regarded as the special favorites of Heaven, and is it strange, therefore, that the maxim has found believers, "that those whom the gods love die young." We need not say that such children should be held back in mental exercise, nor that they are the very ones who are always crowded on, by approval and encouragement at least, if not by direct requirement. They will crowd themselves, if it be not done by parent and teacher. The proper course is to check their mental and physical activity.

This we are aware is a picture of one class of constitutions, but it unfortunately is a very large class, and one that we are particularly anxious to save from the errors of education, to save from derangement of constitution and from the grave. In nine cases in ten of precocious, nervous, mental development this can be done if we educate their bodies first, and continually, and their minds secondarily, as they can bear it. We might then see genius enthroned on a solid and enduring basis, to bless the world with its heat and light to a ripe old age. What a sad fact it is that the brightest and best of our girls must be blighted and sent to early graves by misguided education!

Dr. Dio Lewis deserves the gratitude of mothers, and of the race at large, for his invention of the light gym-

nastics for schools and families. By their use, thin young girls and boys are built up in vigor, are trained in bodily power while their minds are being educated. Academies for girls and boys with these light gymnastics as a part of each day's business, are springing up in various parts of the country. One of the most successful and one of the earliest of these schools is the Adelphi Academy, in Brooklyn, N. Y. We have watched this school closely for years, and marked the build and vigor which those exercises have developed in the pupils, both male and female.

Another error in the education of girls originates in the false notion that she is to become a mere decoration of society, and therefore should be cultivated in the showy and esthetic part of her mind, while the more solid, common-sense elements are left undeveloped. Elegant accomplishments that glitter and dazzle are placed in the foreground of the culture of girls, as if their only errand in life were to be placed in a social conservatory, as we place a rare flower, to bloom in the soft atmosphere of perpetual admiration. Hence drawing, painting, dancing, French, music, botany, ornamental needlework, dress, and the useless round of ladyism, constitute the bulk of what is popularly considered a finished female education.

Do girls lack reasoning power? If so, then give them no scientific study that demands it. Are their minds made up entirely of the literary faculties, with Ideality, Imitation, Approbativeness, and the social qualities? If so, give them a fashionable education, and you will call those faculties into activity, and almost no other. Indeed, girls will be but half developed in character and talent, and that half which makes them weak, helpless, and dependent; tinsel ornaments rather than calm, earnest, common-sense companions, counselors, and helpmeets for man.

As woman is now educated, she is taught to be a creature of impulse and sympathy, an elegant toy. Woman

has reasoning power, perhaps not so great as that of man, and this may be owing to the fact that its culture has been neglected. We do not see why she should not be endowed with sound, consecutive, reasoning power; for if any being on earth needs wisdom, judgment, reflection, and a well disciplined intellect, combined with strong affection and elegant refinement of taste and feeling, it is she who is to mold the character of the family which is to control the church, the state, and the business world in the next generation.

Let girls be taught chemistry, for who more than those who compound the food of the world need it? Let them study physiology; for they have the charge of the clothing, feeding, and health of the world. Those who have the care of the ventilation, the warming and regimen of our homes, can not be too well versed in those sciences which alone can furnish the bride with just qualifications for these important duties and responsibilities. We are aware that thirty years' experience will teach many of the lessons of domestic economy, but we would have all science, bearing on every-day life, taught to girls, so that when they launch forth for themselves on the sea of life they may have the chart and compass of a correct education to guide their course from the start, to a successful life voyage? Why should a woman be a lifetime learning the laws that govern health, and only learn by sad experience how to conduct the physical and moral management of the young, when she has grandchildren to exercise that knowledge upon? Knowledge is better late than never in coming, but we would not have it deferred until a generation of mental and physical constitutions are ruined, and half a generation are made tenants of short graves.

Let girls be instructed in arithmetic, mathematics, and natural philosophy, book-keeping, domestic economy, physiology, and history, with logic and metaphysics, for

who more than a mother needs all the stores of solid learning and thought to manage a family and fill her station in society with wisdom and dignity? Give her these, for she has talent to appreciate and use them; her true sphere demands their exercise, and she will cease to be deemed a frivolous, fitful, useless butterfly. It is a wonder that her education has not spoiled her. If she were not the better half of creation, she could not have endured so much bad management, and still be deemed worthy of adoration by the other half.

We rejoice that within the last quarter of a century female education has received new attention, and made vast progress. The first woman who took the degrees of a college was looked upon but a few years ago with wonder. Now, colleges for women are dotting the land, and the strength of their influence is being felt; and we rejoice in the thought that educated women are hereafter to be companions of educated men, and the mothers of generations yet to be. As colleges and seminaries of learning multiply, common schools will be raised to a higher grade, until the great mass of girls and boys shall hereafter have opportunity for an education nearly equal to that of a college half a century ago.

HABIT, A LAW OF MIND.

Man is not unfitly called a creature of habit. So true is this, that perhaps more than half of all that he does is performed under the influence of custom or habit.

But what *is* habit? It is the doing of certain things, first by determination or thought, until the doing becomes so common, so much a matter of course, that it is done without a special thinking or resolution to do. In other words, it is the training of the faculties, by use, to such a degree of perfection in action that their labor is performed

automatically, or without an intellectual determination to do this or that. Habit is the result of training and experience, and appertains, not to muscular action only, but to the action of the mind as well.

If we go down to infancy, we find the child making a strenuous effort to get his hand to his mouth. He has strength enough to do it; he has an intellectual comprehension of what he desires to do, and he puts forth the effort. But at first the hand hits wide of the mark; when the effort is renewed, the hand goes as much to the other side. And we have seen the little child become angry because he could not readily accomplish his object. But this lesson he is not long in learning, for the little fellow, long before he needs pantaloons, is able to find his mouth readily with spoon or fork; and so habitual has this action become, that with fingers or spoon, fork or long knife, he has no trouble in measuring the distance to his mouth correctly; and what is more, not only is the hand trained to measure the distance correctly, but the mouth itself has acquired the habit of opening at the right time, and we never hear of his pricking his lips with his fork because they fail to open in season; and if the process be watched, it will be seen that the mouth loses no time in opening itself too soon. So the eye learns to shut itself, as it were, when objects of danger approach it; and though this may be regarded as a mere instinct, it is nevertheless learned by experience, and by practice it acquires the force of habit.

Behold, also, the little stranger to life's cares and labors undergoing the tedious apprenticeship of walking. He must first arrange himself on his center of gravity—must learn to stand. When this is accomplished, the mind resolves on taking a step; decides which foot shall take the lead; and when that is placed at a convenient distance from the other, then a muscular effort is necessary to

throw the weight of body upon the advancing foot. The mind takes cognizance of this necessity, and then as much as says, "Now, muscles of the left leg, make an effort to throw the body forward, and, muscles of the right leg, brace to sustain this weight now for the first time wholly imposed on you." So these mandates are sent out from the mind to each leg in turn, and they render obedience in turn, to the best of their ability; and if the little learner succeeds in working his machinery successfully the first or even the fortieth time of trying, the fond mother regards it as a feat worth rejoicing over and recording. The whole household and all the visitors are informed that little Charlie has learned the difficult process of walking. In the lapse of time he becomes accustomed to the control of the muscles; learns how much force to apply to each, and also the order of time and succession required for these operations, so that in a few months, even, he walks as men do, without thinking. In other words, the mind, unconsciously to itself—or at least unconsciously to the memory—learns to control all the muscular motions employed in plain walking, so that he is not aware that he thinks and resolves. But when the child goes away from the level nursery floor, and is required to go down stairs, or to ascend steps, then he has to learn new lessons of muscular action and effort, and a new application of the law of balance. But this is ultimately mastered, and he goes up and down stairs like an old settler. And when he goes into the street and finds an uneven surface, or roams a field where no two steps in succession find the same level, he has a new lesson of walking to learn, using, of course, the rudiments of all the former processes, but obliged to apply new rules of effort, resistance, and balance at every step. Ultimately, at twelve or twenty years of age, the lad has mastered nearly all the lessons of ordinary locomotion; he has learned how to walk; and habit has taken

the place of thought or determination in the matter. But this habit is continually liable to be disturbed, broken in upon. New lessons are thrust upon him, according to new circumstances. But in the main, the habit of walking erectly and easily becomes so perfect that thinking disturbs rather than helps the process. Hence habit will enable a person to walk without trouble on the narrowest board of the floor with perfect ease, and without the slightest inclination to step off from it. But if we take away all the boards each side of it, and leave the yawning chasm of three stories below, the mind, acted upon through Cautiousness, leads him to put forth circumspect efforts so as not to fall, and he finds he can not balance half so well when he tries as when he does not try—or that habit is a better guide than thought or determination.

When we rise to the consideration of the higher forms of habit, a vast field of contemplation is opened to our view. Take, for instance, the educational processes. It is with more or less effort that we learn the multiplication table, and how to divide, subtract, and perform arithmetical calculations. But practice makes the processes easy; habit finally takes the place of special thinking, and we run up a column of figures, and some persons can even two or three columns, with about the same ease, and with as little apparent labor of the mind, as one walks. The same is true of spelling. Crude and inconsistent as English orthography is, the mind has such a wonderful faculty of acquiring a habit of doing things, that many people learn to spell, so that, in writing, the pen takes the circuitous and inconsistent course in combining the letters which spell words, and for hours we are not conscious of the slightest effort of the thinking power in the performance of spelling, which early in life was a most bitter task.

Again, when the child begins to write, he must think how each letter is to be formed, and control his muscles

in forming those letters, as he was obliged to do in learning to walk. Who does not remember stopping to think how *l*, *k*, *r*, *b*, *c*, or *h* were to be made, and saying to himself, "Now I must make a loop at the top by a light upward stroke, bringing my pen down nearly straight, bearing on as it descends? As I approach the line, I must make a curve and an upward hair line." And then joining that letter with, and running it into the next, was a new effort of the mind and of the muscles. And so on to the end of the long, tedious writing-lesson. At the same time he is obliged to learn which side up to hold his pen; how to take hold of it; how to dip it in the ink without blacking his fingers, blotting his paper, etc. And is it strange that the school-boy's first copy-book should make such a sorry appearance? And should not these considerations induce teachers to be considerate of the poor little apprentice, and even praise him for successes which at first view would seem to a practiced penman as being miserable failures? But let the boy write a few hours a day for a few years, and he wields "the pen of a ready writer." In other words, he has learned to hold his pen; to dip it in the ink; to form all the letters, joining them properly; to spell the words as he writes, and to drive his pen over the paper with an ease and rapidity truly astonishing, compared with his first rude beginning. He has learned a habit of spelling, of controlling the muscles which guide the pen, so that it is easier to do it right than wrong. He writes as easily as he walks; habit has taken the place of thinking and it has become to him, as it were, "a second nature."

What is true of writing is quite as true of every trade or occupation which people follow. The carpenter wields his plane, his saw, and his hammer, by the force of habit, with accuracy and ease. The beginner thinks of his thumb as he is trying to crack a nut or drive a nail; or if he do not, he has soon something to remind him that the hammer

is harder than his fingers. But what accomplished workman thinks of fingers? The hammer finds its own way to the head of the nail. What stone-cutter, with mallet and chisel—what caulker, ever looks to see whether the mallet or hammer is to hit the handle of the tool he uses? He merely looks at the cutting edge of the instrument. The right hand knows where to find the chisel-head; it knoweth literally "what the left hand doeth." But a person who has formed no habit of controlling the muscles in connection with tool-using, will be obliged to look and practice with care, in order to bring the hammer and the chisel-handle in contact. In other words, he learns to use these tools by special thinking, as he at first learned to use his legs, or to find his mouth with spoon or fork.

The use of language is another illustration of habit. When one first begins to speak, he is obliged to select his words and think of his grammar. But the mind ultimately becomes so trained in the formation of sentences that ideas are expressed with clearness and force, the right words seeming to come of their own accord. This is seen in extemporaneous speakers; those who practice acquire the habit of easy and correct speaking.

Observe the musician trying to evoke the proper tones from the reluctant violin. He is obliged to look for the string, see where to place his finger, then turn to the bow and see that it is placed upon the same string; and then the note is produced by another special effort. After this is produced, he thinks about the note which follows it, where it must be found on the instrument, then how it is to be produced, and so on through the piece. Is it strange that the beginner is left alone as much as possible in these incipient music lessons, and that most persons who have in their house an apprentice of this sort become utterly tired of the violin? One would suppose that the learner himself would become disgusted; but his consciousness of

improvement from effort to effort smooths his pathway each better note making an apology for the past, and encouraging him for a future effort; and thus his mind is kept on the stretch for the good that is to come. The child in walking fails, but he tries again and again, and why should not the earnest follower of Paganini?

This doctrine of habit, in its applications to the higher action of the mind, is one of infinite importance. The exercise of Conscientiousness renders justice and duty habitual, as the exercise of Cautiousness leads the mind to a habit of prudence. The mother or nurse who has for months had the care of an infant, if it be removed, will, for many nights awake in alarm, not finding it in her arms. She learns by habit not to overlie it, but to protect it even in her sleep; and we have known a mother who could not sleep after the removal of a child without taking a pillow in her arms, or, without knowing it, get hold of the pillow and brood it as she had done her child in her sleep.

Politeness, urbanity, kindness, cheerfulness, respect, the dictates of good taste, all become habitual. We remember being in the United States Senate Chamber in 1841, when Mr. Woodbury, having been for years Secretary of the Treasury, and being, at the close of Mr. Van Buren's term, transferred to the Senate, went from the Cabinet on the 3d of March to the Senate chamber on the 4th, and in his first speech there he addressed the President of the Senate, to the infinite amusement of all present, with "My dear sir," as it is presumed he had been accustomed to address the President and members of the Cabinet in council. He had formed the habit of this more friendly method of address, and though for years previously he had been a member of the Senate, he had lost the habit of stately speaking during his four years of court life, and had learned this new mode of address. So a lawyer, accustomed to say, "Gentlemen of the jury, may it please the Court,"

in a popular audience forgets himself and his habit of speaking, and says to his audience, "Gentlemen of the jury," or to him who presides, "May it please the Court."

Approbativeness may be trained to act with the higher sentiments — Conscientiousness, Veneration, and Benevolence—so that virtue, philanthropy, magnanimity, and religion will become habitual, and a person feel ashamed and mortified if he swerve from any of the requirements of these higher faculties. Or the same Approbativeness may be trained to act with appetite, or with any of the animal propensities, so that it becomes easier, and to the mind's habit more respectable, to do wrong than to do right, to follow sensuality rather than morality.

We will not here descend to consider those animal habits, some of which pervert the morals and blast the health and prospects of the man, such as the use of opium, alcoholic liquors, tobacco, etc. These habits are mainly based upon mere physical appetite. We accustom the physical constitution to the use of certain things until it craves them, and grasps eagerly for its own bane. The nervous system becomes accustomed to a given amount of stimulants, which is resisted at first by nausea and other tokens of dissent; but the habit finally becomes formed so strongly that the constitution is unbalanced and bewildered without the indulgence. But this class of habits only serves to show the law of mental habit, and ought to suggest to all the infinite importance of doing only that which is right, as nearly as possible, not only with respect to the mere animal wants, but to all the cravings and aspirations of the mind. If we are "a bundle of habits," let us, in the name of wisdom and goodness, have habits that are correct, healthful, and respectable, and by doing that which is right until it becomes habitual and pleasurable, our whole life shall become one of benefaction and harmony.

Food for Thinkers and Workers.

THERE is no subject with which everybody has so much to do, and in respect to which so many people know so little. The subject of *diet* is an unpleasant one, so we propose to say nothing about it. The subject of *food* is a very agreeable one, and we shall therefore confine our remarks to it.

There are three necessities for the use of food. The boy would make but one—"'Caus I'm hungry." The gourmand would say, "Because it tastes good." Physiology says, "One object of food is to keep up animal heat; another, to furnish material to build up the tissues of the body, the bones, muscles, nerves, and all the organs; and a third and most important use of food is to furnish muscular and brain force, thereby giving power of thought and action." In nearly all kinds of food the elements required for the support of the system are found, but not in those proportions which are necessary for its complete nourishment. Hence the necessity for variety, so that what is deficient in one kind may be found in another. To speak scientifically, it is now believed that during vigorous action of the brain a great deal of phosphorus is used up, and that vigorous thought can not long be maintained without the use of such food as contains much of

this substance. Hence thinkers will do well to use those articles of diet which contain considerable phosphorus, as eggs, fish, oysters, mutton, and unbolted wheaten bread. It is an interesting fact that thinkers relish and even crave these articles. Prof. Agassiz recommends the use of fish for brain workers on account of the large quantity of phosphorus it contains. He says, "Fish enters largely into the requisition of the human system. It is a kind of food which refreshes the system, especially after intellectual fatigue. There is no other article of food that supplies the waste of the head so thoroughly as fish diet. Fish contains phosphorus to a large extent, a chemical element which the brain requires for growth and life. He would not say that exclusive use of fish would make a blockhead a wise man, but that the brain would not be wanting in one of its essential elements."

We may add that phosphorus is not used in the brain alone, for it is found in small quantities in nearly every tissue of the body, while in the bones it exists in the form of phosphate of lime in very large proportions. Unbolted wheat-meal bread contains a great deal of the phosphate of lime, and is an article of diet from which to nourish and build up a good bony structure, as about half of the substance of bones is phosphate of lime; if they were not, they would bend and yield under the great pressure to which they are subject. In countries where brown bread and oatmeal are largely eaten, there will be found few rickety and hump-backed people.

The muscular tissue, and the tissues of most of the other organs of the body, on the other hand, contain very

little phosphorus and no phosphate of lime. If they did, they would be stiff and rigid, preventing movement with agility and grace. Muscular tissue is made up very largely of what chemists call nitrogenized substances, that is, substances containing nitrogen. A physiologist would call them *Proteids.* The proteids are the gluten of flour, the albumen of white of egg, syntonin, a chief constituent of muscle, the casein of cheese, etc. These substances are similar in composition, and no doubt in the body are converted from one to another. They abound in beans, peas, corn, wheat, and lean meat of all kinds. Those who wish to possess good muscles, and use muscular power to labor, should eat of food in which these substances abound.

The provision for keeping the body warm is a very important one, and there is a special class of articles of food adapted to do this. They are the *fats*, as any kind of oily or fatty matter; and the *amyloids*, as starch, gum, sugar. These substances contain a great deal of carbon, but no nitrogen. The slow burning of this carbon in the body is the main source of animal heat, while an excess of such food furnishes the supply of fat to store up in the system for future need, and to round out the body and give it a plump, full appearance. The principal articles of food which supply material for animal heat are fat meat, butter, cream, oily nuts, sugar, sweet fruits; articles containing much starch, as potatoes, rice, the various grains, etc. In winter we need a great deal more of this food than in summer; indeed, in summer, food containing fatty or starchy matter or sugar should be eaten very sparingly.

Recent physiologists maintain that much of the muscular and other forces of the body are the result of the combustion of this kind of food in the system, analogous to the force of steam in the engine. This may explain why hard workers, even in hot weather, desire fat meat, and why Arabs, who live largely on dates, are so muscular; and the value of dates as an article of diet is corroborated by others who walk much.

But how few men know what to eat! We have seen lawyers, during court time, come to the table and eat roast pork, rice or Indian pudding highly sweetened, and wind up with mince pie and cheese. They understood the statute laws, but not the laws of the human body, and their causes and clients suffered from the muddy state of intellect induced by their ill-selected food. That dinner might have answered for a stage-driver, or a man going into the forest for a load of wood, with the thermometer at zero.

In old time, baked beans and pork constituted the Sunday food in New England, and an old divine carefully and mirthfully undertook to estimate the number of "tons of beans and pork preached to in New England every Sunday while the owners were asleep." This illustrates one point, that those who are expected to be skillful and thoughtful should not eat food chiefly adapted to produce heat, and fat, and sleep.

We are often asked to give a list of articles of food which furnish support for brain, and is therefore fit for thinkers and students. We are also often requested to give a list of articles best adapted to support muscular

power. We can not attempt here to do more than give a few hints.

Those who expect to think should not eat much of that food which produces warmth and fat, such as ham, fat pork, white bread, butter, rice, tapioca, sugar, and starch. These contain very little phosphatic food, or support for brain, being chiefly carbonaceous or heat-producing.

The amount of phosphatic or brain-supporting food contained in the flesh of animals is in proportion to the activity of the animals; those of great activity, such as the canary-bird, for instance, secure food which feeds brain, nerve, and muscle, but does not produce fat. The flesh of the trout, the pickerel, or salmon impart more mental and physical vigor to the eater than the flesh of comparatively dormant fish, like the eel and flounder. The flesh of wild animals, such as the bison, or deer, and boar, promote activity in the eater more than the stall-fed ox, sheep, or hog. Wild game generally is considered better food, especially for the convalescent, than the fattened domestic turkey or goose. Barley, oats, and wheat ground without bolting, furnish food for brain; but lawyers, ministers, and students eat the white, superfine, or bolted wheat bread, and go to sleep. That which would fatten a pig, and give him no desire to exercise or to think, is eaten by the learned and refined of the human race, who look in pity upon the poor peasant following the plow, because he is obliged to eat his brown loaf; which brown loaf and cheap fish and wild game contain the incitement to brain work, in which poems, orations, and art are conceived and nursed.

The proper food for laboring men—we mean those who

have to exercise muscular strength chiefly—should be that which contains nitrogenous and carbonaceous matter. Among these articles brown bread, meat, and cheese stand high. The red flesh of the ox or sheep and unbolted bread are the leading articles. Men who train prize-fighters seem to understand much better than others how to build up physical strength and endurance. When their battle or their race is ended, they lay aside their unbolted bread and fruit, their lean beef and mutton, and fall into their old habits of liquor-drinking and of eating starch-bearing articles, such as rice, fine bread, pudding, with fat meat and butter, and they soon become as fat and lazy as these carbonaceous articles can make them.

If a man wants to stand the cold, he may eat buckwheat cakes with butter, sirup, fat pork and white beans; but let him look out, when hot weather comes, for bilious fevers, pimples on the face, and a rank smell of the whole system, and a muddy, dirty complexion. Men living at the north pole, or near it, can drink fish-oil by the quart, or eat pounds of cake tallow, and the cold climate will burn it out; but in warm or temperate regions the food should be so selected as to furnish nourishment for muscle, bone, brain, and warmth in proper proportions.

Many persons ask what vegetable and farinaceous food is best to support the brain? We reply, unbolted wheat, Southern corn, oats, barley, beans, peas, and sweet potatoes; indeed, these are excellent articles also for the support of muscle.

We regret to see poor women go to market with a big basket and a slender purse on Saturday night to buy

food for hungry, thin-clad children. And what do these women get? Turnips, cabbage, beets, carrots, potatoes, and fish. They carry home a load, but their green vegetables are from 75 to 95 per cent. water, and the nutrition which is obtained is very little; whereas if they would put half the money into corn meal, wheat meal, white beans, and mutton, they could live grandly on it, and have the rest for the purchase of fuel and clothes. But the rich delectate on fine flour, cake, butter, pies, fat poultry, nice fat ham, eating four times too much carbon, and not half enough phosphorus or nitrogen for brain and muscle. One class starve, get poor, weak, sickly, and die of marasmus; while the others, who are able to have everything, become dyspeptical, feverish, and diseased from the extra richness of their food. "Man should not live by bread alone," especially superfine bread. If one eats wheat-meal bread and milk, he will find in these two articles all the elements which the system requires in just about the right proportion. But who knows how to eat? The old prayer in its application to the most of us should be extended—"Give us this day our daily food, and tell us what kind of food we should daily eat." This prayer is really answered by chemistry and physiology; but the world turns up its precious nose at the studies of chemistry and physiology as applied to the kitchen and the stomach. It does very well to compound medicines and hair-dyes, cosmetics, paints, dyestuffs, and materials for manufactures and commerce; but when chemistry in cooking is the subject, or physiology is applied to food and regimen, science is flouted, and folly and appetite are enthroned.

PORTRAITS AND BIOGRAPHIES

OF

EMINENT THINKERS AND WORKERS.

No field of literature is more inviting, either to the writer or reader, than that of biography. From the "Story of Joseph" to the "Life of Washington," the history of persons whose lives and experience have been remarkable, has commanded the interest of mankind. The lives of eminent thinkers and workers, while they awaken the admiration, also inspire the hope, and become at once the leaders and teachers of the young and inexperienced, who, to make their fortunes, have all the world before them. There is a peculiar fascination in the recital of the labors and privations of self-made men. Those who master the difficulties of their situation, and by patience, skill, and heroism force their way to success, and raise their names to honorable prominence, must ever stimulate to duty and self-sacrifice thousands who will be led upward toward their bright ideal, even though but few may reach the summit of their hopes.

Among the millions of men and women living to-day, only a few will be gratefully remembered half a century after they are dead. Of that few, the name and fame of some will be brighter and higher a hundred years hence than at the close of their lives. There are many who are eminently practical and useful, and, though not destined to enduring fame, would, if properly portrayed, shed light

on the pathway of many who need a word of encouragement in their struggles for success in pursuing a similar course.

In a great, free country, where no post of honor, no measure of achievement, is denied to any who have the talent and industry to deserve them, the proper description of the trials and triumphs of those who, by honest and wisely directed labor, have attained success and distinction, must merit the attention and nerve the efforts of all who aspire to better their condition.

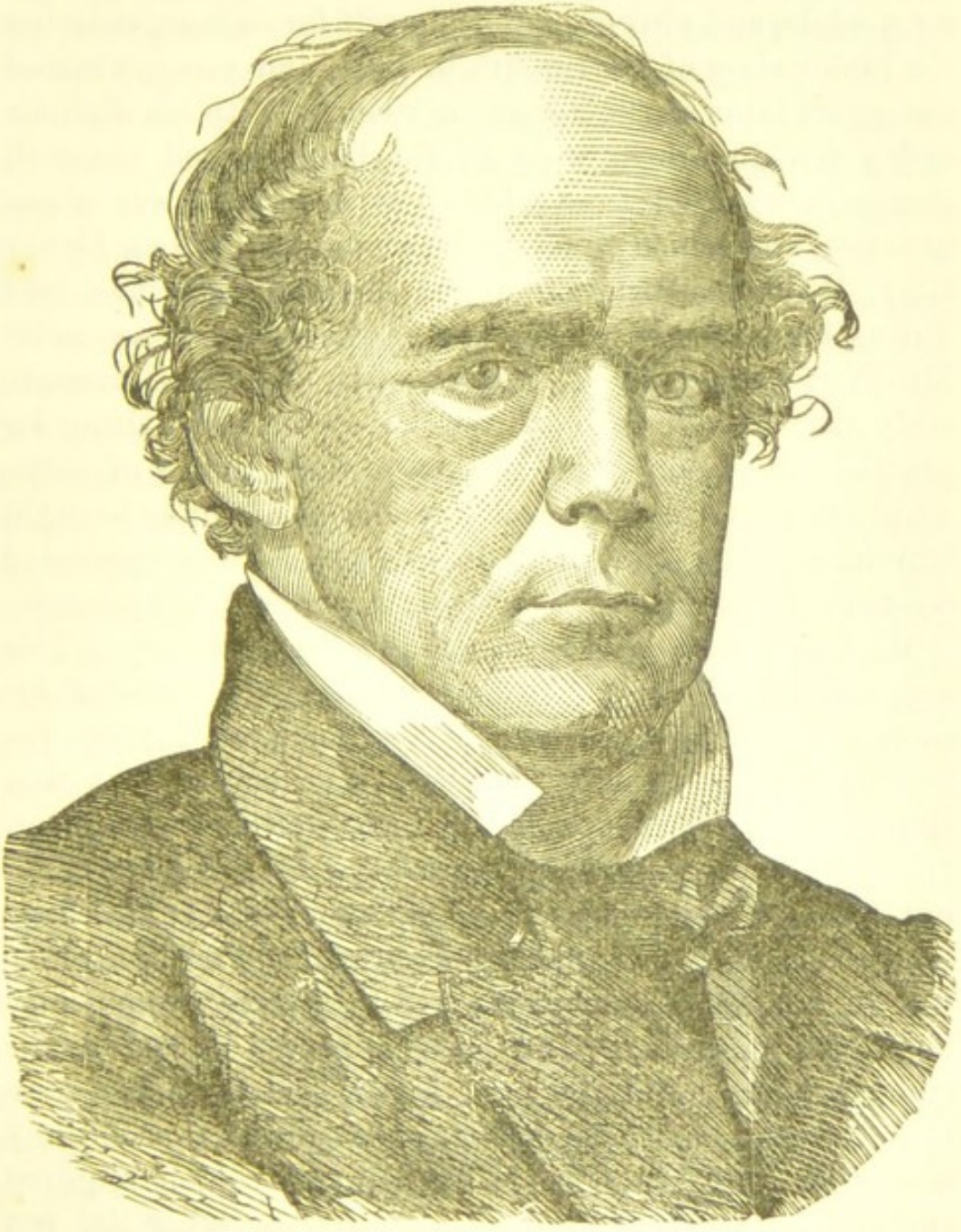
SALMON P. CHASE.

One of the faithful, great men of the nation passed away on the sixth of May, 1873, leaving behind him a record of priceless service to his country, an unspotted reputation as a legacy, and an example to all aspirants for eminent position and enduring renown.

As indicated in the portrait, Mr. Chase had a large, finely-developed brain. It was well rounded, high in the crown, and long in the anterior lobe. His great intellect had an outreach and a power which commanded the respect of all; and his moral force made him a peer of the best, and a constant reproof to the selfish and wicked.

Salmon Portland Chase was the son of a farmer of Cornish, New Hampshire, and was born in that place, on the 13th of January, 1808. His ancestors on the father's side were English, on the mother's side Scotch. His grandfather, Samuel, had seven sons, five of whom were educated at Dartmouth College, and became more or less distinguished in public life—Dudley Chase as Senator of the United States and Chief-Justice of Vermont; Salmon Chase as a leader of the bar in Portland, Me.; Philander Chase as Bishop of the Protestant Episcopal Church in Ohio. His father died suddenly, leaving his family in

straitened circumstances. Salmon was sent to school at Windsor, Vermont, and at the age of twelve was com-



SALMON PORTLAND CHASE.

mitted to the care of his uncle, the Bishop, who lived at Worthington, near Columbus, Ohio, and young Chase divided his time between farm work and hard study in the

Bishop's academy. His uncle next placed him in an institution at Cincinnati, where he remained until 1823. Salmon then returned to New Hampshire, taught school for a while, and also prepared himself for college, entering the junior class of Dartmouth in 1824, and was graduated two years later at the age of eighteen. With his diploma and a few dollars he went to Washington, and obtained charge of a school from which the proprietor was about to retire, and which numbered among its patrons Henry Clay, William Wirt, and other distinguished men, and during his leisure hours he pursued the study of law under Mr. Wirt's supervision. He settled at Cincinnati immediately after his admission to the bar, and while waiting for practice he prepared an edition of the statutes of Ohio, with notes and a historical introduction, which brought him into notice, and as early as 1834 he was appointed Solicitor of the Bank of the United States in Cincinnati.

Mr. Chase avowed sentiments adverse to slavery. This was unfavorable to his prospects in the very outset of his career as a lawyer, especially as Cincinnati lay on the boundary between slave and free territory, and at that time was in warm sympathy with Southern sentiment. He had a hard struggle with poverty, but ill fortune could not force him to relinquish his opinions. In 1837, a case which involved the application of the "Fugitive Slave Act" brought the ambitious young lawyer prominently before the Cincinnati public. He appeared in court as the counsel for a colored woman, Matilda, claimed as a fugitive slave, and in her defense took the ground, then entirely new, that the phrase in the Constitution which required the giving up of fugitives from service or labor did not impose on magistrates in free States the duty of catching and returning slaves, and that Congress had no right to impose such duties on State officers. The Court decided against him, and, as he left the room, some one said,

"There goes a fine young fellow who has just ruined himself;" but, as the result proved, he there found his opening opportunity to achieve reputation and practice, and the principle he then laid down was afterward sustained by the Supreme Court of the United States.

Other cases of a similar character were intrusted to his care. The part thus taken by Mr. Chase as an advocate in those exciting times, led him more and more into the walks of political life. He signed the call for the National Liberty Convention at Columbus, in December, 1841, and wrote and reported its stirring address on the powers and duties of the people, and the principles of the new party.

From that time his relations with public measures were intimate and important, some of the most marked movements in the political history of the nation owing their origin to his talent and activity. On February 22, 1849, he was chosen Senator of the United States by the entire vote of the Democratic members of the Ohio Legislature, and of those Free Soil members who favored Democratic views; but when the Ohio Democracy sanctioned the nomination of Gen. Pierce by the Baltimore Convention, in 1852, Mr. Chase acted with consistency, formally ending his connection with the party, and proposing the organization of an independent Democratic party. The Convention met at Pittsburgh, and adopted a platform framed by Mr. Chase, who continued to act with it until the political fragments which had been gradually shaped and guided under his influence combined in the formation of the Republican party.

In the Senate the construction of a Pacific Railroad, the passing of a Homestead law, a system of cheap postage, and a reform in the public expenditures, were among the topics to which he especially applied himself. But it was in the slavery debates that he took a commanding position

Retiring from the Senate in 1855, he was elected Governor of Ohio. In 1857 he was re-elected to that office by the people of Ohio, as a testimonial of their confidence in his ability and prudence, and in his devotion to the true interests of the State.

The 4th of March, 1861, found him in the Senate of the United States for a second term, but two days afterward, yielding to a very general demand, he resigned his seat and assumed the very grave responsibilities of the Secretaryship of the Treasury. He entered upon his duties with a hopeful, earnest spirit, in a most embarrassing epoch of the country's history, and to the surprise of friends and foes achieved a success which rises to the level of the wonderful. As one of the greatest finance ministers of modern times, the man will be esteemed who brought our country through the unexampled trial of the war, without serious embarrassment and with unshaken credit.

June, 1864, Mr Chase withdrew from the Secretaryship, and in October following was commissioned by Mr. Lincoln as Chief-Justice of the United States. In this sphere Mr. Chase showed himself eminently worthy of the honor. His decisions invariably commanded respect. He came to the Supreme Bench with mental powers apparently unimpaired—they were bright and efficient to the very last day of his life—and a mind enriched by much and varied experience, but with a physical system utterly broken down by the stupendous labors of the previous years. Careful habits of eating, sleep, and exercise contributed to buoy him up during the trying years of his occupancy of the Treasury. But his enfeebled frame was never able, after he retired from the Cabinet, to perform the full measure of work which his intellect would have imposed upon it.

It would be out of place to say that Mr. Chase made no mistakes; yet so conscientious was his devotion to principle that he had occasion very rarely to defend his course

from imputations of selfishness or insincerity. He was a refined and cultivated scholar, read and spoke several languages, was familiar with classical as well as modern literature, and greatly enjoyed poetry. Those who were admitted to his intimate acquaintance knew the zest with which he recurred to his private studies after release from public business. His conversation was always elevated, instructive, and attractive. The more intimately one knew him the more reason he had to admire, respect, and love him.

CORNELIUS VANDERBILT.

A complete statement of this man's struggle from poverty up through a long career of successful endeavor, would be a chapter of American history hardly credited outside the field of his efforts. There is, doubtless, something in blood, original talent, and tendency, as applied to human achievement, as well as in reference to the speed of horses, or the courage, endurance, and fighting power of the game-cock. Human success is not all, or mainly, the result of accident or luck. Talent, skill, and hard work have been the basis of Vanderbilt's success in his great enterprises.

The railroad interest has expanded so rapidly that it has spread over the land like a network; its gigantic power in financial and political affairs is already alarming many of our statesmen and shrewd business men. Among the ruling minds that wield this great power, this "Railroad King," as he is sometimes called, moves as the peer, if not the master.

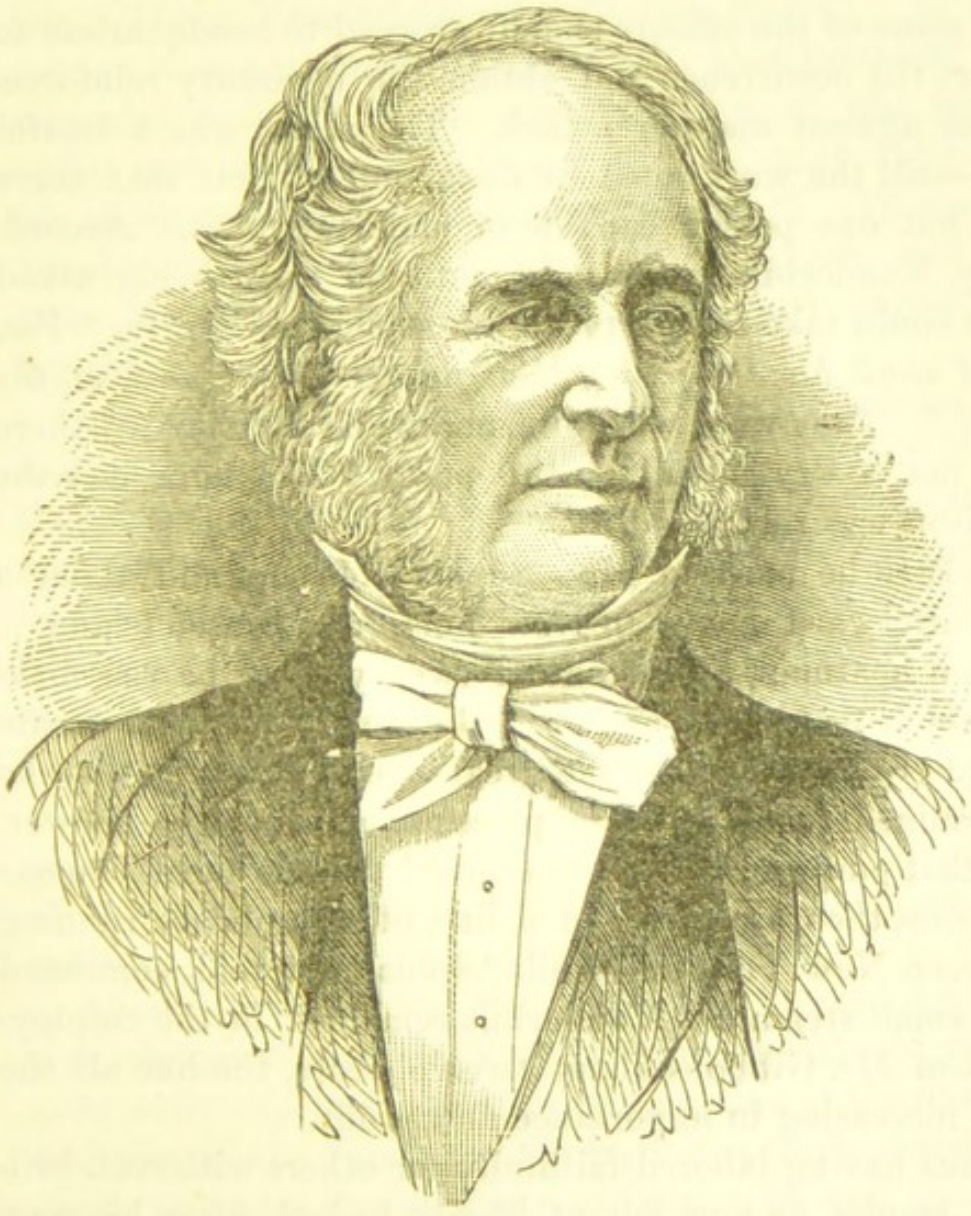
Mr. Vanderbilt stands six feet high, weighs 180 pounds, and measures over forty inches around the chest, and 22¾ inches around the head, and has a large, strong frame and a well-balanced temperament. His eyes are dark brown,

almost black, and very expressive; his hair, originally the same color, is now thin and nearly white; his skin is soft, clean, and silky to the touch, though its texture is firm, with a lively, peachy look. Indeed, he is to-day, though seventy-nine years old, a picture of perfect health. His brain is large, in perfect keeping with the body, of the best quality, and in most respects well proportioned. His will, self-reliance, energy, and ambition to achieve success are immense. Intellectually, he is a long-headed thinker, a quick and accurate observer, and remarkably intuitive in forming business judgments and in reading character; a single glance reveals to him the motives and capacities of men.

Cornelius Vanderbilt, popularly known as the "Commodore," was born on Staten Island, May 27, 1794. At that time the island was owned by farmers who sold their produce in New York city. Some of these, among whom was the father of Cornelius, owned boats for conveying supplies to market. As the inhabitants increased there arose a demand for superior facilities in communicating with New York, and Vanderbilt, senior, established a ferry. With the management of this, young Cornelius had much to do, spending the greater part of his time upon the water. For five years he was engaged as a boatman, carrying pleasure parties to picnics, boarding ships, and performing almost everything in that line. No matter how it stormed or froze, if he had agreed to board a ship or to deliver dispatches, he did it. Many a time anxious ship-owners could not have communicated with their ships in heavy winter storms but for Vanderbilt's courage and skill, as the steam-tug was then unknown.

By the time he was eighteen years old, he found himself part owner and captain of one of the largest periaugers in the harbor. During the war of 1812 he rendered material service in furnishing supplies by night to the forts about

New York. In fact, his energy, skill, and daring became so well known, and his word, when he gave it, could be relied upon so implicitly, that "Corneil, the boatman,' as



CORNELIUS VANDERBILT.

he was familiarly called, was sought after far and near when any expedition particularly hazardous or important was to be undertaken. At one time, during the war (September, 1813), the British fleet had endeavored to pene-

trate the port during a severe south-easterly storm just before day, but were repulsed from Sandy Hook. After the cannonading was over, and the garrison at Fort Richmond had returned to quarters, it was highly important that some of the officers should proceed to headquarters to report the occurrence and obtain the necessary reinforcements against another attack. The storm was a fearful one—still the work must be done, and all felt that there was but one person capable of undertaking it. Accordingly, Vanderbilt was sought out, and upon being asked if he could take the party up, he replied promptly, "*Yes, but I shall have to carry them under water part of the way!*" They went with him, and when they landed there was not a dry thread on the party. The next day the garrison was reinforced.

In 1813 he married Miss Sophia Johnson, and about a year afterward moved to New York from Staten Island.

As a boatman, at the age of twenty-three, he was making about $5,000 per annum. But perceiving that steam would ere long become the great agent of navigation, he determined to study its application as a motive power. For that purpose, in 1817, he entered the service of Thomas Gibbons, then proprietor of a line of steamboats running between New York and Philadelphia, and took command of a small steamer. Vanderbilt remained in the employment of Mr. Gibbons about twelve years, the line all the time increasing in importance and profit.

Thus having labored faithfully for others with such brilliant results, he now felt at liberty to look after his own interests more exclusively, and to commence business again on his own account. Therefore, in 1829, he informed Mr. Gibbons of his plan to leave him. "You must not," he replied; "I can not carry on this line a day without you." He then offered to increase his salary to five thousand dollars, or more, if money was his object. But

Vanderbilt had thought well before he decided on the step he was about to take, and at once refused the offer. Finally, Gibbons told him he could not run the line without him, and that he might have the Philadelphia route, saying, "There, Vanderbilt, take all this property, and pay me for it as you make the money." This tempting offer was also declined, for he was unwilling to put himself under such an obligation to any one, although fully sensible of the great kindness that prompted it. Thus ended Vanderbilt's engagement with Mr. Gibbons, and soon after Mr. Gibbons sold out the line to other parties, finding that the life of it was gone.

Once again the Captain was now his own master. He had served a long time in a severe school to make himself thoroughly acquainted with the details and practical management of steam navigation. The next twenty years of his life we must pass over rapidly. During this period he built a very large number of steamboats, and established steamboat lines on the Hudson, the Sound, and elsewhere, in opposition to corporations and companies having a monopoly of the trade. His plan was always to build better and faster boats than his competitors, to run them at the lowest paying rates, and thus furnish passengers with the best and cheapest accommodations.

About the year 1850, the Nicaragua Transit Company was organized, and Mr. Vanderbilt chosen President. He personally superintended the examination of the navigable facilities of the San Juan River, in the furtherance of his desire to find a shorter route to California, and succeeded in mapping out and fixing the transit route from ocean to ocean. Steamships were sent round to the Pacific to run in the line from the harbor of San Juan del Sur to San Francisco, and soon the entire line was in efficient operation.

Under his management the route became a favorite one

with California travelers, and the price of passage from New York was reduced from $600 to $300.

In 1853 Vanderbilt sold his interest in this undertaking to the Transit Company. About this time he built his celebrated steamship the North Star. He had now became a man of great wealth. From the little boy of sixteen with his hundred-dollar sail-boat, he had gradually but surely crept up, accumulating and so using his accumulations that now his vessels plowed almost every sea, and his enterprising spirit was felt in every part of our country.

In the North Star he made a tour in Europe with his family, and everywhere his noble vessel, with her splendid appointments, elicited profound attention. The North Star was the first steamer with a beam-engine to cross the Atlantic.

In 1855 he established an independent line between New York and Havre, building several new steamships for the purpose; among these were the Ariel and the Vanderbilt. Subsequent to the building of the Vanderbilt, there was an exciting contest of speed between the boats of the different lines. The Arabia and Persia, of the Cunard, the Baltic and Atlantic, of the Collins, and the Vanderbilt of the Independent Line, were the competitors. Great interest was taken in the contest, as many will remember, but the Vanderbilt came out victorious, making the shortest time ever made, till then, by any steamer.

In the spring of 1862, when the Government needed immediately a large addition to its navy, to aid in carrying on its military operations (an occasion which many were too eager to turn to their own advantage at their country's expense), Commodore Vanderbilt illustrated the nature of his whole-souled patriotism by making a free gift of this splendid ship to the United States. A resolution of thanks was passed by Congress, and approved by

the President, for this present to the nation, January 28, 1864, and a gold medal forwarded to Mr. Vanderbilt in attestation of the event.

He has built and owned exclusively himself upward of one hundred steamboats and steamships, and has never had the misfortune to lose one of them by any accident. He has had extensive machine shops, where he made his own machinery, according to his own ideas, and his vessels have been generally built by days' work, under his constant supervision, and from plans entirely his own

His capital has not been confined to naval enterprises, but he has also interested himself in railroad matters. In 1865 he sold all that were left of his vessels, and transferred the greater portion of his wealth to railroads. He is now the largest railroad proprietor in the United States, and one of the two or three richest men of the Empire City. He has control of the Hudson River Railroad, the Harlem, the New York Central, the Lake Shore, and Michigan Southern, and much to do with many other lines. With his tremendous energy, breadth of plan, and practical judgment, he evidently would be master of the railroad system of America if he could live twenty years longer.

Commodore Vanderbilt owes his success in life to those qualities which distinguished him when a mere lad—perseverance, excellent judgment, and indefatigable industry. He was ever self-reliant and firm in the prosecution of his enterprises, taking care "to be sure that he was right" in the first place, and then "going ahead." Died Jan., 4, 1877.

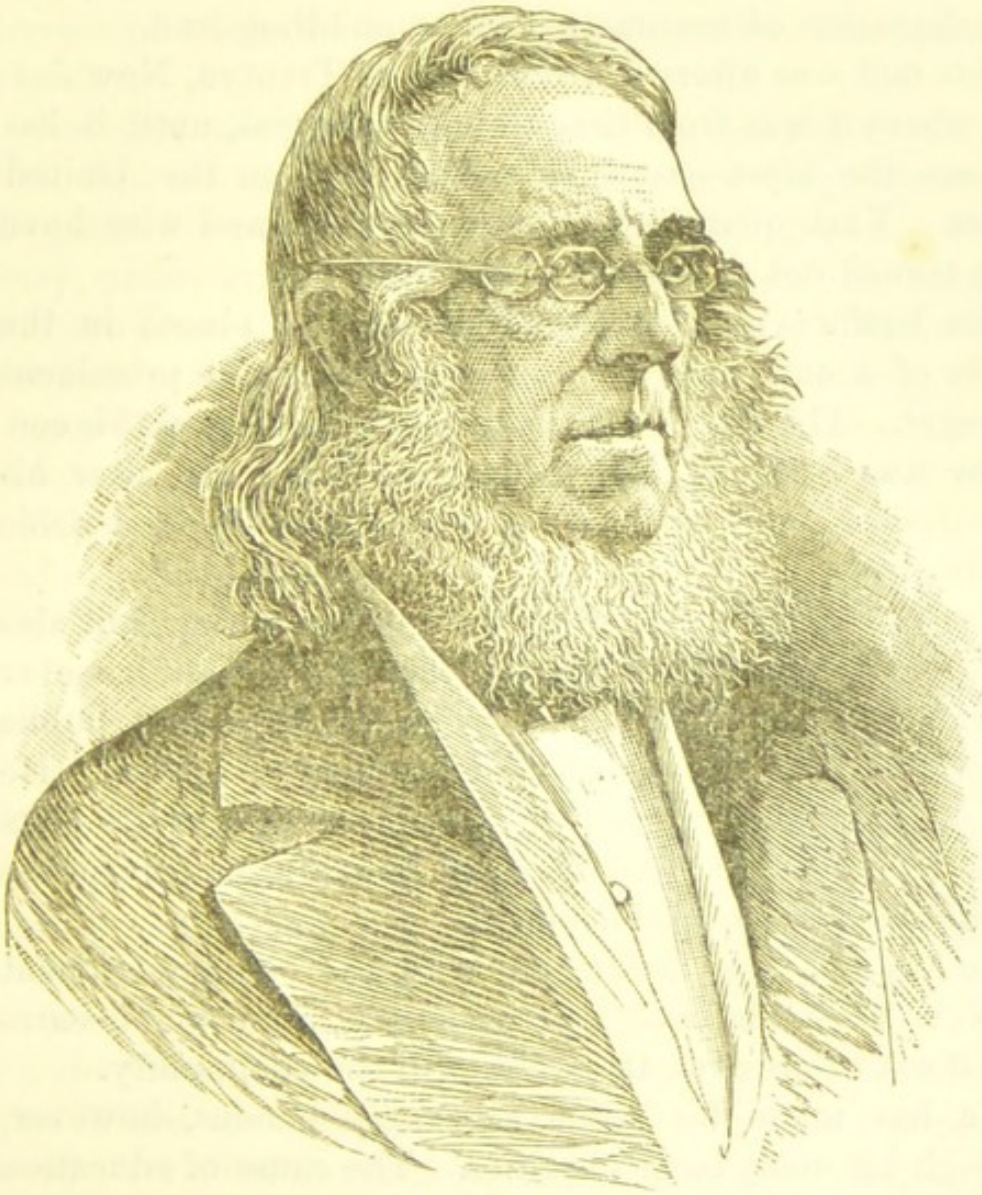
PETER COOPER.

There is no name better known in New York, or a face more familiar, than that of Peter Cooper. When he enters an audience room, and he never comes late, it is

the signal for a round of hearty applause. Every body seems willing to do him honor. He is a public benefactor, and there appears to be a general desire to show him personal respect and friendly recognition. Poor men and women know him; children point him out to their companions, and no one seems envious of his fame. If any man ever lived in the future, and saw, during life, the honor which the ages are to accord to him, we think Peter Cooper is that man. He did not wait until he could no longer hold his property, but wisely gave nearly a million dollars for the benefit of the unaided, struggling sons and daughters of poverty and genius. While in the vigor and wisdom of his ripened manhood he built the great monument of his generosity, the Cooper Institute; he now enjoys in the plentitude of wealth and honor the rare happiness of seeing his work prospering. Thousands have already been freely educated and gone forth to do the noble work of life, at once an evidence of the wisdom of the benefaction which has blessed, and will for ages continue to bless, those who receive its benefits.

This eminent philanthropist was born on the 12th of February, 1791. His father was a lieutenant in the Revolutionary army during the war for independence. The business of his father was that of a hat manufacturer; and in early youth Peter was employed in the business, and labored assiduously until he had attained the age of seventeen, when he was apprenticed to Mr. Joseph Wardwell, a coach-maker. In a few years he became skilled in this trade, and at the expiration of his apprenticeship, continued working as a journeyman until the opening of the war of 1812, when he abandoned coach-making for the manufacturing of machines for shearing cloth. The war taught us that we must make our own cloth, and this necessity called for invention and skill in producing machinery to do the work.

This last business he carried on successfully to the close of the war, and then entered into the manufacture of cabinet ware, which he subsequently quitted, and opened a grocery store. This business, however, he found to be



PETER COOPER.

rather out of his line, and he soon returned again to manufacturing. The department which now interested him was that of the preparation of glue and isinglass for the market, a business which he carries on at the present time.

He became interested, while yet a young man, in the development of the American iron interest. In 1830 he established extensive iron works near Baltimore; and afterward started a rolling and wire mill in the city of New York, where he made the first successful attempt at the adaptation of anthracite coal to puddling iron.

This mill was afterward removed to Trenton, New Jersey, where it was from time to time enlarged, until it has become the most extensive rolling mill in the United States. Vast quantities of railroad iron and wire have been turned out of this manufactory.

The business of this establishment was placed in the hands of a company, of which he became a prominent manager. The first locomotive in general use on this continent was built by Mr. Cooper, at Baltimore, after his own designs, and worked on the Baltimore and Ohio Railroad.

Having at heart not only the manufacturing, but also the scientific interest of his country, Mr. Cooper has ever prominently identified himself with all important public undertakings tending to the development of science. He was warmly interested in the electric telegraph from its earliest conception; and invested liberally in enterprises having in view its establishment.

He has also been associated with the city government of New York, and won a prominent position by his earnest efforts to promote the welfare of the community.

He has made his name especially famous, however, through his many large charities. The cause of education has ever found him a warm advocate. His sympathy in this matter finally culminated in the erection of a splendid building in the central part of New York city, at great cost, and devoting it to the free education of the working classes. His designs in this respect have been carried out, and thousands of worthy but needy youths have been ed

ucated in the higher branches of knowledge in the Cooper Institute. In connection with the educational advantages thus thrown open to the public, Mr. Cooper has established a large and neatly appointed reading-room, which is open to all comers, and contains a large and valuable collection of books, and the current periodical literature of the day.

Lectures are given and classes are taught in various branches of useful learning. There are large classes in English literature, mathematics, natural philosophy, chemistry, architectural drawing, free-hand drawing, mechanical drawing, phonography, and vocal music. There is an art school for women, in which modeling, drawing, wood-engraving, and telegraphy are taught. There are annually in attendance more than two thousand pupils. Free night schools are thronged, and also the public reading-room.



COOPER INSTITUTE.

The Cooper Institute may well be called the Free College for the Poor. The corner-stone of the structure was laid in 1854, and has celebrated its fourteenth academic year by the Commencement of 1873. On the ground floor of the edifice are handsome stores to rent, and the second story is rented for offices, and it contains, also, several small lecture-rooms, which are used by scientific associations and others. The stories above are devoted to purposes of instruction. Entirely below the sidewalk, in a deep basement, the great hall, or public lecture-room, is situated. It will seat over three thousand persons on a single terraced floor. It is warmed by steam, and ventil

ated by having warm or cool air, according to the season, forced, by means of machinery in the sub-cellar, up through numerous small holes in the floor, so that the air, no matter how great the crowd, is fresh and pure. The foul air is permitted to escape at openings constructed for the purpose. No stranger, in passing this great and now noted edifice, would imagine that below the level of the street, out of the way of all noise, there is one of the most airy and capacious audience-rooms in the city. Moreover, it is surprising how quick the audience will rush up the broad steps and empty the room. In going up stairs a brisk walk can be maintained, there being no trailing dresses in the way of those behind. As the structure is completely fire-proof, being composed entirely of stone, brick, and iron, no anxiety is ever felt by an audience on the subject of fire.

The building is of brown stone, and is a massive and commanding structure. It is wider at one end than the other, but averages 120 feet in width, and is 200 feet long, covering the entire block of ground bounded by Astor Place, Third and Fourth avenues, and Seventh Street, and being at the junction of Third and Fourth avenues, it stands directly at the head of the Bowery, and overlooks that broad avenue, thus having a most commanding aspect.

Mr. Cooper intends to bestow upon the Institute another million dollars, to endow it with extensive apparatus and museums of science and art, an increased library, and other facilities, which will require the entire building for purposes of education.

Mr. Cooper has several strong qualities of mind and character, viz., practical judgment and clearness of intellect; moral sentiment, including kindness, justice, and reverence; decided force and energy, great perseverance steady friendship, and an affectionate interest in the young and especially in the improvement and culture of woman.

HORACE GREELEY

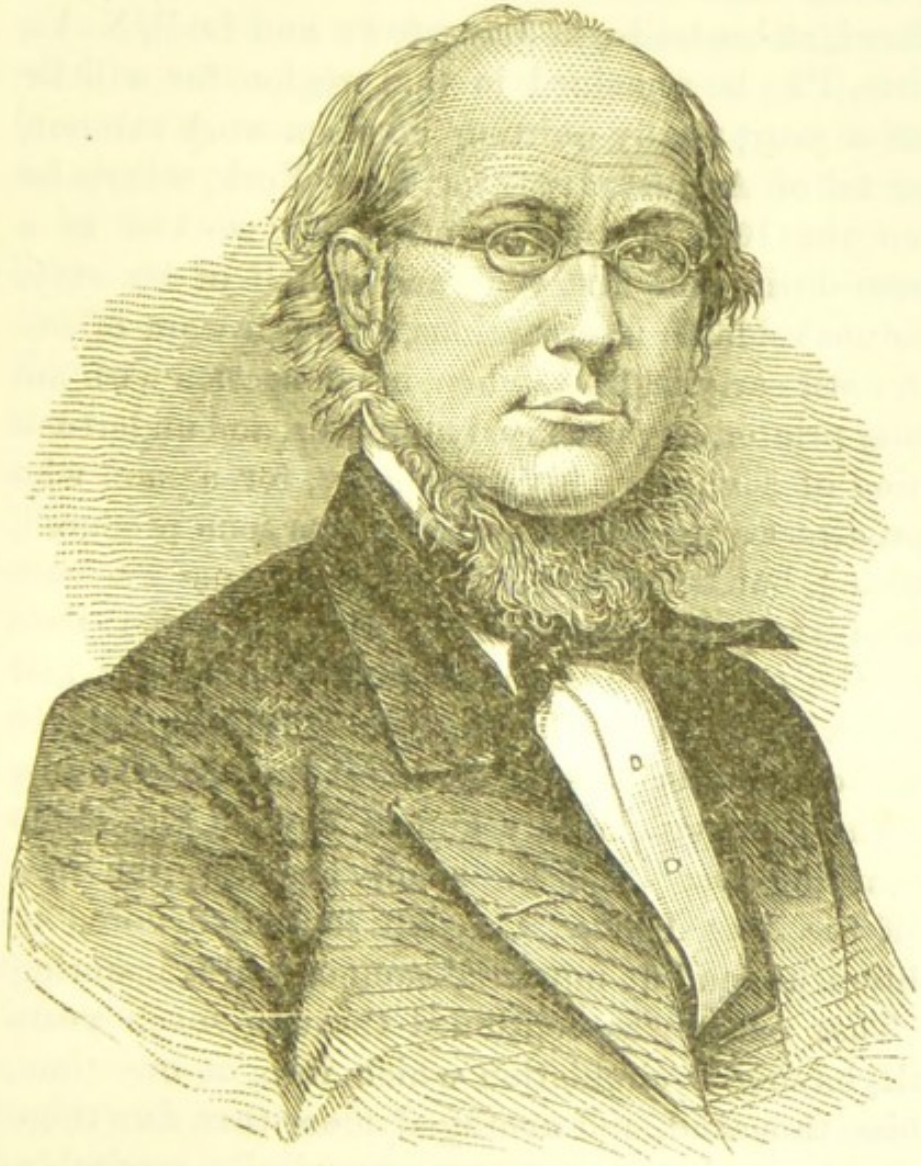
Was born at Amherst, N. H., February 3d, 1811, and was the oldest survivor of seven children, two having died before his birth. His father and mother were both born a few miles eastward of Amherst: the latter in Londonderry, of Scotch-Irish lineage (her maiden name Woodburn); the former in that town, or Pelham, of English extraction; but both families had long been settled in that region—the Woodburns since 1723. All his ancestors, so far as there exists any remembrance, were farmers. The subject of this sketch, when not quite three years of age, was taken to spend the winter in the family of his maternal grandfather, with whom he was an early favorite. After the novelty of his visit had worn off, he was sent to the district school, a few rods off, rather to diminish the trouble of looking after him in a large family of grown persons, than in the hope of his learning anything. But he had already been taught the alphabet, and the rapidity with which he passed from this to the first class in reading and spelling, was long a matter of vivid local remembrance, and even fabulous exaggeration. At four years of age he could read and spell creditably; at five he was esteemed at least equal, in those branches, to any one attending school. He continued at his grandfather's during most of the school months—usually six in each year—until six years old, the school in his father's district being two miles from the family dwelling. But he evinced no such faculty for learning higher branches. Grammar, commenced at five, was not fairly comprehended until eight, nor mastered until some time later; in geography proper (the relation of places to each other) he was not proficient, though the historical and other statistics intermingled therewith were easily

and rapidly assimilated; penmanship utterly defied all his exertions, and it was only when he came, some years later, to take up the elemental arithmetic of the common school that he found himself able to press forward with infantile celerity. He could not remember the time when he had not the multiplication table at command, and all the processes of school arithmetic seemed but obvious applications of, or deductions from, this. But his school days in summer ended with his seventh year, and in winter with his fourteenth, being much interrupted at earlier periods by the necessities of a life of poverty and labor. He never enjoyed the benefits of a day's teaching in any other than a rural common school, generally of two to four months each winter and summer, and these very far inferior to the schools of the present day, even in the least favored sections of New York and New England.

When not quite ten years of age, his father lost his little property in New Hampshire, and removed to Westhaven, Vermont, near the head of Lake Champlain, where he remained nearly six years. The first two were employed in land-clearing, upon contract, with the aid of his two sons; the next in a saw-mill, while the boys worked on a small, poor farm; the residue, in clearing and farming upon shares. During these, as before, our subject was favored with the loan of books and periodicals, by neighbors of ampler resources, and devoted very much of his spare time to reading, especially in the winter evenings, when the labors of the long days of summer, which so severely tax the sinews of a youth of ten or twelve years, had been succeeded by shorter days and lighter tasks.

At eleven years of age he made (at Whitehall, N. Y.) his first attempt to find employment as an apprentice to printing, which he had previously decided to follow as a vocation, but was rejected on account of his youth. Afterward, he could with difficulty be spared. When fifteen,

however, his father found himself enabled to make a long-meditated tour of observation westward, with a view to the removal of his family; and now the eldest son was permitted to gratify the cherished desire of his heart, by



HORACE GREELEY.

entering (April 18th, 1826), as an apprentice, the printing-office of the *Northern Spectator*, at East Poultney, Rutland County, Vermont. Here he remained more than four years, until late in June, 1830, when the paper was

discontinued. Meantime, his father and family had removed, in the fall of 1826, to Wayne, Erie County, Pa., where he visited them in 1827 and 1829, and whither he repaired, on quitting Poultney, in 1830. Working by spells on their rude wilderness farm, and, when opportunity offered, at his trade, in Jamestown and Lodi, N. Y., and in Erie, Pa., he remained in that region for a little more than a year, finally quitting it, when work ran out, about the 1st of August, 1831, for New York, where he arrived on the 16th of that month. He worked as a journeyman during the first year and a half of his stay, with some unavoidable interruptions, through want of employment, until early in 1833, when, in connection with another young printer, he purchased materials, and undertook the printing of a cheap daily newspaper, for a man who failed soon afterward. Other printing was soon procured, less promising, but better paid. His first partner was suddenly taken away by drowning, in July; another took his place; the concern was moderately prosperous; and in the following spring (March 22d, 1834) our subject issued, without subscribers, and almost without friends, in a city where he was hardly known beyond the circle of his boarding-house and his small business, the first number of the *New Yorker*, a weekly journal devoted to popular literature and an impartial summary of transpiring events. That paper was continued through seven years and a half, having a circulation which rose, at one time, to over nine thousand, and averaged more than five thousand throughout, but was never pecuniarily profitable, arising, in good part, to bad management in the publishing department. In September, 1841, it was merged in the weekly issue of the New York *Daily Tribune*, started as a daily on the 10th of April in that year. In the following autumn the *Weekly Tribune* was commenced, and with these journals his name has since been identified.

In 1848 he was elected to Congress to fill a vacancy and served in that body from December 1st of that year to March 4th, 1849, distinguishing himself chiefly by his endeavors to reform the abuses of the mileage system. As an editor and a lecturer he labored zealously to promote the welfare of the laboring classes, and was an earnest advocate of the rights and interests of the oppressed in our own nation and the world. As a journalist he had no superior in America, and perhaps not in the world.

In 1850 a volume of his lectures and essays was published under the title of "Hints Toward Reforms." In 1851 he made a voyage to Europe, and during his stay in England served as one of the jurymen at the Crystal Palace Exhibition. After his return he published a volume entitled "Glances at Europe." In 1856 he published a "History of the Struggle for Slavery Extension or Restriction in the United States from 1787 to 1856." In 1859 he made a visit to California, traveling thither by way of Kansas, Pike's Peak, and Utah. He was everywhere well received, and in the larger places of California was welcomed by the municipal authorities and citizens, whom he publicly addressed on politics, the Pacific Railroad, etc. He was the father of the Republican party, and after the nomination of Mr. Lincoln he did, perhaps, more than any other man to promote his election and to sustain his administration, and the war for the Union. Few men wielded a more vigorous pen, or dealt more searchingly with vicious and dishonest practices by public men, yet he was gentle and peaceable in his personal character.

Among his later writings are "What I Know About Farming;" a kind of autobiography entitled, "Recollections of a Busy Life;" and two large volumes, "The American Conflict," which is the most complete and satisfactory history of the great struggle that has been produced.

In 1872 he was nominated for the Presidency by the

"Liberal" party, consisting of a portion of the Republicans, and was adopted by the Democratic Convention as its candidate. But his support by that party was not very hearty or general, and he was defeated. The severity of the criticisms by the pictorial press, and by many of his former friends and associates, and the thought that his candidacy might have been an injury to the cause he had at heart were too much for his sensitive nature, and this, with the exhaustion incident to a long and bitter campaign, broke his health and his spirit, and in a state bordering on insanity he sank to rest November 29th, 1872.

His death at once cancelled every element of bitterness engendered by the just closed political campaign. The country mourned one of its greatest and best men. His was the most solemn and imposing civic funeral ever witnessed in New York. He lived for peace and human weal, and at his funeral, as well befitting the occasion, without musket or music, the silent and solemn cortege, without distinction of party or sect, paid tribute to his eminent worth by attending his remains to their resting-place, in Greenwood Cemetery.

Mr. Greeley was called eccentric. So, indeed, is nearly every person who has a strong and independent nature; but he was not half so singular as the public was made to believe. It was the easiest thing in the world for some half tipsy, witty, worthless Bohemian of the press to repeat "bran-bread," "cold water," "Communism," "old white hat," "greasy white great coat," as a characterization of the habits and appearance of a rival; and very natural for selfish opponents and thoughtless crowds to accept the picture as a grave indictment, worthy of tar, feathers, a rail, and the rope at the hands of sturdy, muscular regulators of public morals and private conscience. When those ribald utterances were carefully examined, they were found to mean, simply, the best and only proper

bread; the true God-given drink of the world; the co-operation of labor with conscience in the bond, as capital has ever co-operated with selfishness as its bond· a hat clean and often renewed, of a color allowed alike to minister and millionaire, when favored by fickle fashion; and an overcoat clean, costly, and of light color, the crime in respect to it being that its owner wore it as well when out of fashion as when in style.

So oft was that false picture of the man and his surroundings repeated, that the world accepted it as true, and deemed it odious. We have often pointed out Mr. Greeley to intelligent countrymen visiting New York, when they would start back with a look of incredulity and astonishment, and exclaim, "Where is the greasy old rig we have so often heard of? He seems to be one of the cleanest of men, though he carries himself a little awkwardly, and his clothes seem somewhat loose and unfitted."

He really dressed well, so soon as he was able. We have often seen him wearing a fine black suit, but there was always an air of negligée, especially in regard to his cravat, which he never could succeed in tying with a square knot, and sometimes it would get worked around so that the knot would be at the side, and as one corner would stick up and the other down, it gave an awkward appearance to his whole make-up. Then, as he was very near-sighted, he put his head forward and had a groping manner as he moved in society or strode with hasty steps along the street. Moreover, one leg of his trousers was occasionally seen at the top of his boot, and his coat collar rolled up at one side, as if the result of haste, carelessness, preoccupied thought, overwork, and near-sightedness. But he was clean to refinement, and was one of the most wholesome-looking of men. He was uncontaminated by liquor, tobacco, bad teeth, offensive breath, or dirty

nails; and of not one in a hundred of those who traduced and ridiculed him could so much be said.

In respect to the false picture so often drawn of him, Mr. Greeley once responded in his paper, saying that he "abhorred uncleanliness, and was unwilling to bear such a name; and if a thorough bath every morning in the year, and a clean shirt as often, could keep a man clean, he was not dirty."

In fact, his skin was fair, fine, and fresh as that of an infant, and every newspaper man in New York knew it, though many of them, for a questionable purpose, repeatedly avowed the contrary, and thus disseminated the stupid slander very widely. Mr. Greeley lived well and worked hard, but he sensibly avoided food which he deemed not good for him, and conscientiously refrained from the use of all stimulants. As an illustration of his temperance habits, the following fact will be in point Having attended a public banquet, he wrote an account of it for the next morning's *Tribune* before going home, in which he stated that "the Heidsick and Champagne flowed freely." When he reached the *Tribune* office the next morning, he found a group of his editors and reporters making merry over his account of the banquet. When he inquired the cause of their glee, he was informed that the wine was all Champagne, Heidsick being only the name of a particular brand of Champagne. "Is that so? I presume I am the only one about this office who would be likely to make such a mistake;" and he walked into his own room, doubtless thinking,

"Where ignorance is bliss, 'tis folly to be wise."

Another fact we happened to know at the time, but it has never been in print. Soon after Mr. Lincoln's election to the Presidency, Mr. Greeley received notice that a clerkship in the New York Custom House was at his dis-

posal. He wrote to a friend a few miles off tendering the place, but said he did not know its duties nor its emoluments. The friend called, and Mr. Greeley gave him a letter to the Collector as follows:

HON. HIRAM BARNEY—I hereby nominate the bearer, Henry Vail, to the position in the Custom House said to be at my disposal, and *if he steals anything, charge it to me.* HORACE GREELEY.

HORACE MANN, LL.D.

That eminent educator, the father of the common school system, and President of Antioch College, who really did more than any one man of his time for the present and future generations of America on the score of intellectual culture, departed this life at Yellow Springs, Ohio, August 2d, 1859.

He was born in the town of Franklin, Norfolk County, Massachusetts, May 4, 1796. His father, Thomas Mann, who was a farmer, died when Horace was thirteen years of age, leaving him little of this world's goods; but a better inheritance—the example of an upright life, virtuous inculcations, and an hereditary thirst for knowledge.

His father was a man of feeble health, and died of consumption. Horace inherited weak lungs, and from the age of twenty to thirty years he just skirted the fatal shores of that disease on which his father had been wrecked. This inherited weakness, accompanied by a high nervous temperament, and aggravated by a want of judicious physical training in early life, gave him a sensitiveness of organization and a keenness of susceptibility which nothing but the iron clamps of habitual self-restraint could ever have controlled. As the apostle of education, he has often illustrated the responsibilities of other teachers by the shortcomings of his own.

In a letter written to a friend, he said:

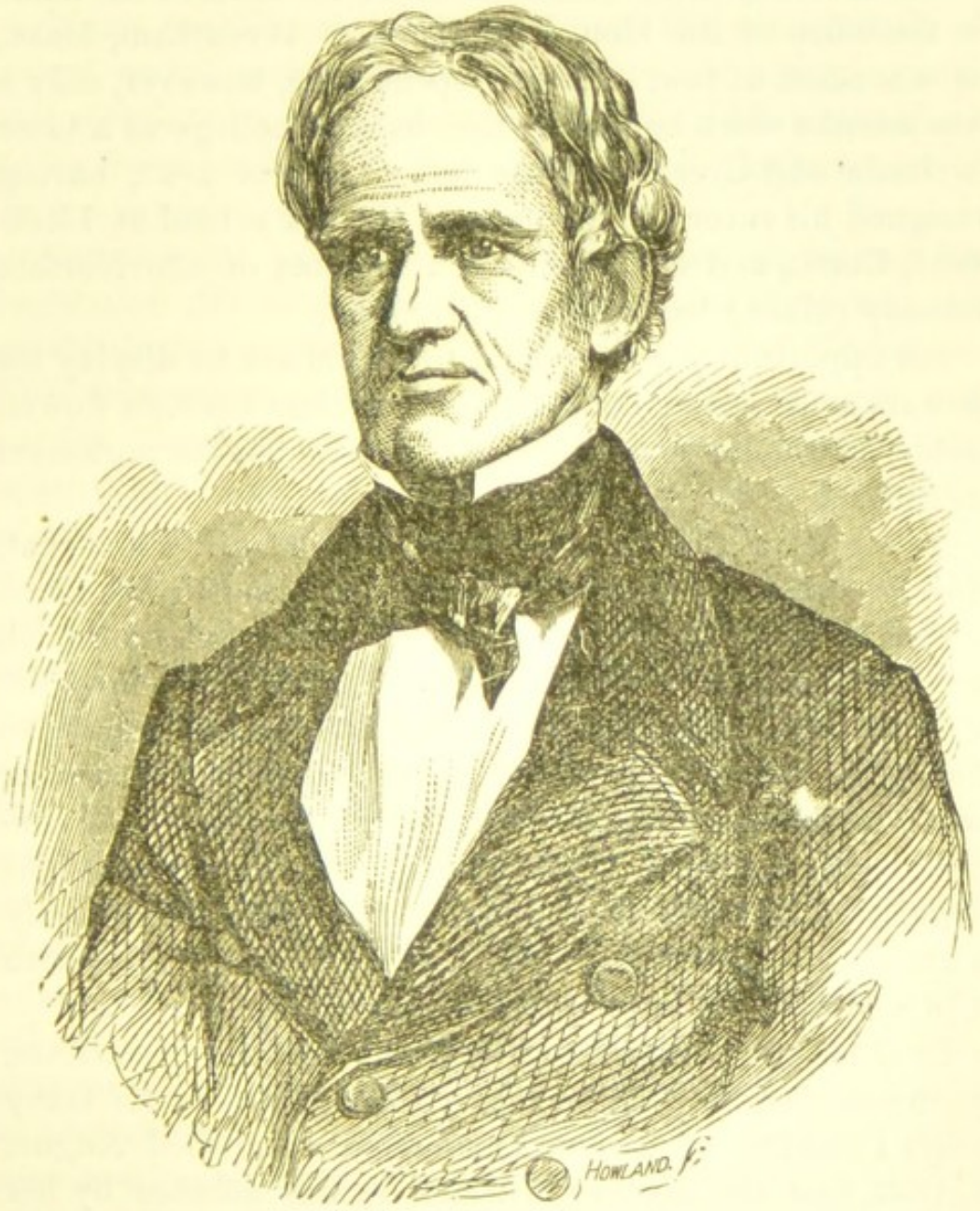
"I regard it as an irretrievable misfortune that my childhood was not a happy one. By nature I was exceedingly elastic and buoyant, but the poverty of my parents subjected me to continual privation. I believe in the rugged nursing of Toil, but she nursed me too much. In the winter time I was employed in in-door and sedentary occupations, which confined me too strictly; and in summer, when I could work on the farm, the labor was too severe, and often encroached upon the hours of sleep.

"As to my early habits, whatever may have been my shortcomings, I can still say that I have always been exempt from what may be called common vices. I was never intoxicated in my life—unless, perchance, with joy or anger. I never swore—indeed, profanity was always most disgusting and repulsive to me. And I consider it always a climax, I never used the 'vile weed' in any form. I early formed the resolution to be a slave to no habit. For the rest, my public life is almost as well known to others as to myself; and, as it commonly happens to public men, *others know my motives a great deal better than I do.*"

He entered the Sophomore class of Brown University, Providence, in September, 1816. Under the burning stimuli which entering upon new fields of knowledge supplied, he forgot all idea of bodily limitations to mental effort; and at the end of his first college year he found himself utterly prostrated by illness, from which neither the resuscitative energies of nature, nor all the care which his laborious life has allowed him to take, enabled him to recover. What strength he afterward possessed was only the salvage on a wreck.

He was a marked man among his young associates; marked and remembered for those peculiarities of character which have distinguished him ever since: first, bold and original thinking, which led him to investigate sub-

jects without veneration for anything but the truth and right that he found in them; second, a horror of cant and sham which made him attack, with invective and satire,



HORACE MANN.

all who resorted to them for selfish purposes. He saw not only Ten Commandments, but ten thousand. Hence the delicacy of his moral sense; hence his uniform and

stern purity of life; hence his uncompromising hostility to the impiousness and sin of immorality of any kind, or by whomsoever committed.

Immediately after commencement he entered his name in the office of the Hon. J. J. Fiske, of Wrentham, Mass., as a student at law. He had spent here, however, only a few months when he was invited back to college as a tutor in Latin and Greek. In the latter part of 1821, having resigned his tutorship, he entered the law school at Litchfield, Conn., and was admitted a member of the Norfolk County (Mass.) bar in December, 1823.

An opportunity was offered to Mr. Mann to display his powers as an advocate, and from that time business flowed to him in a more copious stream, until he left the profession in 1837.

We believe the records of the courts will show that, during the fourteen years of his forensic practice, he gained at least four out of five of all the contested cases in which he was engaged. The inflexible rule of his professional life was, never to undertake a case that he did not believe to be right. He held that an advocate loses his highest power when he loses the ever-conscious conviction that he is contending for the truth. He used to say that in this conscious conviction of right there was a magnetism, and he only wanted an opportunity to be *put in communication* with a jury in order to impregnate them with his own belief.

In 1830 Mr. Mann was married to Miss Charlotte, youngest daughter of the late Rev. Dr. Messer, for many years President of Brown University. She died August 1, 1832, and the manner in which he was affected by her death shows most strikingly the depth and strength of his affections. In 1843 he married Miss Mary Peabody, in whom he found not only a most affectionate and worthy companion, but an earnest assistant and sympathizer in all his educational labors.

In 1827 he was elected a representative to the Legislature of Massachusetts. Yet he was never a political partisan. He loved truth better than he loved any party. It is worthy of remark, that among all his speeches and writings, touching as they do almost the whole circle of moral, social, and economical subjects, not a single partisan speech or partisan newspaper article of his is anywhere to be found, and for the best of reasons, for he never made or wrote one.

But the act by which Mr. Mann most signalized his legislative life in the House of Representatives was the establishment of the State Lunatic Hospital of Worcester. This benevolent enterprise was conceived, sustained, and carried through the House by him alone, against the apathy and indifference of many, and the direct opposition of some prominent men.

He removed to Boston in 1833, and engaged in the practice of law. At the first election he was chosen a Senator from the county of Suffolk to the State Senate. By re-elections he was continued in the Senate for four years. In 1836 that body elected him its President; and again in 1837, in which year he retired from political life, to enter upon a new and more congenial sphere of labor, and in June, 1837, accepted the office of Secretary of the Board of Education of the State of Massachusetts.

Immediately on accepting the office he withdrew from all other professional and business engagements whatever, that no vocation but the new one might burden his hands or obtrude upon his contemplations. He resolved to be seen and known only as an educationist.

It is obvious, on a moment's reflection, that few works ever undertaken by man had relations so numerous, or touched society at so many points, and those so sensitive, as those in which Mr. Mann was now engaged.

Mr. Mann laid his hand upon the abuses to be corrected,

the deficiencies to be supplied, and the reforms to be be gun. His first report, and his first address or lecture, both written within the first six months after his appointment, foreshadowed everything that has since been accomplished. A holy chord of the public heart had been touched, and the contemplation of great principles enfranchised the mind from sordid motives. He followed up his victory. His object was to commit the State to great measures of reform and progress before the day of reaction should come. Extensive changes in the law were proposed and carried. Union schools were provided for. Above all, the Normal Schools were established, first under the plea of being an experiment; but long before that hold was released, they made a grasp upon the public good-will, by success achieved and benefits bestowed, which has now incorporated them among the permanent and most valued institutions of the State, and of many other States.

Of Mr. Mann's labors during the twelve years of his secretaryship it is difficult to speak without the appearance of exaggeration. Some of the products, however, are before us. He wrote twelve long Annual Reports, of one of which—the tenth—the *Edinburgh Review* says, "This volume is indeed a noble monument of a civilized people; and if America were sunk beneath the waves, would remain the fairest picture on record of an Ideal Commonwealth."

Well might he say, as he did in his Supplementary Report, in 1848, that "from the time when I accepted the secretaryship, in June, 1837, until May, 1848, when I tendered my resignation of it, I labored, in this cause, an average of not less than fifteen hours a day; that, from the beginning to the end of this period, I never took a day for relaxation, and that months and months together passed without my withdrawing a single evening from working hours to call upon a friend. My whole time was devoted,

if not wisely, yet continuously and cheerfully, to the great trust confided to my hands."

Of the results of these labors the educational world seems to have settled down into a clear and unanimous opinion. The labors were great, but they brought forth "an hundred-fold." Many of Mr. Mann's Reports have been republished in this country and in England. His opinions are cited as authority in the Legislatures of the Union, and in the British Parliament, and quoted in Reviews and in standard educational works. "It was my fortune," said the late Hon. Anson Burlingame, of Mass., in a public speech, "to be, some time since, in Guildhall, London, when a debate was going on. The question was, whether they should instruct their representative in favor of secular education. They voted they would not do it. But a gentleman rose and read some statistics from one of the Reports of Horace Mann. That extract reversed the vote in the Common Council of London. I never felt prouder of my country."

On the 23d of February, 1848, Mr. John Quincy Adams, who was a representative from the Congressional district in which Mr. Mann resided, died in the United States House of Representatives, which for almost twenty years had been the theater of his labors. A successor was to be chosen, but where should one be fouud? Mr. Mann was named, and at once the only question was, whether he would accept the offer if tendered.

As soon as elected, he tendered the resignation of his secretaryship to the Board.

In the ensuing November he was re-elected to Congress by an overwhelming majority, receiving eleven thousand out of about thirteen thousand votes, and was re-elected again in 1850, against two opposing candidates.

The principle of Mr. Mann's published works are the ten volumes (octavo) of his Common School Journal; a

compilation called Abstracts of the Massachusetts Schoo. Reform and Reports; his twelve Annual Reports as Secretary of the Board of Education; his volume of "Lectures on Education;" his "Thoughts for Young Men," a lecture of which some twenty thousand copies have been sold; two lectures on temperance, one addressed to the "poor and ignorant," the other to the "rich and educated;" two lectures on the Powers and Duties of Woman; Fourth of July orations, etc.

Harvard College honored herself by conferring the degree of Doctor of Laws on Mr. Mann. On the 15th of September, 1852, Mr. Mann was chosen President of Antioch College, a new institution, situated at Yellow Springs, Ohio. The trustees had voted that the college be opened on the first Wednesday of October, 1853. Thus from the day Mr. Mann entered public life, he was always elected or appointed to a new office before the time of his previous election or appointment had expired.

The peculiarities of the college over which Mr. Mann was called to preside were those for which, during the whole course of his life, he had shown the strongest affinity. It was founded on a most liberal basis as to denominational tenets. Those under whose auspices it was started take the Bible for their rule of faith and practice, rejecting all other creeds; they hold that the tree is known by its fruit, and, therefore, that Christian character and a Christian life are the true tests of Christian fellowship.

The institution was also founded to secure the realization of one of Mr. Mann's most cherished objects during his whole educational career—namely, to give to the female sex equal opportunities of education with those afforded to males.

THE LAST HOURS OF HORACE MANN.

A writer in the *Christian Register* gave the following interesting statement:

"On Monday morning (August 1st) I was allowed to visit him, and my first glance convinced me that the chances were against his recovery. On Tuesday, at five o'clock P.M., the great soul mounted from the fallen tower. I was with him constantly during the last thirty-six hours of his life, and I must say that I never saw the excellences of his character so fully revealed. All that was craggy, angular, and masculine had already died, and what remained was rich indeed. His real greatness never shone out more than in the death-hour. When he was told that he had but a few hours to live, his brain flashed up with all the glow of his best days, and he talked at least two hours in a strain of almost supra-mortal eloquence. The members of his family, students remaining here during the vacation, and many of his neighbors were called in at his request, and he had for each some word of warning or cheer. It was particularly noteworthy that his remarks to each person had some specific pertinency of adaptation.

"His ideas, and the language in which he clothed them, were really grand, and amazed us all to silence—nay, melted us all to tears. A signal sweetness and tenderness pervaded every word. Not often in one's lifetime does one have the privilege of witnessing so great a scene. I am forced to confess that I never before appreciated the softness of the core that this masculine heart contained."

LOUIS AGASSIZ.

The science of Natural History has received more illumination from the lips and pen of this profound scholar than from any other one man of the whole army of those "whose names are written on high" in the archives of science. Nature seems to have designed him for his task in giving him "a sound mind in a sound body." From his birth he seems to have inherited a strong constitution,

which he early improved by his constant exposure to the rough mountain air of his native land. In no other portion of our globe is there to be found such wild and romantic scenery as among the hills of Switzerland, and there, too, are the physical features of the race most perfectly developed. Beside all this, science, learning, and religion have for ages been cherished, liberalized, and encouraged among the fastnesses of those eternal hills.

There, in that invigorating atmosphere, Louis Agassiz drew in the first inspiration of his mortal existence—it was in the little town of Orbe, at Waatland, Switzerland, in the year 1807. His father was the intelligent and pious pastor to the church of the village, and young Louis was early taught the precepts of holy living. Almost in his infancy he exhibited the strongest love of knowledge. Before he was ten years of age he exhibited a decided predilection for the pursuit of natural history. He was never happier than in threading the intricate mazes of his mountain home, or in climbing those sharp acclivities in search of some new fern, or flower, or fossil, or other manifestation of his favorite study, while the finding of the least of these filled his soul with delight, amply repaying him for all the fatigue and labor he had undergone.

Pastor Agassiz had the sagacity to discover the rich germs of intellect in the soul of his brave boy, and he determined to use every means within his reach to bring them forth in their due proportions and richness. At the tender age of eleven he was sent to Biel, where was a celebrated gymnasium. The hardy methods of juvenile development practiced in that school were admirably adapted to the habits and tastes, as well as the *physique* of young Agassiz, and such was his proficiency that he was promoted to the Academy of Lausanne before he was fifteen. Here his unquenchable thirst for knowledge led to the severest application to his studies, and enabled him

to outstrip his fellow-students in the race for academic honors. About 1826 he was matriculated at the University of Zurich, where his modest bearing, the purity of his life, and the close application of his intellectual powers to



LOUIS AGASSIZ.

his studies won for him the respect and even the love of his tutors and fellow-students. Here he acquired that broad and deep foundation for his knowledge of medicine and the exact sciences which has made him a marked man

in these studies. Having graduated with the highest honors of the University, he entered the world-renowned schools of Munich and Heidelberg. Here he devoted himself, for the term of nearly three years, to the study of comparative anatomy and its kindred sciences, to no branch of which was he more devotedly given than to chemistry in all its wide and liberal range. It was from the latter of these institutions that he recieved the degree of Doctor of Medicine.

While pursuing his studies at Heidelberg, and after his graduation, he devoted himself with great zeal to the study of the natural history of the piscatory races. About this time the celebrated Martius asked and obtained his assistance in compiling and editing his famous work containing an account of the fishes, discovered by Spix, in the waters of Brazil. The arduous and delicate task of arranging and classifying the one hundred and sixteen species of fishes which Spix had discovered, fell entirely to the hands of our youthful student; yet so successfully was this work accomplished, that there has not yet occurred the necessity for a re-classification. Immediately on the conclusion of this great work, he wrote and published his "Natural History of the Fresh-Water Fishes of Europe," a work of great thoroughness, and which has become a text-book for students in this department of science. Nearly in conjunction with this, his untiring pen gave to the world his "Researches on Fossil Fishes," and his "Descriptions of Echinodermes;" themselves a rich library of scientific knowledge. It was wonderful to behold the amount of literary labor of which he was capable. He seems to have been possessed of powers of mental endurance which were actually incapable of fatigue or ennui. No sooner was one work accomplished, than with a spirit refreshed, rather than wearied with past tasks, he entered upon his new labors with a zeal which knew no bounds or satiety.

While engaged in these works a friend sent him a fish-scale, of peculiar shape, which had been exhumed from the chalk formations beneath the city of Paris. It had once belonged to a race of fishes now extinct, and this was the only available testimonial which had come to the hands of any scholar. Nothing daunted, Agassiz set to work to give from these slender materials the exact position and relation of this antediluvian among his tribes. He first drew a profile of the extinct fish, placing the acquired scale in its proper place, and then gave it a name and described its habits, etc. He then sent the drawing, together with the description, to the *Journal of Arts and Sciences*, then, as now, issued at Paris, where it was published at length. Five years subsequent to this publication, in which Agassiz had risked his reputation, his friend fortunately discovered a perfect fossil specimen of the defunct race of fishes, and sent it for his inspection. Upon examination, so accurately had he made his drawing, not a single line had to be altered.

Professor Agassiz has not been a mere student of the outward world; he has "looked through nature up to nature's God." From all his scientific researches he has resolved, to his own satisfaction, several of the popular questions of theology prevalent in the world. About thirty years since he gave the world his famous work, "Study of the Glaciers." The religious and scientific schools were startled by the views advanced by this astute savan, and the whole literary world was filled with the controversy which they evoked. The modesty with which he threw these opinions before the world has only been equaled by the bearing and courage with which he has constantly maintained and defended them.

Mr. Agassiz studied with great care the historical record of the world, and made himself familiar with the political constitutions of the various countries of mankind, and their

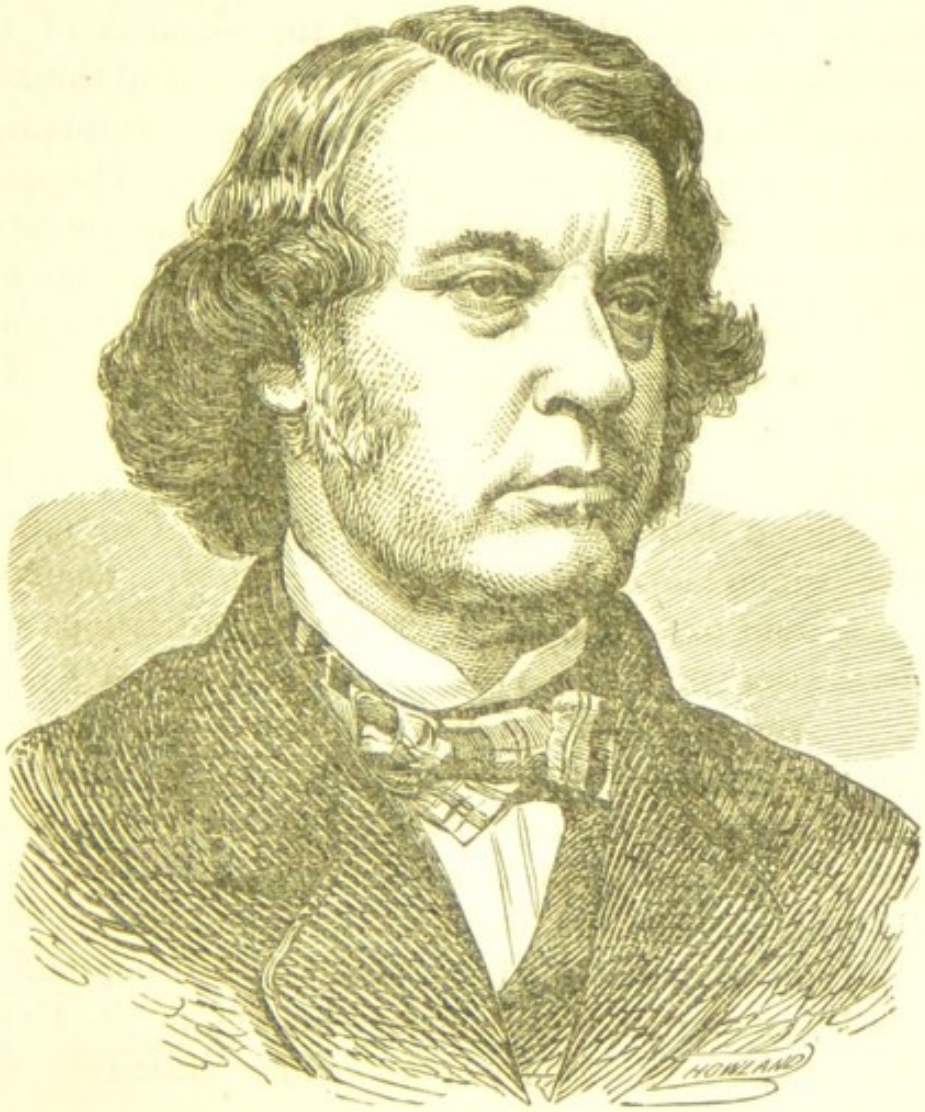
practical workings with the respective nations among which they have been cherished. After long and impartial examination, he decided in favor of the government of the United States, and resolved to become a loving and obedient subject of the same. Accordingly, some thirty years since, he took up his residence with us, becoming a naturalized citizen. Immediately on reaching our shores his indefatigable spirit set to work to examine the physical features of our widely-spread country. He explored the land and the waters all along the coast of our seaboard, from the farther shores of Lake Superior to the Atlantic, and from the sunny shores of the Pacific to the waters of the Passamaquoddy. At this time he was called, by the University of Cambridge, Massachusetts, to the chair of Natural Philosophy, which he occupied until his lamented death, which occurred December 14, 1873.

But, after all, it is the *morale* of the man that renders him a favorite in all the circles of his acquaintance. Modest, affable to his inferiors, and respectful to his compeers, his society was eagerly sought and cordially cherished by all whose opportunities brought them in contact with his gigantic intellect and gentle, childlike nature. His history is one which every youth of our land should study, and whose pure character he should strive to emulate.

CHARLES SUMNER.

This distinguished Senator was born in Boston, Mass., Jan. 6, 1811. In person he is of commanding presence, with a tall figure and dignified bearing which would awaken attention and command respect in any assembly. His brain, as a whole, including the intellectual lobe, is decidedly large—exceeding twenty-three inches in circumference—and the organs of Firmness, Self-Esteem, Approbativeness, Conscientiousness, and Combativeness are con

spicuous. He is a natural critic, proud-spirited, self-relying, upright, tenacious, persevering, and courageous. As an earnest and conscientious champion of the equal rights of man, Charles Sumner has had our respect and admiration. Born to wealth and eminent social rank, he might have



CHARLES SUMNER.

assumed an aristocratic position, but he adopted the cause of the poor and oppressed, and has spent the strength of his manhood, and brought the wealth of his learning and talent to defend the cause of the weak and unpopular.

Many of the most important measures which have been

put in operation by the general Government for many years, have owed their successful introduction wholly or in great part to the efforts of Sumner. He has also been for years the recognized mouthpiece, on the floor of the Senate, of American sentiment with reference to our rights and privileges as a nation at home and abroad. Perhaps he has, at times, exhibited more of the ultraism of the theorist than of the conservativism of the practical thinker; but his spirit has contributed in no small degree to advance and ennoble the character of our civilization. The qualities of the man are indicated by those of his ancestry, some account of whom we compile from various sources.

The grandfather of Senator Sumner, Major Job Sumner, was a native of Milton, Massachusetts. He entered Harvard College in 1774, but when, after the battle of Lexington, the students were dispersed and the college edifice was converted into barracks, he joined the Continental army, in which he continued until peace was declared. He was second in command of the American troops who took possession of New York on its evacuation by the British, November 25, 1783, and was also second in command of the battalion of light infantry which rendered to General Washington the last respects of the Revolutionary army, when, on the 4th of December, 1783, at New York city, he took leave of his brother-officers and comrades-in-arms. Major Sumner died on the 16th of September, 1789, and was buried, with military honors, in St. Paul's churchyard, New York city. Alexander Hamilton was one of the pall-bearers at his funeral.

Charles Pinckney Sumner was the only son of the foregoing, and the father of the present Senator from Massachusetts. He graduated at Harvard College with distinguished honor in 1796, and studied law under the guidance of the Hon. Josiah Quincy; and though he never rose to extensive practice, he acquired a reputation for the

accuracy and extent of his legal lore. He early attached himself to the Democratic party, and was, throughout, a firm and consistent advocate of its principles. Through life he was characterized by the ripeness of his scholarship, his integrity, and the ease and grace of his deportment. He was often styled the "best-mannered man in Boston."

Charles Sumner received his early education at the Boston Latin School, was graduated with brilliant reputation at Harvard University in the year 1830, and soon after commenced his professional studies at the Law School in Cambridge. He was a favorite pupil of the late Justice Story, and at his instance was appointed editor of the *American Jurist*. Admitted to the Boston bar in 1834, he was at once recognized as a young man of rare legal erudition, of singular devotion to study, and of elegant classical attainments. During the absence of Professors Greenleaf and Story he lectured, at the request of the Faculty, for three successive winters, to the classes in the Cambridge Law School. He won golden opinions from the students who enjoyed his instructions, and enlarged the basis of his professional reputation.

Deciding to devote some years to the study of European institutions, he sailed for England in 1837. He was speedily introduced to the best circles of society, was received with marked distinction by the members of the bar and the bench, and was admitted to a degree of familiar intercourse with the highest intellectual classes, at that time rarely enjoyed by private gentlemen from this country. He remained abroad for three years, and upon his return again occupied the chair at the Cambridge Law School, and after the death of Justice Story, in 1845, was unanimously pointed out by public opinion as his successor. He was disinclined, however, to the office, and accordingly the appointment was not made.

Though decided in his political opinions, Mr. Sumner abstained from all active participation in the politics of the day, until the movement for the annexation of Texas. Although his tastes and habits were averse to public office, he consented to become a candidate for the United States Senate as successor to Daniel Webster, and was elected to that post in 1851.

His first important speech was upon the Fugitive Slave Act, and in it he argued that Congress had no power to legislate for the rendition of fugitive slaves.

In the debate on the repeal of the Missouri Compromise, and on the Kansas outrages, which took place at the session of 1856, Mr. Sumner was one of the most prominent speakers. Some passages of an elaborate speech which he pronounced on the situation of affairs in Kansas so irritated the members of Congress from South Carolina, that one of them, Preston S. Brooks, assaulted Mr. Sumner with a cane, during the recess of the Senate, while he was alone writing at his desk, and continued to strike him on he head until the Senator fell insensible to the floor. This brutal and unparalleled outrage, not only against common decency, but upon the order and dignity of a national assembly, created an immense excitement throughout the whole country, and had a most powerful effect upon the action of Congress with reference to those measures affecting the interests of slavery.

For over three years following it he was almost disabled from attending to matters of public business. Two years were spent in Europe under medical treatment. When he appeared on the floor of the Senate in 1860, he resumed with even more ardor than before his hostility to slavery. He took an active part in the Presidential con test of that year, advocating the election of Lincoln.

During the late war he was generally found in the front rank of those who urged strong measures in the conduct

of military operations. As Chairman of the Senate Committee on Foreign Relations, which position he held for ten years, he strongly urged the claims of the United States against Great Britain. With reference to the "Alabama Claims," his stand was conspicuous for its patriotic earnestness. As an orator, he has been pronounced one of the most brilliant of the day, and as an exponent of American ideas his career has been as honorable as it is conspicuous. He died in Washington, March 11th, 1874.

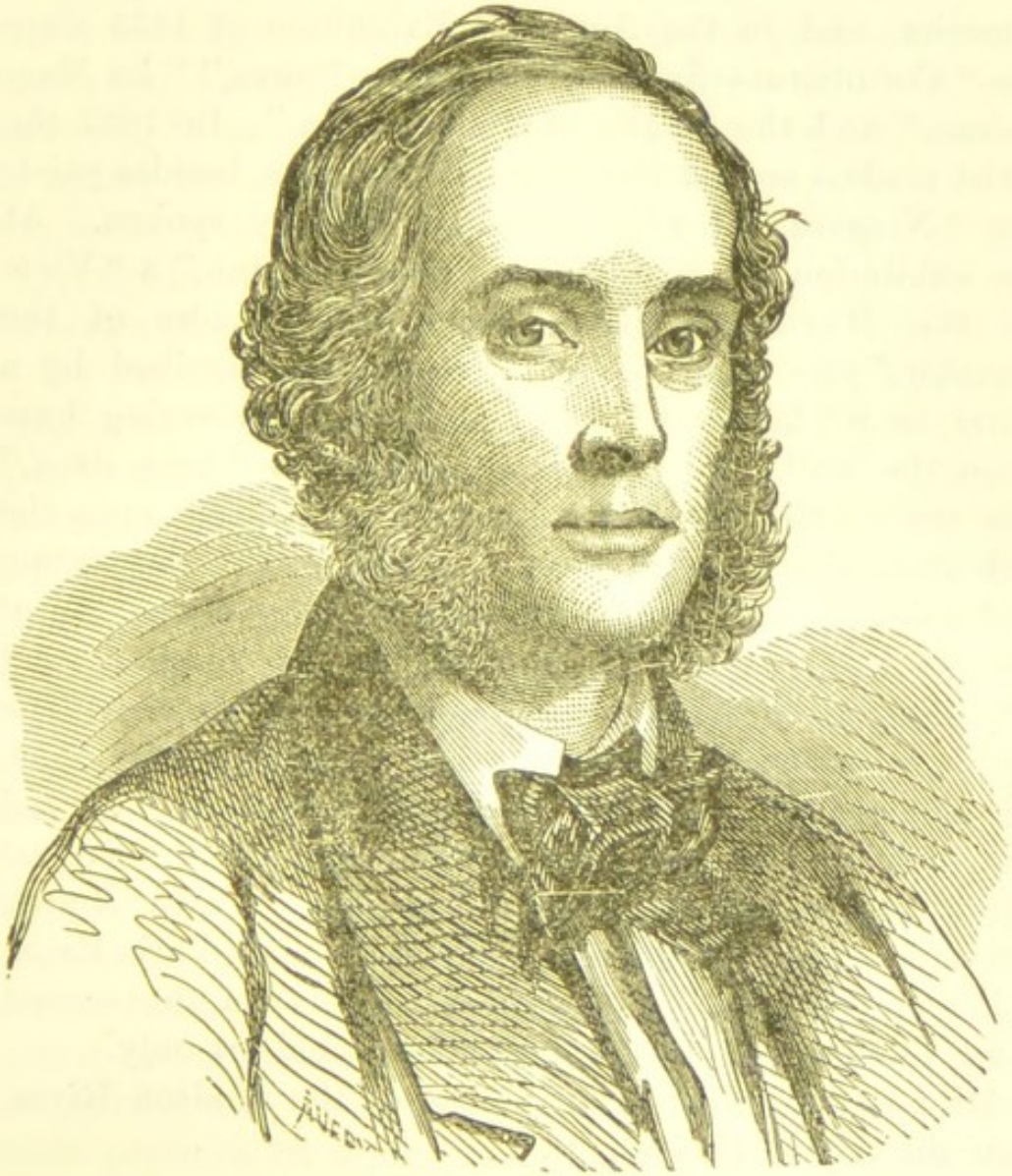
FREDERICK EDWIN CHURCH.

Among the men who have shed luster on the American name by the possession of talent and genius, aided by patient study and careful, persistent labor, Frederick E. Church deserves a place. If he had painted but the single picture with which his name is so familiarly associated, his truthful representation of that indescribable wonder of the world, Niagara, would have made him famous. Scenes which are so common as to leave on the mind a definite impression are easily reproduced by words; but the majestic and solitary Niagara must be seen long and familiarly before the words of description convey to the hearer any satisfactory meaning. One who has not seen it has nothing in the mind which gives significance to words of description—moreover, language was not made in the presence of such scenery, and fails to meet such a want. The brush of the artist must fix the rolling flood, as Church has done, with a fidelity which makes the beholder fancy he sees the waters move and hears their ceaseless voices; then, and not till then, the reality of the great presence is felt.

Mr. Church was born in Hartford, Conn., May, 1826. When nineteen years old he was placed as a pupil under Cole, the well-known author of "The Voyage of Life,"

who was then living at Catskill, N. Y. His early works show great accuracy in drawing, a patient regard to detail and brilliancy of color, which qualities, together with an unusual felicity of subject, soon gained for his pictures a ready sale and admittance to the galleries of the Academy of Design and Art Union. Mr. Cole often said of his pupil that "he had the finest eye in the world for drawing." That he had marked natural gifts is certain, but he never failed to improve his opportunities for study and practice. His life had been divided between almost incessant work at his home in New York and sketching excursions to Maine, Labrador, the West Indies, and the Gulf country of South America, not forgetting the beautiful scenery of his own State. His famous picture of the Falls of Niagara, produced in 1857, secured at once an extended popularity. He was himself made aware, in a somewhat grotesque way, of the general approbation respecting it. A short time after its exhibition he went to the Falls, and made some further sketches of different points, and while thus engaged, one of a party of loiterers, seeing him at work, ventured to inspect his sketch. The self-appointed critic scrutinized the paper, and then, with an air of mingled contempt and pity, exclaimed, "Pshaw! you ought to see Church's Niagara." "I painted it," was the modest and smiling reply. The poor critic would fain have buried himself amid the whirl of Niagara just then. The European critics declared that "Niagara" gave them an entirely new and higher view both of American nature and art. Ruskin bestowed upon it the highest praise, and, to use the words of the English critics, "in the rush of waters and the fine atmospheric effects it realized the idea of sound as well as motion." Before this, Church had painted several other admirable works, among which we may mention "A Scene on Catskill Creek" (1847), "Rutland Falls, Vt." (1848), "Above the Clouds

—Sunrise," "The Plague of Darkness," "Evening After a Storm" (1849). In that year he was elected by the National Academy of Design a full academician, an honor seldom, if ever accorded to one so young. In 1850 he



FREDERICK EDWIN CHURCH.

produced a large twilight scene, called "Short Arbiter 'twixt Day and Night," and "Ira Mountains, Vt." In 1851 followed "Deluge," "Beacon Light off Mount Desert," and "New England Scenery." These pictures at

once placed him among the foremost of American artists. The last picture mentioned was sold at the disruption of the Art Union, in December, 1852, for $1,300—at that time an unprecedented price for any landscape painting. In 1854 he visited the mountains of New Grenada, South America, and in the Academy Exhibition of 1855 were the "Cordilleras—Sunrise," "Tamaca Palms," "La Magdalena," and the "Falls of Tequendama." In 1857 the artist made a second visit to South America, besides painting "Niagara," of which we have already spoken. At the exhibition of 1857 he exhibited "Autumn," a "View on the Magdalena River," and the "Andes of the Equator," one of his finest color pieces, described by a critic as a "landscape which seemed a quivering haze upon the wall. It was a representation of heat itself." The years 1858 and 1859 were principally spent upon the "Heart of the Andes," a picture of the utmost elaboration and splendor, and one of the most extensively known of his pictures. After "A Morning in the Tropics" and "Twilight in the Wilderness," in 1861 he produced "The Icebergs," from sketches made in the summer of 1859, when the artist chartered a small schooner and cruised among the ice islands. This picture commanded universal admiration and the highest critical tributes. Mr. Church finished a second "Niagara" in time for the Paris Exposition of 1867, and was awarded a medal of the second class, the first being reserved for historical art only.

Mr. Church resides on the bank of the Hudson River, near the city of Hudson, N. Y.

SAMUEL FINLEY BREESE MORSE

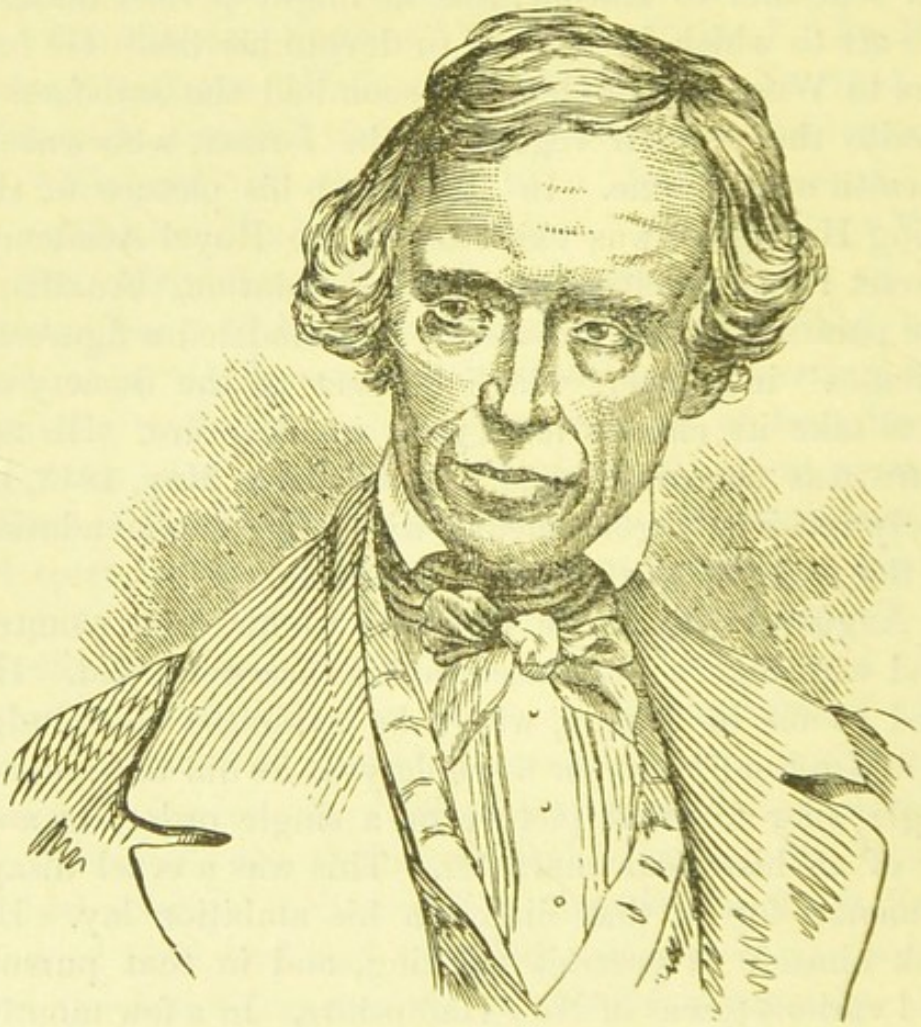
Was the oldest son of the Rev. Jedediah Morse, D.D., the author of Morse's *Geography*, a school-book universally known. He was born at Charlestown, Massachusetts, on

the 27th of April, 1791. His mother was a Miss Breese, a descendant of the Rev. Samuel Finley, D.D., a former President of Princeton College.

Young Morse had a passion for painting so strong that, in 1811, soon after graduating from Yale College, his father sent him to Europe, that he might perfect himself in the art to which he desired to devote his life. He had letters to West and Copley, and soon had the satisfaction to excite the peculiar regard of the former, who was in the zenith of his fame. In May, 1813, his picture of the "Dying Hercules" was exhibited at the Royal Academy, Somerset House, eliciting much commendation. Auxiliary to the painting of this picture, he had modeled a figure of "Hercules" in plaster, which he sent to the Society of Arts to take its chance for a prize in sculpture. His adventure was successful, and, on the 13th May, 1813, he publicly received a gold medal, with high commendation from the Duke of Norfolk, then presiding.

In August, 1815, Morse returned to his own country flushed with high hopes, based on his success abroad. He opened rooms in Boston, where he exhibited his "Judgment of Jupiter;" but for a whole year he did not receive a single offer for that picture or a single order for any other of an historical character. This was a cruel disappointment; for in that direction his ambition lay. He betook himself to portrait painting, and in that pursuit visited various towns in New Hampshire. In a few months he returned with considerable money, acquired by painting small portraits at fifteen dollars each. On that trip he became acquained with Miss Walker, whom he afterward married. He also fell in with a Southern gentleman, who assured him that he could get abundant employment in the South at quadruple prices. He went to Charleston, and stopped with an uncle who resided there, and though for a time his prospects were gloomy, a portrait of his

uncle finally attracted so much attention that orders at sixty dollars each came in much faster than he could execute them. With three thousand dollars in hand, and a number of large engagements, he returned to New England and married Miss Walker. For four successive winters



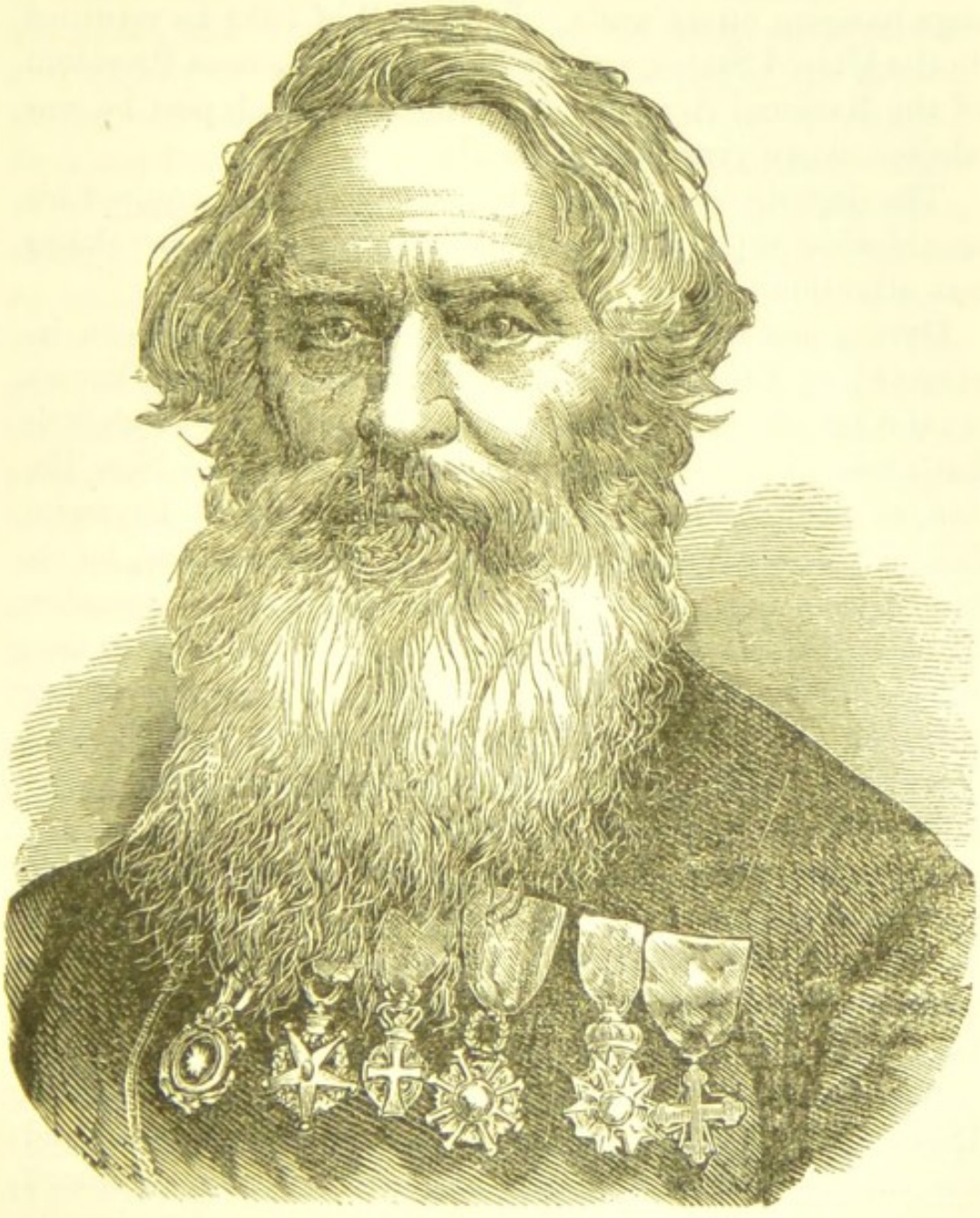
PROF. S. F. B. MORSE,

At the age of forty-four, when he had completed his great invention.

he returned to Charleston for the practice of his art, where he was not only successful, but was respected and beloved.

In 1825 he was bereaved by the sudden death of his wife. He now made New York his place of residence. In the fall of 1825 he was active in organizing a drawing

association, which constituted the germ of the "National Academy of Design," of which he was President for many years after its organization.



PROF. S. F. B. MORSE, AT EIGHTY.

In 1827 he delivered, before the New York Athenæum, the first course of lectures on the fine arts ever delivered in America.

In 1829 he again visited Europe, spending three years among the artists and collections of art in England, Italy, and France. In Paris, he painted the interior of the Louvre, copying in miniature the most remarkable paintings hanging on its walls. In the fall of 1832 he returned to the United States, and resumed his position as President of the National Academy of Design, to which post he was elected every year during his absence.

The department of activity in which Morse acquired his world-wide reputation — electro-magnetism — now claims our attention.

During his collegiate course at Yale he had been instructed by Professor Silliman in all that was then known on the subject of electricity and the formation of electric batteries. During the residence of his family at New Haven, or about 1824, enjoying the friendship of Professor Silliman, and having free access to his laboratory, he obtained from those sources full information of the progress of electrical discovery and science from 1810 up to that time. In the winter of 1826–7 he attended a series of lectures on electricity, delivered by Professor Dana in New York, and there saw the first electro-magnet which probably ever was exhibited in America.

Thus far, Morse had felt no other interest in electric science than that of a lively curiosity. During his voyage from Europe, in 1832, circumstances occurred which awakened new thoughts, and opened a new path to distinction. On board the packet-ship Sully, in which he embarked, he met with Dr. C. T. Jackson, of Boston, Hon. William C. Rives, of Virginia, J. Francis Fisher, of Philadelphia, and several other intelligent men. The conversation embraced a great variety of topics, among which recent experiments in galvanism and electro-magnetism had a prominent place. Statements made by Dr. Jackson in relation to certain results he had recently witnessed in France suggested to

Professor Morse the idea that either the electro-chemica or electro-magnetic effect of the current might be used to make permanent marks at great distances so varied as to communicate ideas. The project took full possession of his mind, and was the subject of his daily conversation and nightly dreams. He found the shapes of the Roman letters and Arabic figures, being composed of straight lines and irregular angles and curves, ill suited to be made at a distance by any simple machinery. He therefore changed their forms, making them of a straight line cut up into dots and dashes, and his letters and figures were made up of various combinations of these elements. This part of his invention was substantially matured on board the Sully, and drawn out in a sketch-book. He had also prepared and drawn out in the same book a form of apparatus to make the letters and figures by the electro-chemical process, upon prepared paper, passing under the end of a wire or stylus, through which the electric current derived from the distant battery should be made to pass. He had also devised a species of types to be used in breaking and closing the circuit, and giving greater or less duration to the current, as might be required to make a dash or a dot. It was agreed between him and Dr. Jackson that the latter, who had a laboratory, should try a series of experiments, to determine what chemical solution was best adapted to the purpose.

So engrossed was the mind of Professor Morse with this project, that immediately after passing salutations with his brothers on landing at New York, he mentioned it to them, and immediately set himself at work to cast the type intended for the breaking and closing of the circuit, preparatory to the construction of the other machinery. But Dr. Jackson failed to make the promised experiments, and Professor Morse, suffering under the blight of pov erty, had no funds to purchase the necessary material,

and was obliged to resort to his pencil for the means of subsistence.

Far from relinquishing his great project, it was the subject of constant thought; and, hearing nothing from Dr. Jackson, he devised a plan for making his letters and figures by electro-magnetism.

In 1835 Morse was appointed a professor in the University of New York. Having a room in the University, he constructed, of rude materials, a miniature telegraph, embracing all the elements of an electro-magnetic telegraph, composed of a single circuit, which he afterward patented. This was shown to a few friends before the close of 1835. In 1832 his friend Dr. Gale had been appointed a professor in the same University. To him Professor Morse showed his instrument and disclosed all his plans. That an effective telegraph could be made on a very short circuit there was no doubt; but experiments indicated that the magnetic influence of the electric current rapidly diminished as the length of the circuit was extended, so as to make it uncertain at what distance sufficient power to make a mark, or even produce motion, could be obtained. Morse conceived a plan by which he could mark at any distance where he could produce motion. This was by employing the motion obtained upon a first circuit to break and close a second, which might be made as short as necessary to obtain marking power. But the idea did not stop there; it contemplated the use of the second circuit to close and break a third, and so on indefinitely. The obvious inconveniences of this plan, so far as the recording is concerned, are obviated by the introduction of the local circuits. Instead of shortening the main circuits, so that the power of their batteries shall be sufficient to record on all parts of the circuits, they may be extended as far as motion can be obtained, and this motion is used to break and close a local circuit wherever a station may be wanted. At first, the

recording apparatus was only a register worked by an electro-magnet in the main circuit. Now, the recording apparatus consists of a local battery and circuit, a register magnet and register, called into action by an electro-magnet in the main circuit.

Professor Morse's merits as an inventor have been severely criticised, and attempts have been made to confine them to very narrow limits. What they really are is now pretty well established, as may be seen from the following facts, which are very interesting in the history of the telegraph:

In 1819 Oersted discovered that a current of electricity, passing on a conductor, would deflect the magnetic needle when brought near it. This was the discovery of electro-magnetism. In 1810 Schwieger conceived that if the current was made to pass many times around the needle by means of a coil of insulated wire, it would increase the force of the deflection. On trial the result was as he expected. This coil is called "Schwieger's Multiplier." In 1825 Sturgeon conceived that if the electric current were sent through a wire coiled around a piece of iron, it would produce magnetism in the iron. He tried the experiment by insulating a round bar of iron, winding a naked wire spirally around it, and passing a current through the wire. The iron became magnetic. This was the invention of the electro-magnet.

About 1830 Professor Henry conceived that if Schweiger's multiplier were applied to Sturgeon's electro-magnet, it would much increase its magnetic force. He wound insulated wire around the naked iron bar, making many turns, and, passing the current through it, found the result to be as he expected.

A variety of batteries had been invented, but one thing was yet wanting; that was, some means of renewing the magnetic force of the electric current before it becomes

entirely exhausted by reason of the length of the circuit. That desideratum Professor Morse supplied by his combined circuits. This, with his alphabet and the new mechanism employed by him, constitutes Morse's invention; and these, in combination with the new result produced by him, are all he claimed.

Foreign countries have done honor to the American inventor. A telegraphic convention of the German States, of which Professor Steinheil was the leading spirit, recommending Morse's invention in preference to his own, adopted it for general use throughout Germany. He has received honorary testimonials from the Sultan of Turkey, the kings of Prussia, Wurtemburg, Italy, Portugal and Denmark, the Legion of Honor from the Emperor of France, Knight Commander of the Order of Isabella from the Queen of Spain, while the French Academy and the most distinguished *savans* in France and England concede his merits.

Professor Morse prosecuted his experiments and researches in electro-magnetism with all the ardor of his nervous character, foregoing, to a great extent, even the practice of his art, upon which he depended chiefly for support.

The invention of the magnetic telegraph was completed by Professor Morse in 1835, but improved by him afterward. In 1838 he petitioned Congress for means to construct an experimental line from Washington to Baltimore. Though men saw the apparatus work, and messages were sent through its short wires, many were skeptical as to its power to work at any considerable distance, and the majority, as it usually treats its greatest benefactors in every age, ridiculed the whole project as the fanciful dream of an unsound or misled mind. He turned to foreign countries and could obtain, even in England and France, no substantial guarantees, at that time, under their

patent laws, and he came home to battle for four weary poverty-stricken years, not discouraged, but determined to attempt again to interest his countrymen in behalf of his invention. He attended upon committees, explaining his invention, session after session, only to see party politics and official stupidity push his great cause into the shade. The session of Congress of 1842–3, however, was memorable in Morse's history. He had worked, watched, and waited till late into the last night of the session, and believing his prospects to be crushed in the scramble of a closing Congress, he retired, like a repulsed hero, to his bed, but was awakened on the morning of the 4th of March, 1843, by the announcement that the bill had passed at midnight appropriating $30,000 to be placed at his disposal to make his experimental line to Baltimore. In 1844 the line was completed; the experiment was a success, and the world was thus made a compact brotherhood by the practical annihilation of space and time—at least for thought—civilization was set ahead a century in a day, and the name of Morse and telegraphy were wedded for all future time.

Within thirty years the whole civilized world has been united by a network of wires tremulous with intelligence, pulsating alike under the oceans and over the lands, and, forgetful of distance, belting the globe with a thousand nerves of thought.

Professor Morse realized a handsome fortune from his telegraphic patents, and lived at a beautiful place of his own near Poughkeepsie, on the Hudson.

Different foreign nations have since loaded him with medals and decorations, and vied with each other in doing him honor, while his proud and grateful countrymen have erected statues and monuments to his memory, and enshrined him in their reverence and love.

Happily he lived to see and know that he was thus

appreciated; and, blessed with ample wealth, with honor and world-wide esteem, he died, April 2, 1872, aged eighty-one years.

We do not mention Professor Morse's faults. He was human, and must have had faults. We never heard them spoken of, and never inquired about them. The world accepts gratefully his eminent benefaction, and would willingly forget any faults he may have had. Though the sun is said to have dark spots, his effulgence effectually hides them from the gaze of men, and we thankfully bathe in his beneficent beams, forgetting everything but his brightness.

HARRIET G. HOSMER,

THE SCULPTOR.

In this fine and firm organization are the indications of physical vigor, intellectual ability, skill, taste, self-reliance and force of character. Miss Hosmer, the most widely known among the American female sculptors at Rome, was born in Watertown, Mass., on the 19th of October, 1830. Her father, an eminent physician of that town, having lost his wife and only other child by consumption, impressed upon Harriet the necessity of good physical training, then and now so much neglected among girls. Accordingly, her childhood and youth were spent in occupations and pursuits more like those of a boy than of the conventional young lady. She delighted in her horse and dog, and became expert in riding, shooting, swimming, rowing, skating, and other out-of-door sports. Vigorous in body and bright in mind, she was not easily amenable to discipline when placed under instructors, and many anecdotes are related of her practical jokes and boyish freaks. She is said to have been expelled from one school and pronounced incorrigible in another. At the age of

sixteen she entered the celebrated school of Miss Sedgwick, of Lenox, Mass., and under her judicious care, and the excellent intellectual and social influences of that delightful village, her bold and turbulent nature seems to have been successfully restrained, and she improved rapidly in knowledge, self-control, and development, while her active habits of body continued. Although restrained,



HARRIET G. HOSMER.

her bold and fearless nature was not eradicated, for the high-spirited girl has developed into an equally fearless, high-spirited, and unconventional woman, whose eccentricities have for years been the standing wonder of the Romans. At a comparatively early age she began to give much attention to modeling figures in clay, and after leaving Miss Sedgwick's school her early predilections ripened

into the purpose to make sculpture a pursuit. She accordingly entered the studio of Mr. Stephenson, of Boston, for lessons in drawing and modeling, and at the same time studied anatomy with her father; and in the fall of 1850, while visiting a school friend in St. Louis, took advantage of the consent of the medical college there to admit female students, and went through the regular college course, receiving a diploma for her attainments; and the immense value of the knowledge she thus acquired has shown itself in all her subsequent work. She traveled in the West unattended, visited the Dacota Indians and the Falls of St. Anthony (when that region was new) climbed to the summit of what was deemed an inaccessible bluff, and finally returned to her New England home to occupy a studio her father had prepared for her in the garden. The muscular adaptation and strength gained by her vigorous physical exercise greatly contributed to her success in the manipulation of clay. She now produced her first works in marble—a reduced copy of Canova's bust of Napoleon, and an ideal head called "Hesper." The latter was much praised at the time. Her next task was to cut in marble a copy of her friend's likeness by Clevenger. Miss Hosmer now resolved to carry out at once the one aspiration of all artists—namely, to go to Rome. This resolution was intensified and fixed by an acquaintance formed at this time with Miss Charlotte Cushman, the well-known actress and in the autumn of 1852, accompanied by her father and new friend, she reached the Eternal City. Dr. Hosmer at once took daguerreotypes of "Hesper" to Mr. John Gibson, the English sculptor, and asked him to allow Miss Hosmer to become his pupil. At first he hesitated, but after examining the evidences of the young lady's proficiency, he consented, and she was soon at work amid the marble wonders of that renowned artist's studio in the Via Fontanella. Her per-

severance and industry were remarkable. She spent her first months in modelling from the antique. She copied the head of "Venus de Milo," the "Cupid" of Praxiteles, and the "Tasso" of the British Museum, alternating her art studies with gallops across the Campagna unattended, to the astonishment of both natives and foreigners. Her first original attempt was a head of "Daphne," then one of "Medusa," both of which were completed in 1853. They were sent to Samuel Appleton, Esq., of Boston, and two copies of the "Daphne" were subsequently ordered. Gibson recognized both patience and progress in her studies. In the summer of 1853 she finished her first full-length figure in marble—a statue of the nymph Œnone, the shepherd-wife whom Paris deserted for Helen This was ordered by her friend Wayland Crow, Esq., of St. Louis, and gave so much satisfaction that she at once received a commission to execute a similar work for the Mercantile Library in St. Louis. This commission was filled two years later by a life-sized statue of "Beatrice Cenci," representing the maiden lying in her cell after the torture had been applied and just before her execution. Both these statues are very beautiful, the latter especially, which has been pronounced her best work. In them are conspicuous the qualities which have characterized all her later work: clearly conceived ideas, marked simplicity and directness in working them out, unfailing perceptions of the just limitations of her art, and a thorough knowledge of all its mechanical possibilities.

Miss Hosmer's next work was a statue of "Puck," an exquisitely humorous little figure, based on Shakspeare's description of the fairy, and one of the most pleasing and characteristic of her works. This statue, which was finished in 1855, was sent to the Hon. Samuel Hooper, of Boston, and three copies of it are in noble collections in England. Among her other works are a colossal statue

of Zenobia, architectural in style, with highly finished drapery, massive and dignified; a bronze statue of heroic size of Col. Thomas Hart Benton, which now stands in Lafayette Park, St. Louis, and which has been pronounced by an able critic "the best specimen of monumental statuary in America;" a "mortuary monument" in the Church of San Andrew del Fratte at Rome; "Will-o'-the-Wisp," now in the possession of Mr. George Low, of Boston; the "Sleeping Faun," which found many admirers in the Paris Exposition of 1867; the "Waking Faun," a companion of the latter; a statue of a drowned girl, illustrating Hood's "Bridge of Sighs;" designs for gateways, fountains, and chimney-pieces, and, grandest of all, though not yet carried out, a design for the Freedmen's Monument to Lincoln.

Miss Hosmer is yet in the prime of life, being but forty-three years old; and we may hope that many more will yet be added to the above list of marbles before the final record of her work is made up. Her studio is said to be the most beautiful in Rome, and she occupies a leading position in the art society of the Eternal City.

HORACE B. CLAFLIN.

Among the great merchants of America, Horace B. Claflin justly merits a place in the first rank. The head of a wholesale dry-goods establishment, whose annual sales exceed those of any other exclusively wholesale house in New York, he has been the chief instrumentality of its origin, growth, and present vast proportions.

Great as have been his achievements, he walks modestly among men. There is no display, no haughtiness of manner, and few would suspect his power or position. Those who know how to estimate the quality of organization, however, instantly recognize in him that fineness and compactness of texture which give facility of motion, clearness

and rapidity of thought, and that elasticity of both body and mind which works easily and effectively. He stands about five feet six inches high, and weighs about one hundred and forty pounds, and has a large head compared with the size of his body. Not one man in fifty thousand has so fine a skin. He is extremely clean and delicate; not feeble or sickly, but has that quality which indicates refinement, sensitiveness, and susceptibility.

If he were devoted to physical labor in a line which did not require a great deal of strength, not one man in ten would turn off more work than he. Anything which required accuracy, rapidity, precision, he would do to perfection; and since his habits are very temperate and correct, he gets the full benefit of all his natural endowments.

Another marked feature of his organization is the harmony or balance of his developments. He has a very retentive memory; can attend to all the details of business, and hold all, as it were, in his grasp.

His success in life has been doubtless the result of clearness of thought, ready and rapid intuitive judgments, sound common sense, great industry, guided by a sound moral culture, and a thorough practical business training, which he obtained in his native State, and where he won success as a merchant before seeking the wider and more responsible field of business in New York.

He was born at Milford, Massachusetts, in 1812. His father was a merchant, doing business in that growing town, and gave to Horace the best opportunities for an education the place afforded. We are told that the elder Claflin was "a good specimen of the type of industrious, frugal, religious, and rather intolerant, but humorous grandfathers of the present generation of New England men and women," and doubtless destined his son to play his part in life in some useful department of industry. Soon after leaving school he was installed in his father's

store as a clerk. There he became familiar with the routine of country store-keeping, and acquired that miscellaneous business knowledge which a bright boy would pick up naturally in the course of several years' experience.

Having attained to his majority, he proposed to purchase the business of his father, and, with a young friend associated as partner, did so. The new firm had but little capital besides the elder Claflin's "good-will" and his own staunch probity to sustain it; but it soon commenced to prosper, and did well during the two years of its continuance in Milford. Concluding that their energy would find more scope and better returns, Mr. Claflin and his partner, Mr. Daniels, removed to Worcester, Mass., and there opened a store.

Fair dealing, unwearied enterprise, and liberal advertising early procured a large and increasing trade for the young men. Mr. Claflin was one of the few business men of that early day who appreciated the utility of judicious advertising. In the start he employed the local papers to make his firm extensively known, and as business increased he enlarged his advertising list until it contained all the leading newspapers of the Eastern States. In half a dozen years his Worcester house had become as well known throughout New England as the great New York establishment of "H. B. Claflin & Co." is now known in all parts of the Union.

In 1843 Mr. Claflin sold out his interest in the business at Worcester, and came to New York city. Mr. W. H. Buckley joined him in the venture he purposed to make in this great commercial center, and the new firm of Claflin & Buckley opened a store in the wholesale dry-goods line in Cedar Street. In six years the business had grown so large that it was deemed necessary to find more ample accommodations. The store known as No. 57 Broadway was built and occupied in 1850, but at the end of two

years that was found too small to meet the increasing patronage. Another removal was therefore determined on, and in 1853 the firm, which had been changed by the



HORACE B. CLAFLIN.

retirement of Mr. Buckley and the joining of Mr. Mellen and one or two others, formerly clerks, took possession of the large store in what is generally known as Trinity

Building, at the upper corner of Trinity church-yard, which had been erected especially for its accommodation.

Mr. Claflin's comprehensive business intellect courted the remarkable extension of his trade, and seemed to exhibit the greater energy with each addition. The reputation of his establishment became widely circulated, his customers came from all parts of the Union, and always received from him liberal consideration.

The great commercial distress of 1856, while it cramped the affairs of Claflin, Mellen & Co. to no small degree, did not prevent them from meeting their obligations promptly, and in its final results considerably strengthened their credit in public esteem. Between 1857 and 1860 the tide of business flowing to their doors was ever on the increase; the amount of goods sold the last year mentioned involved thirteen and a half millions of dollars. In fact, the warerooms in Trinity Building, large as they were, had become too small in 1860 for the still growing trade of C., M. & Co., and they were obliged to cast about for a larger place. The site fronting on West Broadway, Worth, and Church streets was selected, and the colossal building, now so well known, was erected where formerly stood old dilapidated tenements, the abodes of want and sin, from the vicinage of which respectable people turned with loathing.

With the erection of his new warehouse Mr. Claflin inaugurated a new era in that miserable quarter. The old buildings rapidly disappeared, and extensive and beautiful stores took their places, and the region became a great nucleus of wholesale traffic.

A few years after the new building was occupied some changes occurred in the firm, Mr. Mellen retiring, and a new partnership being formed under the style of H. B. Claflin & Co. But the business continued as before, with the same phenomena of growth.

In 1862 the goods sold amounted to thirty-eight millions of dollars; in 1865 to the amount of sixty-eight millions, and in 1866 seventy-two millions. The commercial depression subsequent to 1866 has somewhat reduced Mr. Claflin's sales, but his establishment maintains the lead among the wholesale houses of the city.

A glimpse of the dry-goods palace in which so much business is done may interest the reader. The main building is eighty feet wide by three hundred and seventy-five feet long, seven stories in height, including basements, and is built of Nova Scotia sandstone, in a style adapted to economize space as well as to afford the greatest possible strength. Besides this, the subsequent addition measures fifty by one hundred and twenty feet, and, taken with the large part, gives a floor area of about six acres. In this vast space are stored the products of a thousand factories, and the work of hundreds of thousands of people in every quarter of the globe. Tiers of open cases, displaying the finest fabrics, meet the eye of a visitor on entering the broad doorways. Long lines of counters, supporting piles of foreign and domestic stuffs, each, however, in its proper department, excite the wonder of the uninitiated, and induce the question, Whence do all these come, and whither do they go?

The number of men employed in the different departments of this warehouse exceeds seven hundred, and although the discipline exercised over so many is necessarily strict, no man in the city of New York enjoys more of the confidence and esteem of his subordinates than Mr. Claflin. He is a mellow, accessible man, of large and judicious charity, and at the same time quiet and altogether unassuming. His liberality in adjusting claims against insolvent debtors is well known, many an unfortunate tradesman owing his re-establishment in business to a few words of encouragement on the part of Mr. Claflin, coupled

with a liberal extension of time for the payment of liabilities due H. B. Claflin & Co.

Mr. Claflin is of medium height and well proportioned. His appearance is that of a younger man than he is by at least seven years, while his physical activity and mental energy are unimpaired, enabling him still to preside over all the operations of his immense establishment. Having an excellent constitution, fortified by a prudent course of life, he seems likely to tread for many years longer the path of usefulness which in youth he marked out before him, and which he has pursued, not with the sordid ambition of the monopolist, but with an honest philanthropic aim.

Mr. Claflin is eminently a self-made man. He has carved out his own fortune by his own energy and sagacity, and while he has grown in wealth and influence, he has not become too proud to work, or too haughty to meet common men and make them feel at ease in his presence. Men like the man, and are willing he should acquire wealth, for it does not seem to spoil him.

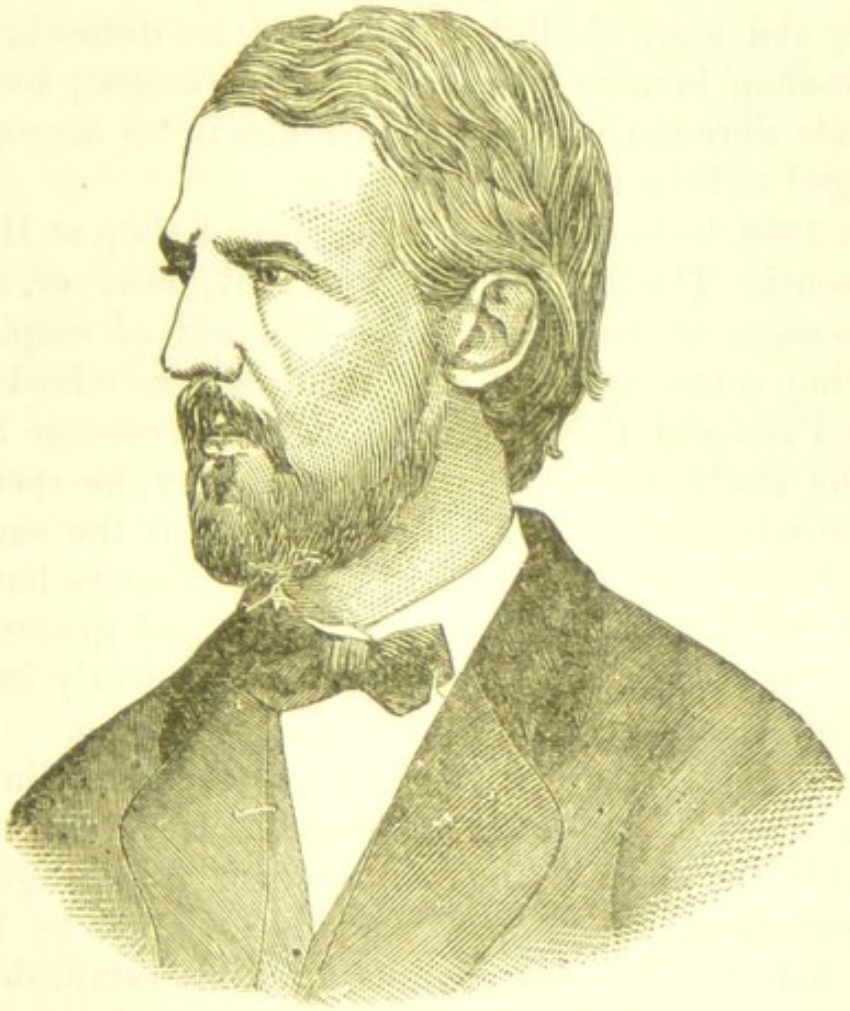
JOHN ROGERS,

THE SCULPTOR.

The genius of the sculptor is variously estimated. One, like Powers, excels in single figures in calm and restful attitudes. Rogers is known for the production of those matchless groups, each full of character, sentiment, and action, which, go where we may in America or Europe, are found among choice artistic collections.

Mr. Rogers was born at Salem, Mass., on the 30th of October, 1829, and after receiving a good common school education, was placed as a clerk in a Boston store. He remained in that connection but two years, finding it quite uncongenial to his tastes.

In early boyhood a strong fondness for drawing and painting had shown itself, and though parents and friends sought to discourage and root up the artistic germs, he was not to be more than temporarily diverted from cherishing it. An opportunity offered him to join the engi-



JOHN ROGERS.

neers at work on the Cochituate water works was accepted. Here his aptitude for draughting was exercised with the most encouraging success. But his enthusiasm was too earnest for his physical endurance; his eyes were impaired, and to avoid their serious injury he gave up his confining employment. A voyage to Spain and back for the benefit of his health was made; and soon after his

return, in 1848, we find him at the bench of a machine-shop, in Manchester, N. H., learning the trade of a machinist. For seven years he labored in the different departments of his shop; but in the meantime he never forgot his old artistic yearnings. He found time to pursue his studies in modeling figures in clay. As he became more and more skillful in modeling, his duties in the machine-shop became more and more irksome; but as his friends were not willing to assist him in his hopes, he was obliged to keep at the machinery.

In 1856 he took charge of a railroad shop at Hannibal, Missouri. The financial crisis of 1857, however, caused a suspension of work and threw him out of employment. Having some means at command, he determined then to visit Paris and Rome, and reap what advantage he could in the study of classic art. Accordingly, he spent eight months in France and Italy, but without the success he had hoped for: the works of the old masters had awakened but little enthusiasm. His taste and genius seemed to be peculiarly his own, and not sufficiently in accord with classicism to find encouragement therein.

Mr. Rogers returned from his artistic survey in Europe with feelings somewhat depressed. He found employment in the office of the city surveyor of Chicago, and in a short time won the favor of his principal by his skill and industry. A few months after his establishment in Chicago, he made a venture in the artistic line by placing at the disposal of a fair, in the interest of some charitable object, a group of "checker players" which he had carefully modeled. This work at once drew public attention, and was highly applauded by newspaper critics for its characteristic expression and faithfulness to nature.

The work which brought him into successful notoriety, and encouraged him to think that he could depend on art for support as well as reputation, is the "Slave Auction,"

which he modeled in Chicago, and afterward brought to New York for exhibition in 1859, a time at which the slavery question was culminating in the John Brown raid and the secession movement of the next year. This group took hold of popular sentiment at once, and his talent for designing and modeling was generally acknowledged to be of a high order. He opened a studio in New York, and zealously went to work. Orders came in freely for his designs, so that he found it necessary to reproduce his groups by the best mechanical aids he could find or invent.

To the "Checker Players" and "Slave Auction" he soon added the "Village Schoolmaster," the "Town Pump," the "Picket Guard," "Camp Fire," "Sharpshooters," "Union Refugees," and "Country Post-Office." The effective manner in which Mr. Rogers hit off character in these groups—a veritable rendering into sculpture the detail of the canvas—commanded attention everywhere, and the low price at which the groups were furnished to the public—about three dollars—won for him the appreciation of all classes.

His incidents of the civil war are admirable examples of truthful expression; and in the selection of subjects he has shown unwonted tact as well as fertility of judgment. The "Home Guard," "Bushwhacker," "Returned Volunteer," "Taking the Oath, and Drawing Rations," "Mail Day," "Wounded Scout," "One More Shot," must long remain in favor; the "Wounded Scout," "Taking the Oath, and Drawing Rations" being, perhaps, of those enumerated, the most highly esteemed for their touching thought, silent eloquence, and merit as works of art.

The "Fairy's Whisper" is a graceful design, representing the form of a fairy rising out of fern leaves, with her tiny mouth at the ear of a boy who is leaning over in listening surprise and pleasure.

Among Mr. Rogers' later designs are the "Charity Patient," the "Council of War," "Uncle Ned's School," the "Courtship in Sleepy Hollow," the "School Examination."

The chief feature which is stamped upon every production of Mr. Rogers is its distinctive nationality. The spirit of the age has animated him; and he can not be said to owe aught to foreign schools besides his well-known distaste for the emulation of classic style so prevalent among artists. A steady industry, the practical mastery of three mechanical trades, and genuine art talent, have made him a successful and honored man.

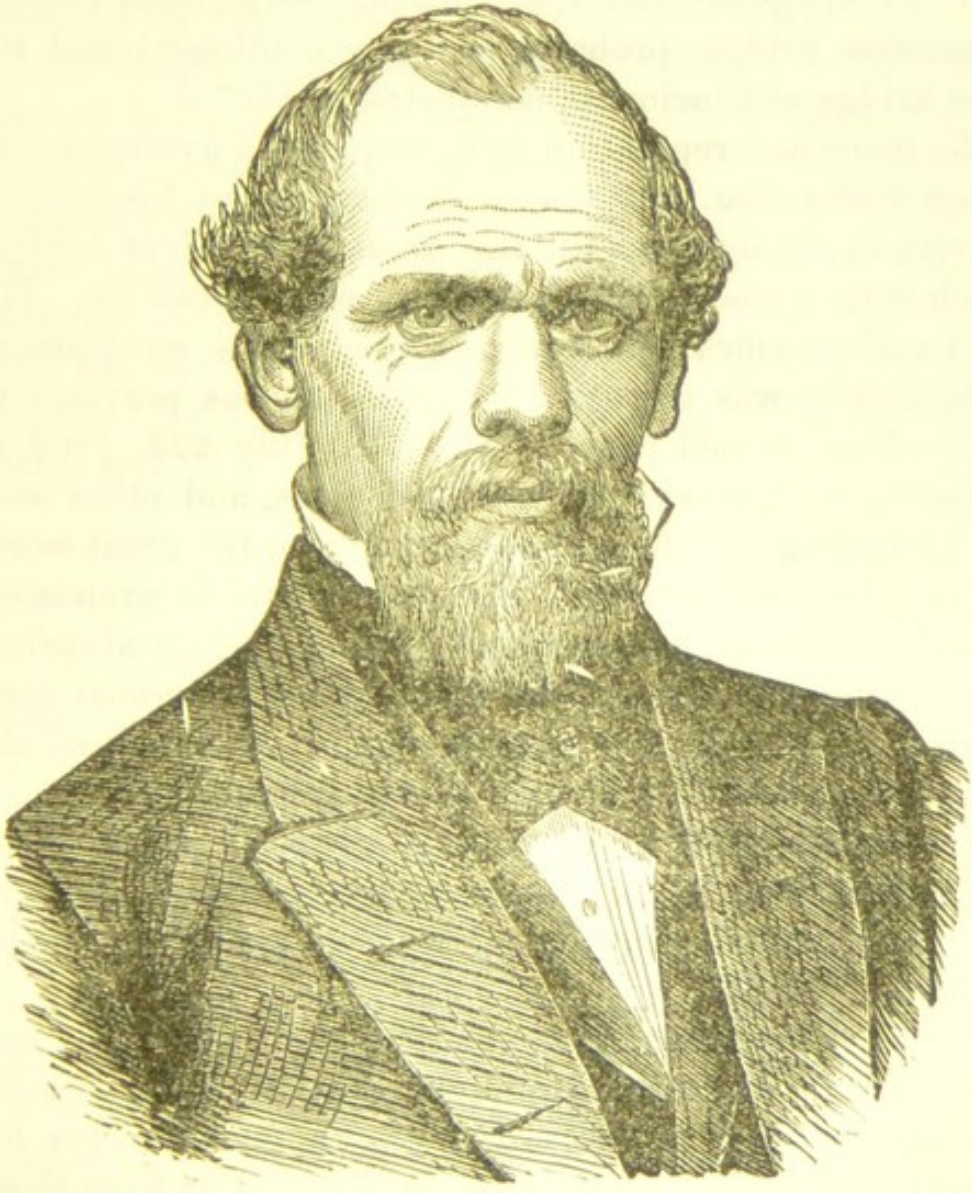
JOHN A. ROEBLING.

Mr. Roebling, the distinguished civil engineer, was born June 12, 1806, at Muhlhausen, in Thuringia, Prussia. He received the degree of C.E. from the Royal Polytechnic School at Berlin, and it is worthy of notice that the subject of his graduating thesis was "Suspension Bridges." With this class of structures his name will ever be identified.

He came to the United States in 1831, and bought a considerable tract of land near Pittsburg, Penn. He soon after commenced the practice of his profession, and continued it upon various railways and canals for more than ten years before the time ripened for him to carry out his ideas of a suspension bridge.

In 1844, having previously commenced the manufacture of wire rope, he was awarded the contract for reconstructing the wooden aqueduct of the Pennsylvania Canal across the Alleghany River, upon the suspension principle, which he successfully accomplished. This aqueduct consisted of seven spans, each 162 feet in length. The wooden trunk which held the water was supported by two continuous

wire cables, seven inches in diameter. The suspension bridge across the Monongahela, at Pittsburg, succeeded. This bridge has eight spans 188 feet long, and the cables are four and a half inches in diameter.



JOHN A. ROEBLING.

Mr. Roebling contracted, in 1848, to erect four suspension aqueducts on the line of the Delaware and Hudson Canal, all of which were completed in due time. In 1851 the great suspension bridge at Niagara was commenced,

and was completed so that the first locomotive crossed in March, 1855. This was an engineering feat that compelled the universal acknowledgment of Mr. Roebling's great genius.

The subsequent works of Mr. Roebling were the bridge over the Alleghany River, at Pittsburg—the most elegant suspension bridge, probably, on this continent—and the Ohio bridge at Cincinnati, completed in 1867.

His name and reputation have acquired a greater prominence within the past few years because of his zealous activity in connection with the great East River bridge, which is to connect New York city with Brooklyn. His plans and specifications were accepted as the most practicable, and he was engaged for some months previous to the accident which caused his death, July 22d, 1869, in perfecting the surveys of the river banks, and other matters preliminary to the actual beginning of the great work.

The injury he sustained was received while examining the approaches of the projected bridge. Being absorbed in some measurement, he did not notice a ferry-boat coming into its slip, which, pressing against the rack of the dock, forced it back, and so crushed his foot.

Mr. Roebling left a son, who has given his whole attention to the same line of business, and who is said to be fully competent to carry on the work so well designed by his father.

The work upon which, at the time of his death, he was just entering—the bridging of the East River by a single span, 1,600 feet long—was with him a favorite idea for several years before it attracted much attention from those most nearly interested.

The plans which he had so carefully and studiously matured for this magnificent projected bridge are being followed by his son, who has been selected to succeed him as chief engineer.

His life, character, and habits afford a splendid example for young men. He entered upon life without means or influential friends. His honor, his earnestness of purpose, and perseverance against all difficulties and the prejudices of men who opposed and sometimes ridiculed his projects, secured for him both.

Mr. Roebling had a full-sized brain on a well-proportioned body; a very active mind, in keeping with his clearly-marked Motive-Mental temperament. His Constructiveness, Concentrativeness, Firmness, and Self-Esteem were large. His perceptive organs were also large and active. As a whole, the head and body were well formed, and the character was in harmony with the same. It was by close industry, by the use of his faculties, that he gained fame and fortune.

CHARLES DICKENS.

On the evening of the 8th of June, 1870, while entertaining a party of friends at his house, near London, Charles Dickens, the eminent novelist, journalist, etc., suddenly expired from an attack of apoplexy. His death created a profound impression on both sides of the Atlantic. Mr. Dickens had become, by his cosmopolitan spirit, and by that brotherly sympathy which makes all men kin, entitled to the "freedom" of every country, especially where the English language is spoken. His writings are read and relished, and make him seem as near to us as he possibly could be to those of England, where his labor was done and where his body reposes.

He had a large brain, chiefly developed in the front, side, and back head. The intellectual lobe, including both the perceptive and reflective groups, was of large size. Language was very large; Ideality, Sublimity, Imitation, Mirthfulness. Human Nature, Constructiveness, and Be-

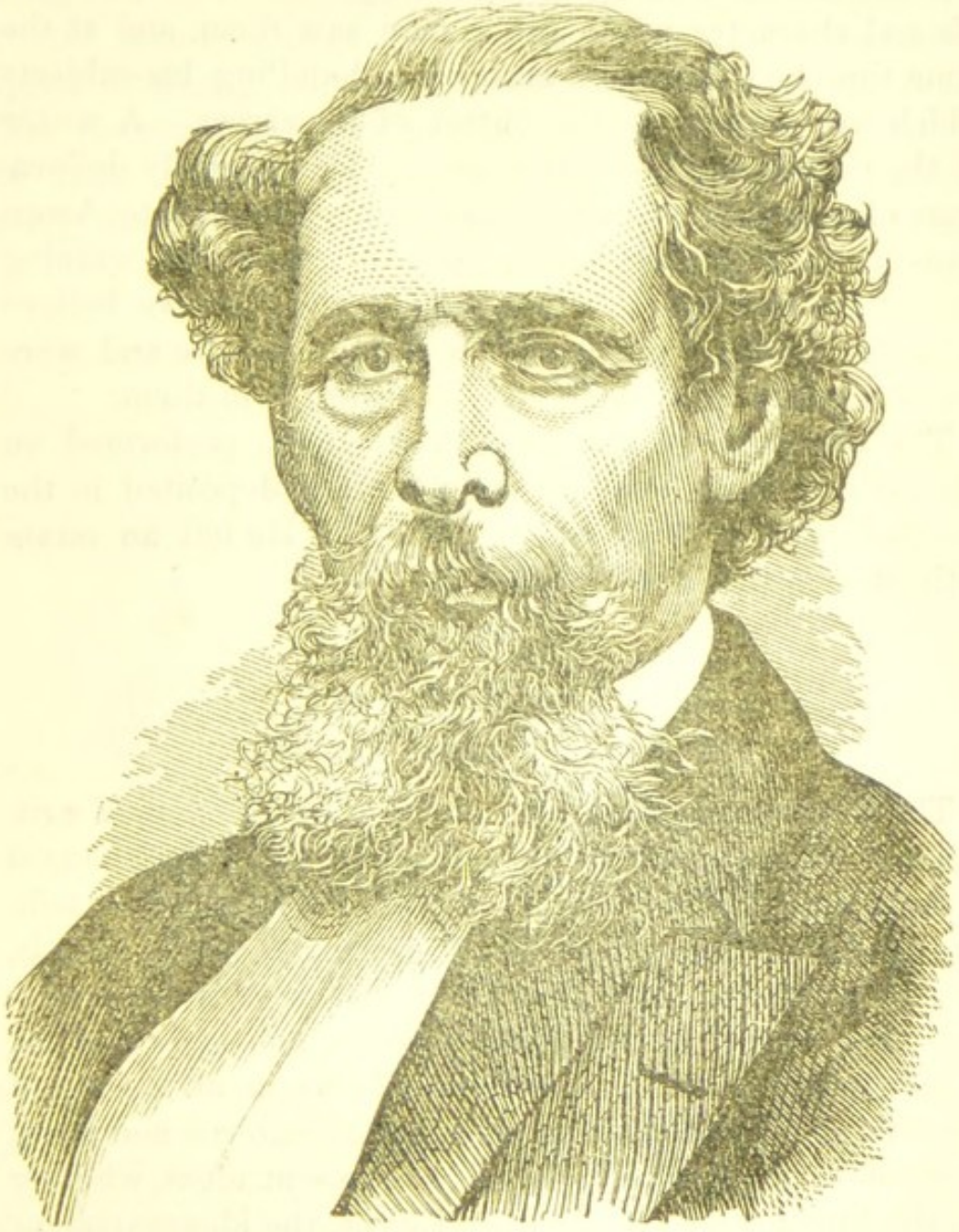
nevolence were well marked. His Veneration and Conscientiousness were moderate. Dickens was not strong in the spiritual, the devotional, though he possessed boundless sympathy; and he knew, like a dramatist, how to touch the affections and the sympathies of others.

He was born at Portsmouth, England, February 7th, 1812; educated at Chatham and Rochester, and commenced the study of law in London. After two years' experience as an attorney's clerk, he left the law for literature, taking first a reporter's position on a newspaper.

From 1838 to 1842 he wrote "Oliver Twist," "Nicholas Nickleby," "Master Humphrey's Clock," "Old Curiosity Shop," and "Barnaby Rudge," which served to assure his numerous readers that they had not mistaken the real genius of the author of Pickwick. The fertility of his imagination and the facility of his pen may be inferred from this immense amount of work in so short a time. In 1842 he visited the United States, and after his return, in 1843, published "Martin Chuzzlewit," as a sort of take-off of American men and manners. When our people complained of injustice, he said he had talked harder about the people of his own country and they had not complained. "Dombey and Son," "David Copperfield," "Bleak House," "Little Dorritt," "Great Expectations," "Tale of Two Cities," and others of his works followed. In 1869 he made his second visit to America, and gave readings in the principal cities with decided success.

He married Miss Hogarth, the daughter of a lawyer who had been an intimate friend of Sir Walter Scott and Jeffrey. The union did not prove a happy one, and after twenty years, during which several children were born, an agreement to live apart was entered into between Mr. and Mrs. Dickens. The cause of their domestic unhappiness, as stated in the document of separation, was "uncongeniality of temper, implying no dishonor to either party."

Mr. Dickens' life may be looked upon as an abstract of his numerous and remarkable works. His personality lives in them, and the chief feature of his character, charity



CHARLES DICKENS.

breathes through them. He was an earnest worker, yet he knew how to enjoy the comforts of life and society. One of his favorite recreations was the organizing of dra-

matic entertainments at home, to which he invited his literary friends and others.

As a writer, he occupied a place by himself. He viewed life and character as no other man saw them, and at the same time he exhibited a mastery in handling his subjects which won respect in the outset of his career. A writer of the people and from the people, his sprightly delineations of eccentric character made him as familiar to Americans as to Englishmen, the good in his works winning our esteem and theirs. He had his faults; but we believe his literary labors sprang from a good motive and were pursued with a good aim, and his record is in them.

The obsequies of the great writer were performed on the 14th of June, and his remains were deposited in the Poet's Corner of Westminister Abbey. He left an estate estimated at half a million dollars.

ISAAC PITMAN,

INVENTOR OF PHONOGRAPHY.

The English-speaking races needed a brief system of writing, and Isaac Pitman gave them Phonography. Thought is rapid and speech easy, but writing has been slow, tedious, embarrassing. A visual expression of words, that is, re-presenting sounds to the eye by means of written symbols that should be rapid to the writer and legible to the reader, could only be accomplished—as in all perfected mechanism—by the utmost economy of material and force. Heretofore the signs employed to represent ideas, whether by the hieroglyphic symbols of Egypt, the ideagraphic or word representation of the Chinese, or the letter representation of sounds as employed by modern nations, have all been lengthy and complex; hence, wasteful of time, material, and force.

To print 20,000 impressions an hour, as has been accom

plished by a recently perfected printing-press, the paper must be fed from a continuous roll. The expenditure of time and force necessary to pick up each separate sheet would wholly defeat the possibility of the miraculous speed attained, and would make the difference between four thousand and twenty thousand impressions an hour. So Isaac Pitman, by economizing the signs employed, using simple right lines and curves, and modifications of



ISAAC PITMAN.

them, instead of complex forms like *m*, *k*, *w*, etc., enables the penman to write one hundred and fifty words a minute with no greater number of movements of the hand than would be required to write twenty-five words of the ordinary long-hand.

The present system of writing needed improvement; first,

in simplifying the signs or symbols of representation; secondly, in clearing away the myths, errors, and intellectual cobwebs of its so-called orthography; and lastly, in supplying the deficiencies of the present alphabet by providing signs for sounds that now have no representation.

The present orthography of the language is to a strictly philosophical representation of words what the superstitious and philosophic vagaries of the medieval ages are to modern science and an intelligent belief. To set orthography aside, to represent words as they are spoken, not as they are spelled, was Isaac Pitman's twin reform, whose accomplishment resulted in a system of writing, brief, therefore rapid; philosophic, therefore entirely legible.

Isaac Pitman, by whose intellect and industry phonography was invented and elaborated, may, with no disrespect, be said to be an exceptional character, as were Sir Isaac Newton, Napoleon, John Wesley, and Blondin. Our incongruous analogy is intended to suggest types of men whose abilities were great, but special; abounding in one direction, limited in others.

The invention of a set of symbols to represent the sounds of a language with a certain degree of accuracy would require no great effort of genius, as the history of letters has shown. But to discover and arrange a complete alphabet of sounds, to discover and arrange the briefest and best set of signs to represent those sounds, and then, most difficult of all, to select the best of a thousand possible adaptations of signs to sounds that should meet the requirements of a language so vast in its vocabulary and so comprehensive in its use as the English, was a task requiring such special aptitude that it not undeservedly goes by the name of genius.

The incident that, perhaps, primarily led Isaac Pitman to the invention of phonography is characteristic of the man. As a student, self-educated for the most part, he

desired to be master of the English language. To this end he read through Walker's Dictionary, copying out every word of the spelling, pronunciation, or meaning of which he was before in doubt. This he did a second and a third time, the list diminishing with each attempt.

Isaac Pitman was born at Trowbridge, Wiltshire, England, and is now (1873) sixty years of age. He is the third child of a family of eleven, ten of whom reached maturity. As a schoolboy, he was bright, yet diffident and retiring. He would run with the fastest, jump with the lithest, swim or dive with the most reckless, not from emulation, but from simple personal enjoyment. As a youth, he was incapable of violence, and chose to endure rather than resent injury and wrong.

His religious life, when he attained manhood, was of the same gentle yet athletic type. He became a Wesleyan Methodist, when Methodism meant labor and self-abnegation. While occupied five days in the week as a schoolteacher, he preached and traveled, fasted and prayed with a quiet earnestness that observant folks said out-Wesleyed Wesley. The austerity of his early manhood was modified in later years. At the age of twenty-five he became a devout reader and receiver of the writings of Swedenborg, about the same time that his life's thought was turning to the elaboration of his system of phonography. From this period he relaxed somewhat in the severity of his discipline; but all his life he has been remarkable for the extreme simplicity of his dietary habits, almost wholly avoiding animal food, tea, coffee, and all fermented drinks.

Two traits mark Isaac Pitman's character as exceptional: an earnestness as remarkable for its quietude and continuity as for its intense practicalness; and secondly, his utter negation of self—the thing to be done, the duty to be performed, the necessity or desirability of a good to be accomplished, absorbing him; the labor and self-sacrifice

incidental to its attainment apparently not presenting themselves as an element of calculation.

In an age remarkable for its selfishness and greed, it will not perhaps be readily comprehended that a man could give the thought and labor necessary for the discovery and elaboration of phonography, an art of pecuniary as well as intellectual value to its possessor, and then sell, or rather give away, the entire system as presented in an elaborate steel engraving for one penny (two cents). At this price the first edition of phonography (1840), was sold.

Another instance of his love of labor for its use to mankind, as he conceived, was offering freely to revise and correct Bagsters' Comprehensive Bible, containing 500,000 parallel passages and notes. The Bagsters, of London, were strangers to him at the time he made this offer; but the fact that here was the best and most comprehensive Bible in existence, was a sufficient incentive to lead him to desire to correct and complete this great work. And many hours a day for several years were spent by him in a task that, perhaps, no other living person could or would have accomplished. Such was his familiarity with the text of the Old and New Testament, as printed in a small Polyglot he used for reference, that with the aid of slightly projecting slips, arranged like the lettering of the index of a ledger, on which were written the commencing and concluding chapter, verse, and book, he could turn to any passage with a single movement of the hand, his finger instinctively gliding to the exact spot.

An immense correspondence, and a business which from its nature scarcely admitted of clerical aid; the printing of his own works; his experiments in applying the phonetic principle to printing, as well as writing, and various efforts at changing the details of his phonographic system, required an amount of labor which not one man in a million could give, and live. Certain it is that Isaac Pitman has

done more work, has spent fewer minutes in society, and more hours at his writing-desk, than any person we have ever known. While Reporting and Telegraphy, those twin agencies of civilization and progress, shall remain to mankind, the names and the renown of Pitman and Morse will be gratefully perpetuated.

RALPH WALDO EMERSON

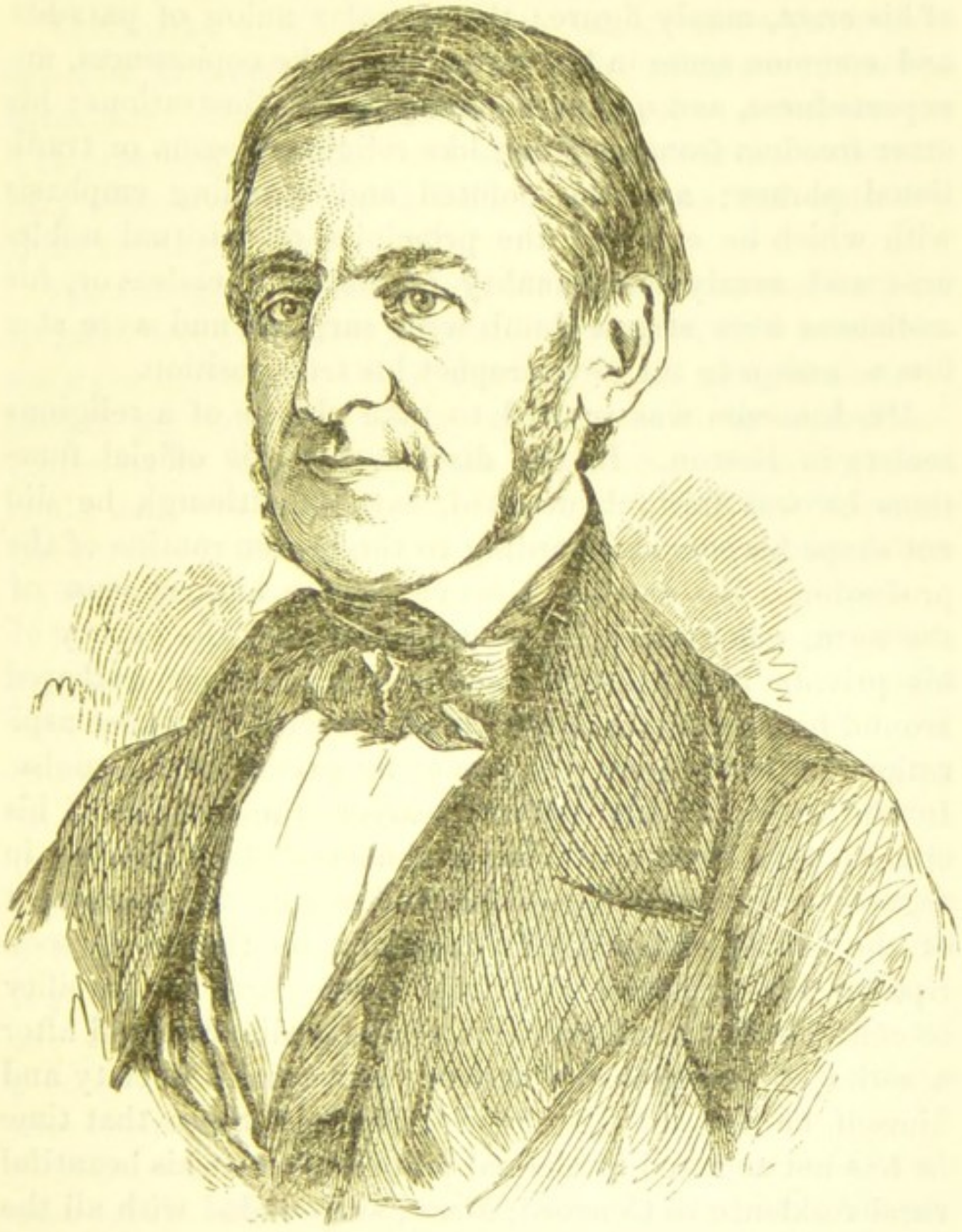
Was born in Boston, in the year 1803. His father, descended from a rigid Puritan ancestry, was the pastor of the First Congregational Church in that city, and was a man of cultivated and elegant tastes, well imbued with the learning of his day, and a model of integrity, high moral aims, and devotion to his profession. Mr. Emerson's mother was a lady of uncommon personal beauty, combining a singular dignity of manners with graceful amenity, and no less remarkable for the vigor and justness of her intellect than for the cheerful serenity and sunny loveliness of her disposition. Ralph Waldo entered Harvard University in the year 1817. To the casual observer, he appeared as a cold, reserved, dreamy youth, whose intellect needed the fire of enthusiasm to warm it into genial action. He was little known among his associates, was hardly spoken of among the young men of mark whose early brilliancy gave flattering presage of future greatness, and was almost eclipsed in college estimation by a throng of popular rivals, whose showy and effective talents distanced competition. A few, however, discovered the signs of genius in the juvenile recluse. They noted, in connection with the manly bearing of the boy, a certain maturity of wisdom, uncommon at his age; a bold originality of thought, which his gentle courteousness could not conceal; and the seeds of that quaint felicity of expression which, in his essays and discourses, has given a new il-

lustration of the resources of our mother-tongue. He was learning to explore the treasures of Shakspeare, and Milton and Montaigne, and to appropriate their riches to his own mental sustenance and growth. He cultivated the art of elocution with great care, and soon became distinguished for his impressive and original delivery. His favorite recreation was listening to the conspicuous orators of that time, among whom Webster, Everett, and Channing were pre-eminent. Nor was he less devoted to the practice of rhetorical composition. In this branch of the college exercises he soon won an honorable and brilliant reputation. An essay on "The Death of Socrates," which gained the first annual prize for excellence in writing, attracted much attention by its originality of conception and its exquisite grace of style. The poetical talent, for which Mr. Emerson has since attained such a well-merited fame, was developed to a considerable extent before leaving college. His principal specimens in this kind were poems delivered at the public exhibitions of the under-graduates, and a valedictory on the final leave-taking of a college life by his class. His copious journals, to which he devoted his best hours, were filled with snatches of thought, fragmentary suggestions, isolated hints, brief criticisms and comments, and occasional unfinished poetic effusions. It was his practice afterward to develop and elaborate these sketches, and work them up into his more formal compositions. The inconsecutive and abrupt character which many complain of in his style, is no doubt partly due to this practice.

Upon taking his first degree at Harvard College in 1821, Mr. Emerson engaged in the business of teaching; and for several years conducted a school for young ladies in Boston, which was considered at the head of the private institutions for education in that polished metropolis.

The next step in Mr. Emerson's career was his entrance

into the Divinity School at Cambridge, as a theological student. It was soon perceived that he could not drill in



RALPH WALDO EMERSON.

the uniform of a sect, although one of the most liberal pretensions. Upon commencing his public functions in the pulpit, he was heard with mingled wonder, admiration,

and astonishment. His manner was entirely unique. With his clear, sonorous, and silvery voice, betraying no trace of the formal elocution of the schools; the secular bearing of his erect, manly figure; the singular union of paradox and common sense in his statements; the copiousness, unexpectedness, and quaint audacity of his illustrations; his utter freedom from anything like religious dogma or traditional phrase; and the pointed and startling emphasis with which he enforced the principles of spiritual nobleness and manly individuality of aim and endeavor, his audiences were struck dumb with surprise, and were at a loss to assign to the new prophet his true position.

Mr. Emerson was invited to take charge of a religious society in Boston. In the discharge of his official functions he was faithful, devoted, earnest, although he did not shape his course according to the beaten routine of the profession. His success, however, in the highest sense of the term, was great. He won all hearts by the beauty of his private life, while his public ministrations gathered around him the choicest youth of the city, to whose aspirations for the highest excellence he gave a fresh impulse. In the midst of his brilliant career, the people of his charge were startled at his announcement of doubts in regard to the permanence and efficacy of the sacrament of the Lord's Supper. His scruples on this point soon ripened into positive conviction. He declared his inability to continue the administration of the ordinance, and after a series of amicable discussions between his society and himself, he resigned his pastoral charge. Since that time he has not engaged in clerical pursuits, but at his beautiful rural residence in Concord, Mass., surrounded with all the means and appliances of intellectual luxury, and honored by "troops of friends," who wait upon his words of wisdom as upon the utterances of an oracle, he has led a life of serene contemplation and communion with nature,

maintaining his intercourse with the busy world chiefly by means of his writings and lectures, which have extended his fame wherever the English language is spoken.

The works which Mr. Emerson has given to the public are few in number, though of wide influence. Among them are "Nature;" two series of essays; a volume on "Representative Men," and several lectures and anniversary discourses, besides a volume of poems and contributions to magazines.

His strong assertion of individualism is combined with a singular freedom from passion. His clear, cold intellectuality predominates over sentiment. This perpetual equilibrium pervades his whole character. In the sphere of ethics he is just, rather than generous. No temptation could lead him to do a conscious wrong to a fellow-being; but he could never be beguiled into an extravagant action by devotion to an inspiring cause.

It is remarkable that, with this frigidity of temperament, his mental operations should partake more of an intuitive than a reflective character. He realizes the paradox of thinking by impulse and acting by deliberation. Relying on certain mystic revelations to the soul of the individual, he shows scarcely any trace of the logical faculty. He doubtless has a method of his own, but it is never visible to his readers. His writings never betray an attempt at argument. You look in vain for any consecutive order in the array of his thoughts. With the brilliancy of the pieces of glittering metal in the kaleidoscope, they exhibit also their confusion.

Whatever conviction he may cherish emanates from his own mind. He casts his calm, searching eye over the universe, as if he were the only spectator of its infinity. No school of philosophy or religion can hold this broad, untrammeled thinker within its walls.

He rejects no coin that has the true ring, for want of

the sign of some approved mint. While his own life is a model of saintly and ascetic purity, his principles, it may be thought, might lead others of a less fortunate mold to convert the liberty which he inculcates into abuse.

A strong vein of common sense runs through Mr. Emerson's character, tempering his boldest flights with its conservative influence. He is habitually skeptical and distrustful. He is the last man to be victimized by any popular illusion. To his sharp and clear perceptions the world is never veiled beneath any poetical hallucinations. An idealist in theory—as far as such a thinker can be said to have any theory—he cherishes a most persistent and unrelenting attachment to reality. There never was a keener observer of nature or of society. His descriptive sketches have all the minute fidelity of a miniature painting. He unites the dreamy, mystical contemplation of an Oriental sage with the hard, robust, practical sense of a Yankee adventurer.

In person Mr. Emerson is slender, above the medium stature, and with a commanding and impressive countenance. The lines of deep thought with which it is inscribed are softened by an expression of peculiar sweetness, while every tone and movement are characterized by an incomparable dignity and refinement, he died April 27, 1882.

ELIAS HOWE,

INVENTOR OF THE SEWING-MACHINE.

In the trials and triumphs of this man, the old story of poverty, hardship, with the ridicule and selfishness of the world, is repeated. Nearly every great invention has been born of necessity in the vale of poverty, if not of suffering. Fulton, Goodyear, Morse, and Howe passed through a similar "Red Sea" and "wilderness" to the

land of hope and promise. He who has the fortune or the misfortune to think much in advance of his fellow-men rarely finds one who can or will appreciate and help him



ELIAS HOWE.

Inventors not only have to eat the "bread of carefulness," but often their care is taxed to the uttermost to get bread; and our subject was no exception to the general rule.

Elias Howe, the inventor of the sewing-machine, was

born in 1819, at Spencer, in Massachusetts, where his father was a farmer and miller. There was a grist-mill, a saw-mill, and a shingle-machine on the place; but all of them together, with the aid of the farm, yielded but a slender revenue for a man blessed with eight children. At six years of age Elias worked with his brothers and sisters at sticking the wire teeth into strips of leather for "cards," used in the manufacture of cotton. As soon as he was old enough he assisted upon the farm and in the mills, attending the district school in the winter months until he was sixteen. He has often expressed the opinion that it was the rude and simple mills belonging to his father which gave his mind its bent toward machinery.

In 1835, with his parent's reluctant consent, he went to Lowell, and obtained a learner's place in a large manufactory of cotton machinery, where he remained until the crash of 1837 closed the mills of Lowell and sent him adrift, a seeker after work. He found employment in Boston, at the shop of Ari Davis, a manufacturer of philosophical instruments, and an inventor.

In the year 1839 two men in Boston—one a mechanic and the other a capitalist—were striving to produce a knitting-machine, which proved to be a task beyond their strength. When the inventor was at his wit's end his capitalist brought the machine to the shop of Ari Davis, to see if that eccentric genius could suggest the solution of the difficulty, and make the machine work. The shop, resolving itself into a committee of the whole, gathered about the knitting-machine and its proprietor, and were listening to an explanation of its principle when Davis, in his wild, extravagant way, broke in with these words: "What are you bothering yourselves with a knitting-machine for? Why don't you make a sewing-machine?"

"I wish I could," said the capitalist; "but it can't be done."

"Oh, yes it can," said Davis; "I can make a sewing machine myself."

"Well," said the other, "you do it, Davis, and I'll insure you an independent fortune."

There the conversation dropped, and it was never resumed. The boastful remark of the master of the shop was considered merely one of his sallies of affected extravagance, as it really was; and the response of the capitalist to it was uttered without a thought of producing an effect. Nor did it produce any effect upon the person to whom it was addressed. Davis never attempted to construct a sewing-machine.

Among the workmen who stood by and listened to this conversation was Elias Howe, then twenty years old. The person whom we have named the capitalist, a well-dressed and fine-looking man, somewhat consequential in his manners, was an imposing figure in the eyes of this youth, new to city ways, and he was much impressed with the emphatic assurance that a fortune was in store for the man who should invent a sewing-machine. He was the more struck with it because he had already amused himself with inventing some slight improvements, and recently he had caught from Davis the habit of meditating new devices The spirit of invention, as all mechanics know, is exceedingly contagious. One man in a shop who invents something that proves successful, will give the mania to half his companions, and the very apprentices will be tinkering over a device after their day's work is done. There were other reasons, also, why a conversation so trifling and accidental should have strongly impressed itself upon the mind of this particular youth. Before that day the idea of sewing by the aid of a machine had never occurred to him.

Judging merely by appearances, no one would have pitched upon *him* as the person likely to make one of the

revolutionizing inventions of the age. Undersized, curly headed, and exceedingly fond of his joke, he was, at twenty, more a boy than a man. The only immediate effect upon him of the conversation in the shop of Mr. Davis was to induce a habit of reflecting upon the art of sewing, watching the process as performed by hand, and wondering whether it was within the compass of the mechanic arts to do it by machinery. His uppermost thought in those years was, what a waste of power to employ the ponderous human arm, and all the intricate machinery of the fingers, in performing an operation so simple, and for which a robin's strength would suffice! Why not draw twelve threads through at once, or fifty? And sometimes, while visiting a shop where army and navy clothing was made, he would look at the heaps of unsewed garments, all cut alike, all requiring the same stitch, the same number of stitches, and the same kind of seam, and say to himself, "What a pity this can not be done by machinery!"

At twenty-one, being still a journeyman machinist, earning nine dollars a week, he married; and, in time, children came with inconvenient frequency. Nine dollars is a fixed quantity, or, rather, it was *then;* and the addition of three little mouths to be fed from it, and three little backs to be clothed by it, converted the vivacious father into a thoughtful and plodding citizen. His day's labor at this time, when he was upon heavy work, was so fatiguing to him that, on reaching his home, he would sometimes be too exhausted to eat, and he would go to bed, longing, as he has been heard to say, "to lie in bed forever and ever." It was the pressure of poverty and this extreme fatigue that caused him, about the year 1843, to set about the work of inventing the machine which he had heard four years before would be an "independent fortune" to the inventor. Then it was that he caught the inventor's mania, which gives its victims no rest and no peace till

they have accomplished the work to which they have abandoned themselves.

He wasted many months on a false scent. When he began to experiment, his only thought was to invent a machine which should do what he saw his wife doing when she sewed. He took it for granted that sewing must be *that*, and his first device was a needle pointed at both ends, with the eye in the middle, that should work up and down through the cloth, and carry the thread through it at each thrust.

Hundreds of hours, by night and by day, he brooded over this conception, and cut many a basket of chips in the endeavor to make something that would work such a needle so as to form a common stitch. He could not do it. One day, in 1844, the thought flashed upon him: is it necessary that a machine should imitate the performance of the hand? May there not be *another* stitch? This was the crisis of the invention. The idea of using two threads, and forming a stitch by the aid of a shuttle and a curved needle, with the eye near the point, soon occurred to him, and he felt that he had invented a sewing-machine. It was in the month of October, 1844, that he was able to convince *himself*, by a rough model of wood and wire, that such a machine as he had projected would sew.

At this time he had ceased to be a journeyman mechanic. His father had removed to Cambridge, to establish a machine for cutting palm-leaf into strips for hats—a machine invented by a brother of the elder Howe. Father and son were living in the same house, into the garret of which the son had put a lathe and a few machinist's tools, and was doing a little work on his own account. His ardor in the work of invention robbed him, however, of many hours that might have been employed, his friends thought, to better advantage by the father of a family. He was extremely poor, and his father had lost his palm-leaf machine

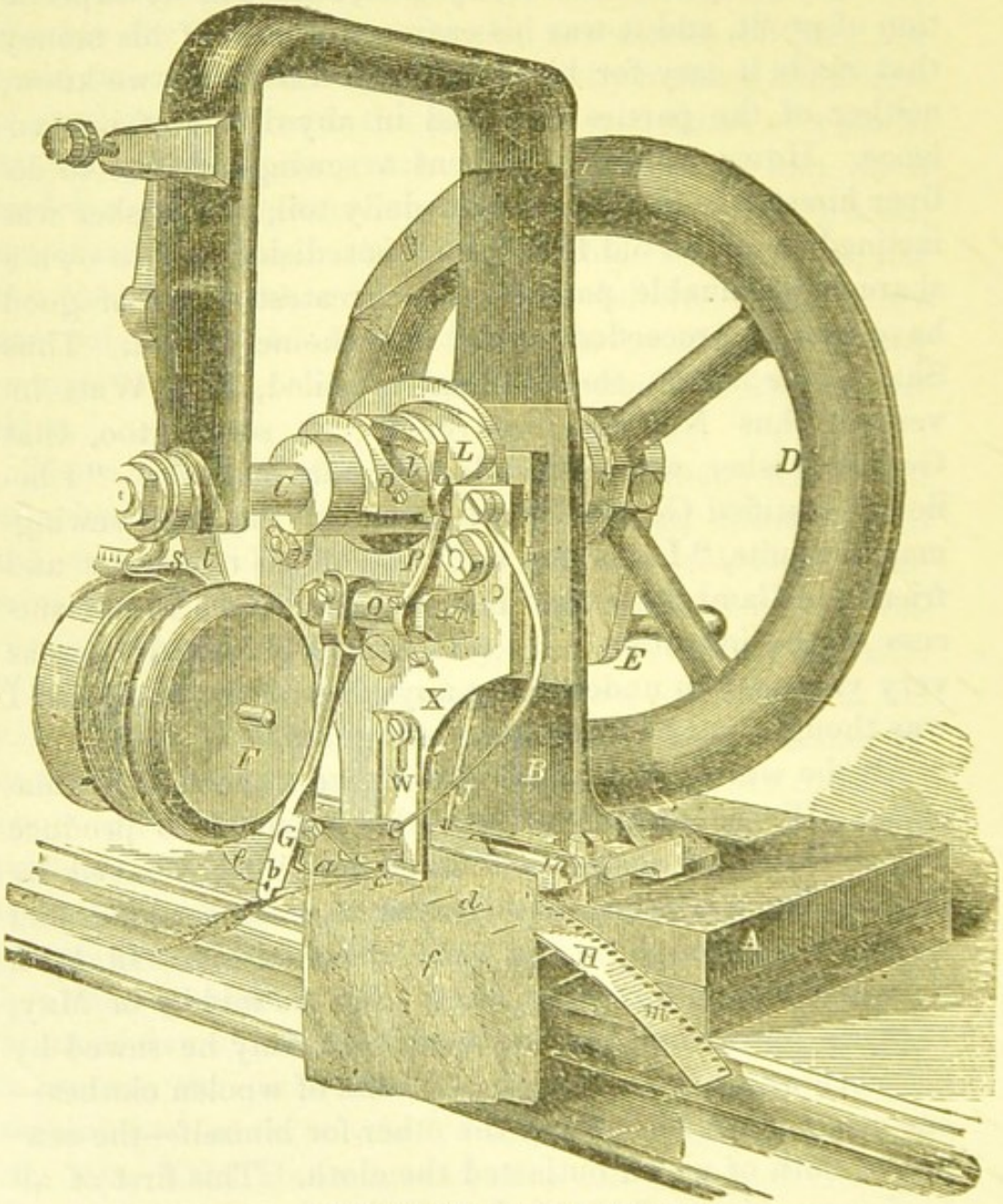
by a fire. With an invention in his head that has since given him more than two hundred thousand dollars in a single year, and which is now yielding a profit to more than one firm of a thousand dollars a day, he could scarcely provide for his little family the necessaries of life; nor could this invention be tested except by making a machine of steel and iron, with the exactness and finish of a clock. At the present time, with a machine before him for a model, a good mechanic could not, *with his ordinary tools*, construct a sewing-machine in less than two months, nor at a less expense than three hundred dollars. Elias Howe had only his model in his *head*, and he had not money enough to pay for the raw *material* requisite for one machine.

There was living then at Cambridge a young friend and schoolmate of the inventor, named George Fisher, a coal and wood merchant, who had recently inherited some property. The two friends had been in the habit of conversing together upon the project of the sewing-machine. When the inventor had reached his final conception, in the fall of 1844, he succeeded in convincing George Fisher of its feasibility, which led to a partnership between them for bringing the invention into use. The terms of this partnership were these: George Fisher was to receive into his house Elias Howe and his family, board them while Elias was making the machine, give up his garret for a workshop, and provide money for material and tools, to the extent of five hundred dollars; in return for which he was to become the proprietor of one-half the patent, if the machine proved to be worth patenting. Early in December, 1844, Elias Howe moved into the house of George Fisher, set up his shop in the garret, gathered materials about him, and went to work. It was a very small, low garret, but it sufficed for one zealous, brooding workman, who did not wish for gossiping visitors.

It is strange how the great things come about in this world. This George Fisher, by whose timely aid such an inestimable boon was conferred upon womankind, was led into the enterprise as much by good-nature as by expectation of profit, and it was his easy acquisition of his money that made it easy for him to risk it. So far as we know, neither of the parties indulged in any dream of benevolence. Howe wanted to invent a sewing-machine to deliver himself from that painful daily toil, and Fisher was inclined to aid an old friend, and not disinclined to own a share in a valuable patent. The greatest doers of good have usually proceeded in the same homely spirit. Thus Shakspeare wrote, thus Columbus sailed, thus Watt invented, thus Newton discovered. It seems, too, that George Fisher was Elias Howe's only convert. "I believe," testified George Fisher, in one of the great sewing-machine suits, "I was the only one of his neighbors and friends in Cambridge that had any confidence in the success of the invention. He was generally looked upon as very visionary in undertaking anything of the kind, and I was thought very foolish in assisting him."

All the winter of 1844–45 Mr. Howe worked at his machine. His conception of what he intended to produce was so clear and complete that he was little delayed by failures, but worked on with almost as much certainty and steadiness as though he had a model before him. In April he sewed a seam by his machine. By the middle of May, 1845, he had completed his work. In July he sewed by his machine all the seams of two suits of woolen clothes—one suit for Mr. Fisher and the other for himself—the sewing of both of which outlasted the cloth. This first of all sewing-machines, after crossing the ocean many times, and figuring as a dumb but irrefutable witness in many a court, may still be seen at the Howe Machine Company's office in Broadway, where it has recently sewed seams in

cloth at the rate of three hundred stitches a minute. It is agreed by all disinterested persons who have examined this machine, that Elias Howe, in making it, carried the



THE FIRST SEWING-MACHINE.

invention of the sewing-machine farther on toward its complete and final utility than any other inventor has ever brought a first-rate invention at the first trial. It is a

little thing, that first machine, which goes into a box of the capacity of about a cubic foot and a half. Every contrivance in it has been since improved, and new devices have been added, but no successful sewing-machine has ever been made, of all the million now in existence, which does not contain some of the essential devices of this first attempt. This assertion is made without hesitation or reserve, because it is, we believe, the one point upon which all the great makers are agreed. Judicial decisions have repeatedly affirmed it.

Like all the other great inventors, Mr. Howe found that, when he had completed his machine, his difficulties had but begun. After he had brought the machine to the point of making a few stitches, he went to Boston one day to get a tailor to come to Cambridge and arrange some cloth for sewing, and to give his opinion as to the quality of the work done by the machine. The comrades of the man to whom he first applied dissuaded him from going, alleging that a sewing-machine, if it worked well, must necessarily reduce the whole fraternity of tailors to beggary; and this proved to be the unchangeable conviction of the tailors for the next ten years. It is probable that the machines first made would have been destroyed by violence but for another fixed opinion of the tailors, which was that no machine could be made that would really answer the purpose. It seems strange now that the tailors of Boston could have persisted so long in such an opinion, for Mr. Howe, a few weeks after he had finished his first model, gave them an opportunity to see what it could do. He placed his little engine in one of the rooms of the Quincy Hall Clothing Manufactory, and, seating himself before it, offered to sew up any seam that might be brought to him. One unbelieving tailor after another brought a garment, and saw its long seams sewed perfectly, at the rate of two hundred and fifty stitches a minute, which was

about seven times as fast as the work could be done by hand. For two weeks he sat there daily, and sewed up seams for all who chose to bring them to him. He amused himself at intervals in executing rows of ornamental stitching, and he showed the strength of the machine by sewing the thick plaited skirts of frock coats to the bodies. At last he challenged five of the swiftest seamstresses in the establishment to sew a race with the machine. Ten seams of equal length were prepared for sewing, five of which were laid by the machine, and the other five were given to the girls. The gentleman who held the watch, and who was to decide the wager, testified upon oath that the five girls were the fastest sewers that could be found, and that they sewed as "fast as they could—much faster than they were in the habit of sewing"—faster than they could have kept on for one hour. Nevertheless, Mr. Howe finished his five seams a little sooner than the girls finished their five; and the umpire, who was himself a tailor, has sworn that "the work done on the machine was the neatest and strongest."

Upon reading testimony like this we wonder that manufacturers did not instantly set Mr. Howe at work making sewing-machines. Not one was ordered; not a tailor encouraged him by word or deed. Some objected that the machine did not make the whole garment; others dreaded to encounter the fierce opposition of the journeymen; others really thought it would beggar all hand sewers, and refrained from using it on principle; others admitted the utility of the machine, and the excellence of the work done by it, but, said they, "We are doing well as we are, and fear to make such a change." The great cost of the machine was a most serious obstacle to its introduction, as in 1845 he could not have furnished his machine for less than three hundred dollars, and a large clothier or shirt-maker would have required thirty or forty of them.

The inventor was not disheartened by the result of the introduction of the machine. The next thing was to get the invention patented, and Mr. Howe again shut himself up in George Fisher's garret for three or four months, and made another machine for deposit in the Patent Office. Late in the summer of 1846 the model and the documents being ready for the Patent Office, the two associates treated themselves to a journey to Washington, where the wonderful machine was exhibited at a Fair, with no results except to amuse the crowd. September 10, 1846, the patent was issued, and soon after the young men returned to Cambridge.

George Fisher was now totally discouraged. He had maintained the inventor and his family for many months; he had advanced in all about two thousand dollars, and he saw not the remotest probability of the invention becoming profitable. Elias Howe moved back to his father's house, and George Fisher considered his advance in the light of a dead loss. "I had lost confidence," he has since testified, "in the machine's ever paying anything."

But mothers and inventors do not give up their offspring so. America having rejected the invention, Mr. Howe resolved to offer it to England. In October, 1846, his brother, Amasa B. Howe, took passage in the steerage of a sailing packet, and conveyed one of the machines to London. An Englishman was the first manufacturer who had faith enough in the American sewing-machine to invest money in it. William Thomas employed, according to his own account, five thousand persons in the manufacture of corsets, umbrellas, valises, carpet-bags, and shoes. He examined and approved the machine. Necessity, as Poor Richard remarks, can not make a good bargain; but the bargain which it made on this occasion, through the agency of Amasa B. Howe, was signally bad. He sold to Mr. Thomas, for two hundred and fifty pounds sterling, the

machine he had brought with him, and the right to use as many others in his own business as he desired. There was also a verbal understanding that Mr. Thomas was to patent the invention in England, and if the machine came into use there, he was to pay the inventor three pounds on every machine sold. That was an excellent day's work for William Thomas, of Cheapside. The verbal part of the bargain has never been carried out. He patented the invention, and ever since the machines began to be used all sewing-machines made in England, or imported into England, have paid tribute to him at the rate of ten pounds or less for each machine. Elias Howe was of opinion that the investment of that two hundred and fifty pounds has yielded a profit of one million dollars. Mr. Thomas further proposed to engage the inventor to adapt the machine to the work upon corsets, offering him the munificent stipend of three pounds a week, and to defray the expense of workshop, tools, and material.

Amasa B. Howe returned to Cambridge with this offer. America being still insensible to the charms of the new invention, and the two hundred and fifty pounds having been immediately absorbed by the long-accumulating necessities of the family, and there being no prospect of advantageous employment at home, Elias Howe accepted the offer, and both brothers set sail for London February 5th, 1847. They went in the steerage, and cooked their own provisions. William Thomas provided a shop and its requisites, and even advanced money for the passage to England of the inventor's family, who joined him soon—wife and three children. After eight months of labor the inventor succeeded in adapting his machine to the purposes of the stay-maker, and when this was done the stay-maker apparently desired to get rid of the inventor. He required him to do the miscellaneous repairs, and took the tone with him which the ignorant purse-holder, in all lands, is

accustomed to hold in his dealings with those to whom he pays wages. The Yankee, of course, resented this behavior, and William Thomas discharged Elias Howe from his employment.

To be a poor stranger, with a sick wife and three children, in America is bad enough; to be such a person in London is to be in trouble without visible outlet.

He hired a small room for a workshop, borrowed a few tools and small sums of money of a kind man named Charles Inglis, and began another machine. His poverty pinched him so that he was obliged to send his wife to America to lessen expenses, and she being too ill to walk to the ship, and he having no money to pay cab-hire, borrowed a few shillings of Inglis for that purpose, repaying it by pawning some of his clothing to raise the amount. Poverty pinched the solitary inventor now worse than ever, and, says Mr. Inglis, "he has borrowed a shilling from me for the purpose of buying beans, which I saw him cook and eat in his room."

After three or four months of labor the machine was finished. It was worth fifty pounds. The only customer he could find for it was a workingman of his acquaintance, who offered five pounds for it if he could have time to pay it in. The inventor was obliged to accept this offer. The purchaser gave his note for the five pounds, which Charles Inglis succeeded in selling to another mechanic for four pounds. To pay his debts and his expenses home, Mr. Howe pawned his precious first machine and his letters patent. "He drew a handcart, with his baggage on it, to the ship, to save the expense of cartage;" and again he took passage in the steerage, along with his English friend, Charles Inglis. His brother Amasa had long before returned to America.

In April, 1849, Elias Howe landed in New York, after an absence of two years from the country, with half a

crown in his pocket. Four years had nearly elapsed since the completion of his first machine, and this small piece of silver was the net result of his labors upon that invention. He and his friend went to one of the cheapest emigrant boarding-houses, and Elias Howe sought employment in the machine shops, which luckily he found without delay. The news reached him soon that his wife was dying of consumption, but he had not the money for a journey to Cambridge. In a few days, however, he received ten dollars from his father, and he was thus enabled to reach his wife's bedside and receive her last breath. He had no clothes except those he daily wore, and was obliged to borrow a suit from his brother-in-law in which to appear at the funeral. It was remarked by his old friends that his natural gayety of disposition was quite quenched by the severity of his recent trials. He was extremely downcast and worn. He looked like a man just out after a long and agonizing sickness. Soon came intelligence that the ship in which he had embarked all his household goods had been wrecked off Cape Cod, and was a total loss.

But now he was among friends who hastened to relieve his immediate necessities, and who took care of his children. He was soon at work; not, indeed, at his beloved machine, but at work which his friends considered much more rational. He was again a journeyman machinist, at weekly wages.

As nature seldom bestows two eminent gifts upon the same individual, the man who makes a great invention is seldom the man who prevails upon the public to use it. Neither George Fisher nor Elias Howe possessed the executive force requisite for so difficult a piece of work as the introduction of a machine which then cost two or three hundred dollars to make, and upon which a purchaser had to take lessons as upon the piano, and which the whole body of tailors regarded with dread, aversion,

or contempt. It was reserved, therefore, for other men to educate the people into availing themselves of this exquisite labor-saving apparatus.

Upon his return home, after his residence in London, Elias Howe discovered, much to his surprise, that the sewing-machine had become celebrated, though its inventor appeared forgotten. Several ingenious mechanics, who had only heard or read of a machine for sewing, and others who had seen the Howe machine, had turned their attention to inventing in the same direction, or to improving upon Mr. Howe's devices. In fact, in 1849 a sewing-machine was carried about in Western New York and exhibited as a curiosity, at a charge of twelve and a half cents for admission.

The inventor, upon inspecting these crude products, saw that they all contained the devices which he had first combined and patented. Poor as he was, he was not disposed to submit to this infringement, and he began forthwith to prepare for war against the infringers. When he entered upon this litigation he was a journeyman machinist; his machine and his letters patent were in pawn three thousand miles away, and the patience, if not the purses, of his friends was exhausted. When the contest ended a leading branch of the national industry was tributary to him. The first step was to get back from England that first machine and the document issued from the Patent Office. In the course of the summer of 1849 he contrived to raise the hundred dollars requisite for their deliverance, and the Hon. Anson Burlingame, who was going to London, kindly undertook to hunt them up in the wilderness of Surrey. He found them, and sent them home in the autumn of the same year. The inventor wrote polite letters to the infringers, warning them to desist, and offering to sell them licenses to continue. All but one of them, it appears, were disposed to acknowledge his rights and to accept his pro-

posal. That one induced the others to resist, and nothing remained but to resort to the courts. Assisted by his father, the inventor began a suit, but he was soon made aware that justice is a commodity much beyond the means of a journeyman mechanic. He tried to re-awaken the faith of George Fisher, and induce him to furnish the sinews of war, but George Fisher had had enough of the sewing-machine; he would sell his half of the patent for what it had cost him, but he would advance no more money. Mr. Howe then looked about for some one who would buy George Fisher's share. He found three men who agreed to do this, and tried to do it, but could not raise the money.

The person to whom he was finally indebted for the means of securing his rights was George W. Bliss, of Massachusetts, who was prevailed upon to buy Mr. Fisher's share of the patent, and to advance the money needful for carrying on the suits. He did this only as a speculation. He consented to embark in the enterprise only on condition of his being secured against loss by a mortgage on the farm of the inventor's father. This generous parent came once more to the rescue, and thus secured his son's fortune.

The infringers of his patent were not men of large means nor of extraordinary energy, and they had no "case" whatever. There was the machine which Elias Howe had made in 1845, there were his letters patent, and all the sewing-machines then known to be in existence were essentially the same as his; but in August, 1850, a man became involved with the infringers who was of very different mettle from those steady-going Yankees, and capable of carrying on a much more vigorous warfare than they; this was Isaac Merritt Singer. In 1850 he saw for the first time a sewing-machine, and made an effort to improve it by adapting it to a greater variety of work,

which he succeeded in doing, and at once applied for a patent.

Such was the introduction to the sewing-machine of the man whose energy and audacity forced the machine upon an unbelieving public. He borrowed a little money, and forming a partnership with his Boston patron and the machinist in whose shop he had made his model, began the manufacture of the machines. Great and numerous were the difficulties which arose in his path, but one by one he overcame them all. He advertised, he traveled, he sent out agents, he procured the insertion of articles in the newspapers, he exhibited the machine at fairs in town and country.

Mr. Singer had not been long in the business before he was reminded by Elias Howe that he was infringing his patent. The adventurer threw all his energy and his growing means into the contest against the original inventor.

In the year 1854, after a long trial, Judge Sprague, of Massachusetts, decided that "the plaintiff's patent is valid, and the defendant's machine is an infringement." The plaintiff was Elias Howe. Judge Sprague further observed, that "there is no evidence in this case that leaves a shadow of doubt that, for all the benefits conferred upon the public by the introduction of a sewing-machine, the public are indebted to Elias Howe."

This decision was made when nine years had elapsed since the completion of the first machine, and when eight years of the term of the first patent had expired. The patent, however, even then, was so little productive, that the inventor, embarrassed as he was, was able, upon the death of his partner, Mr. Bliss, to buy his share of it. He thus became, for the first time, the sole proprietor of his patent; and this occurred just when it was about to yield a princely revenue. From a few hundreds a year, his in-

come rapidly increased, until it went beyond two hundred thousand dollars.

Many valuable additions and improvements have been made to the sewing-machine by other persons, Allen B. Wilson, perhaps, taking the first rank; but all the double-thread machines are obliged to use Elias Howe's "shuttle," or its equivalent, and all machines must use his "needle with the eye near the point," and thus must pay to him a royalty. His invention covered essential points in all sewing-machines.

When, by the decision of the courts, all the makers had become tributary to Elias Howe, paying him a certain sum for each machine made, then a most violent warfare broke out among the leading houses—Singer & Company, Wheeler & Wilson, Grover & Baker—each accusing the others concerned of infringement. At Albany, in 1856, these causes were to be tried, and parties saw before them a good three months' work in court. By a lucky chance one member of this happy family had not entirely lost his temper, and was still in some degree capable of using his intellect. It occurred to this wise head that no matter who invented first, or who second, there were then assembled at Albany the men who, among them, held patents which controlled the whole business of making sewing-machines, and that it would be infinitely better for them to combine and control than to contend with and devour one another. They all came into this opinion, and thus was formed the "Combination" of which such terrible things are uttered by the surreptitious makers of sewing-machines. Elias Howe, who was the best-tempered man in the world, and only too easy in matters pecuniary, had the complaisance to join this confederation, only insisting that at least twenty-four licenses should be issued by it, so as to prevent the manufacture from sinking into a monopoly. By the terms of this agreement Mr. Howe was to

receive five dollars upon every machine sold in the United States, and one dollar upon each one exported. The other parties agreed to sell licenses to use their various devices, or any of them, at the rate of fifteen dollars for each machine; but no license was to be granted without the consent of all the parties. It was further agreed that part of the license fees received should be reserved as a fund for the prosecution of infringers. This agreement remained unchanged until the renewal of Mr. Howe's patent in 1860, when his fee was reduced from five dollars to one dollar, and that of the combination from fifteen dollars to seven. That is to say, every sewing-machine honestly made pays Elias Howe one dollar; and every sewing-machine made, which includes any device or devices, the patent for which is held by any other member of the Combination, pays seven dollars to the Combination. Of this seven dollars Mr. Howe receives his one, and the other six go into the fund for the defense of the patents against infringers.

The business of making and selling sewing-machines, which was not fairly started before 1856, has attained a truly wonderful development. Twenty firms or companies are engaged in the business. One of these has twenty-four stores of its own in the large cities of the world, besides a much larger number of local agents.

About one-fifth of all the machines made in the United States are exported to foreign countries. Foreigners can no more make a Yankee sewing-machine than they can make a Yankee clock. They have not the machinery—as curious as the machine itself—by which each part of the apparatus is made at the minimum of expense, and with perfect certainty of excellence. To found a sewing-machine manufactory in Europe which could compete with those of America, would involve the expenditure of two millions of dollars, and the expatriation of several of our American

foremen. It is only upon a great scale that machines can be made well or profitably.

By means of the various improvements and attachments the sewing-machine now performs nearly all that the needle ever did. It seams, hems, tucks, binds, stitches, quilts, gathers, fells, braids, and embroiders, and makes button-holes. It is used in the manufacture of every garment worn by man, woman, or child. Firemen's caps, the engine hose which firemen use, sole-leather trunks, harness, carriage curtains and linings, buffalo-robes, horse-blankets, horse-collars, powder-flasks, mail-bags, sails, awnings, whips, saddles, corsets, hats, caps, valises, pocket-books, trusses, suspenders, are among the articles made by its assistance; but it is employed quite as usefully in making kid gloves, parasols, and the most delicate article of ladies' attire.

Attempts have been made to estimate the value, in money, of the sewing-machine to the people of the United States. Professor Renwick, who has made the machine a particular study, expressed the opinion twelve years ago, on oath, that the saving in labor then amounted to nineteen millions of dollars per annum. Messrs. Wheeler & Wilson have published an estimate which indicates that the total value of the labor performed by the sewing-machine, in 1863, was three hundred and forty-two millions of dollars; and since that time there has been a great increase. A good hand sewer averages thirty-five stitches per minute; the fastest machine, on some kinds of work, performs three thousand a miuute. There are in a good shirt 20,620 stitches—what a saving of time, labor, and expense to do them at machine speed! It is, indeed, fit to honor such an inventor.

Mr. Howe died in Brooklyn, N. Y., October 3d, 1867, aged forty-eight years, and his remains were taken to Cambridge, Mass., for burial.

CHARLES GOODYEAR.

Enthusiasm is an essential attribute of an inventor. It promises success in new fields of thought and effort, and braces the spirit to self-sacrificing heroism that scorns hardships and mocks opposition. Fulton endured ridicule and opposition, and toiled in poverty, while his enthusiasm was warmed by the prophetic visions which now float over the waters of the wide world like fairy palaces. Morse, too, penniless and almost friendless, studied and labored to harness the fiery agent which the enthusiastic Franklin, three-quarters of a century before, had bravely invited from the stormy heavens.

Charles Goodyear, imbued with the same spirit, would listen to no persuasion from his friends to abandon that which, to them, appeared a hopeless project; and though his means were expended, and his credit exhausted with cool, business men, and he saw nothing before him but penury and the poor-house, he did not give up his darling thought. His hope, undimmed, burned with unabated fervor in the darkest hour, and thus sustained him until his conquest was completed.

We remember seeing him, haggard and weary, in the darkest hours of his struggle, and, though he was pointed out to strangers as the man who was "crazy on the subject of India-rubber," we saw, in the pale and care-worn man, evidences of the faith and hope that, though cast down, are not destroyed, and a gleaming fire in his eye that bespoke confidence in himself and in his great idea.

Few inventions have done more to increase human comfort than that by which caoutchouc, or India-rubber, is made available, as it now is, for so many uses. It forms an important part of a lady's bracelet—and it constitutes the rail-car spring which bears a burden of many tons, and yet gives to the motion of the car an almost liquid softness. It would, indeed, be difficult to tell where it is

not in some form used; and hardly a day passes that some new mode of employing this ubiquitous and infinitely pliable and elastic article is not developed.

We remember when India-rubber was used only to erase pencil-marks from paper—hence its name "rubber." The rude shoes first made over lasts of clay, half an inch thick, and so stiff and hard when exposed to a low temperature, that human power could produce scarcely any effect upon them, were thought a great achievement. Its quality of resisting water, and its freedom from a tendency to rot like other fabrics, made it desirable for articles of clothing and other purposes. It was seen that if India-rubber could be made pliable like cloth or soft leather, not liable to harden in the cold nor melt in a high temperature, a great desideratum would be gained. As it was a new article, chemistry could give little light on the subject. It was left for such men as Goodyear to exhaust everything but the genius of invention, sustained by hope, until success crowned his efforts.

Charles Goodyear was born in New Haven, Conn., December 29, 1800. In 1834 he engaged steadily in experiments to overcome the difficulties which beset the manufacture of rubber. Destitute of means, and pinched with poverty, sometimes imprisoned for debt, driven from place to place, he still pursued the thought of his life. He went from New York to New Haven in 1836; to Staten Island in 1837; in the same year to Roxbury, Mass.; and the next to Woburn, Mass., where he met Mr. Hayward, a fellow-laborer in the same field, and bought from him his "Sulphur Invention," and hired him to assist in continued experiments until he finally realized his hopes; and in June, 1844, he obtained his great patent for *vulcanizing* rubber by heat and sulphur.

He went to Naugatuck, Conn., and was aided by his brother-in-law, Mr. De Forest, to start a large establish-

ment for the manufacture of shoes and other beautiful fabrics from the new material. "He had added to the arts," says Parton, "not a new material merely, but a new class of materials, applicable to a thousand divers uses. It



CHARLES GOODYEAR.

was still India-rubber; but its surface would not adhere, nor would it harden at any degree of cold, nor soften at any degree of heat. It was a cloth impervious to water. It was a paper that would not tear. It was parchment

that would not crease. It was leather which neither rain nor sun would injure. It was ebony that could be run into a mold. It was ivory that could be worked like wax. It was wood that never cracked, shrunk, nor decayed. It was 'elastic metal,' as Daniel Webster termed it, that could be wound around the finger or tied into a knot, and which preserved its elasticity almost like steel. Trifling variations in the ingredients, in the proportions, and in the heating, made it either as pliable as kid, tougher than ox-hide, as elastic as whalebone, or as rigid as flint."

Though Mr. Goodyear had nominal prosperity, infringements upon his patents caused him much harassing litigation; but he was everywhere honored and respected.

Mr. Webster, in his great argument in behalf of Mr. Goodyear's patent, and the last time this prince of advocates ever appeared at the bar, said, "It would be painful to speak of his extreme want; the destitution of his family, half clad, he picking up with his own hands little billets of wood from the wayside to warm the household; suffering reproach—not harsh reproach, for no one could bestow that on him—and receiving indignation and ridicule from his friends." "Is Charles Goodyear the discoverer of this invention of vulcanized rubber? Is there a man in the world that found out that fact before Charles Goodyear? Who is he? Where is he? What man, among all the men on earth, has seen him, known him, named him? I say there is not in the world a human being that can stand up and say that it is his invention except the man who is sitting at that table. I believe the man who sits at that table—Charles Goodyear—is to go down to posterity, in the history of the arts in this country, in that class of great inventors at the head of which stands Robert Fulton."

Worn by excessive brain-labor, anxiety, and care, and wasted by disease, Mr. Goodyear died July 1st, 1860.



ARTHUR PENRHYN STANLEY,

DEAN OF WESTMINSTER.

Early in the fall of 1878, a distinguished prelate of the Church of England landed in New York, made a rapid tour, and returned to his home. It was Arthur Penrhyn Stanley, dean of Westminster. Well known in the Christian world for his earnest piety, broad charity, in which there appears scarcely a trace of denominational ascet-

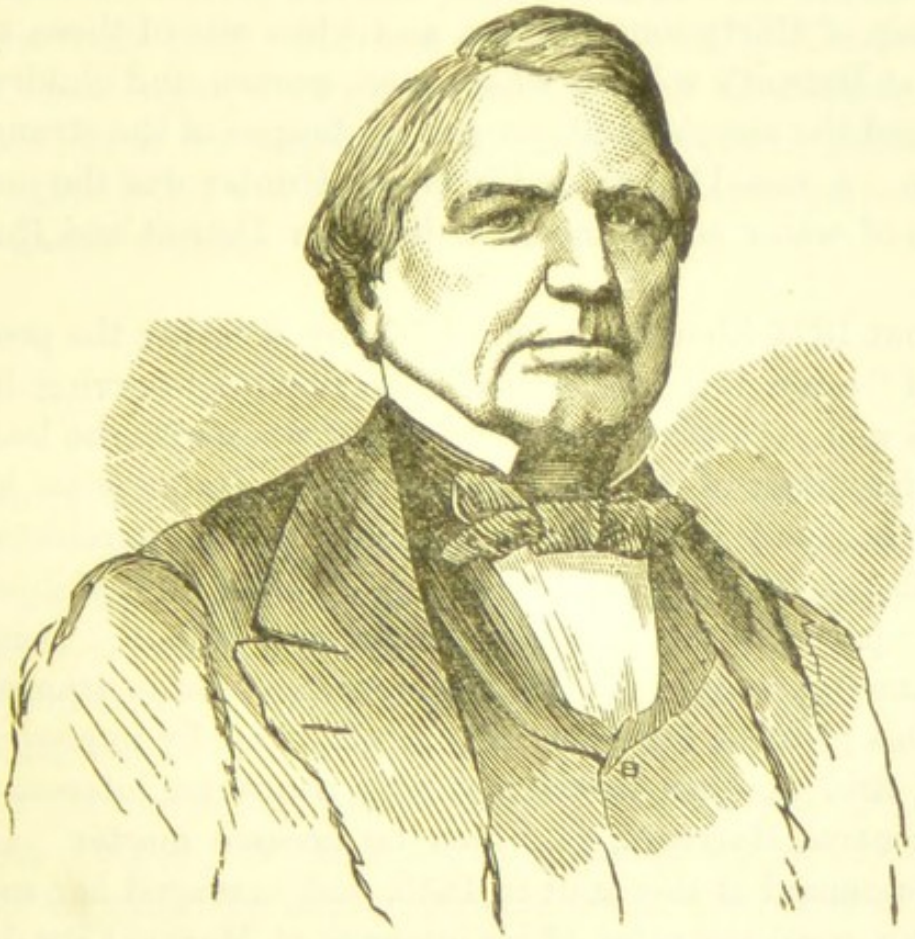
icism, and for high literary culture, the cordial welcome which this gentleman received at the landing and wherever his footsteps led, was a foregone conclusion.

The general expression of his face and head was that of refinement, susceptibility, and self-possession, with a kind of interior intensity which made him wonderfully in earnest and very sincere. He was a clear, strong, far-reaching thinker, and a great critic. His Benevolence and Veneration were strongly indicated. He recognized the good there is in men, and made allowance for the unfortunate and unfavorable conditions which are associated with humanity. For this reason he made more friends among poor people and those who are not commonly well received than almost any other man in his sphere of action. The poor, ignorant and weak were not afraid to look him in the face and tell him their wants, and even their faults; so that while he was the equal, intellectually and morally, of strong men and cultivated thinkers, he was approachable to the commonest.

He was born at Alderly, Cheshire, on the 13th of December, 1815. His early training received its chief impulse at Rugby under Dr. Arnold. From Rugby he passed to Oxford University, where he was graduated. In 1851 he was appointed Canon of Canterbury, and a few years later Regius Professor of Ecclesiastical History at Oxford. This chair he kept from 1856 to 1864, when he was made Dean of Westminster, and as such has been conspicuous in English life not only, but in the Christian world at large. Few men in the ecclesiastical office have borne themselves with so much dignity and with so much advantage to the religious institutions with which they were connected.

An American writer very properly characterizes him as not merely a divine, or a scholar, or an author, but a man of the age, exquisitely sensitive to poetry and art, and keenly alive to the charm which there is about ancient

places and venerable institutions. He loves knowledge, his library, his books, and the society of scholars, but he wants to mingle also with the great living world that rolls and dashes in the ocean outside of cathedral walls. He died on the 18th of July, 1881.



CAPT. EBER B. WARD,

THE GREAT BUSINESS MAN OF MICHIGAN.

By the death of Captain Ward, in 1875, the West lost one of the strongest agents in her rapid development of the last forty years. He was a man of tremendous force, indomitable energy, and intense practicality. Physically he was a massive man, weighing two hundred pounds or more, with broad shoulders and a strong frame. He was

born in Canada (although an American citizen) in 1811, his parents having been temporarily in that country.

Mr. Ward, Sr., first visited Detroit in 1821. This was sixteen years after the old town had been destroyed, and at a period when there was but one frame house in the town, the average buildings being of logs, with cedar bark roofs. At this time the largest vessel that floated on the lakes was only of thirty tons burden, and when one of these arrived at Detroit's solitary wharf, men, women, and children thronged the river's bank to get a glimpse of the strange visitor. A vessel known as the Greek Hunter was the only means of water communication between Detroit and Buffalo.

About 1824 Eber commenced life by securing the position of "cabin boy" on a small schooner. Observing his energy and activity, Mr. Samuel Ward, an uncle, the leading ship-builder of Marine City, called the youth from his sailor life, and gave him a clerkship in his warehouse. This change marked the beginning of a life of usefulness and importance in Michigan commercial affairs. Being constantly in connection with interesting marine transactions, his growing business talents were rapidly improved.

His first floating investment was a quarter interest in the General Harrison, of which he became master. He took command of this craft in 1835, and managed her successfully, until the value of his interests at Marine City demanded his presence there. He was admitted as a partner with his uncle, and he continued a most successful business until 1850, when he withdrew from the firm and went to Detroit, where a larger and less occupied field afforded him a peculiar opportunity for success. From that day he pushed the marine interests of Detroit with a giant hand, and built and owned many vessels.

Mr. Ward gradually withdrew from the vessel business and invested his extensive capital in another direction. He

was heavily interested in the Chicago Rolling Mills, and in a similar corporation in Milwaukee, Wis., and in the Wyandotte Rolling Mill, and owned real estate to the amount of over two millions of dollars, and had in the neighborhood of three millions invested in different speculations.

No disaster can conquer such a man. Strip him of his possessions, but he will not yield; will rub his hands and take a fresh hold. He had the enterprise of Vanderbilt with more vigor, a large brain, cultivated by reading the best books in the language. With his powerful physique and indomitable will he would have risen to distinction in any useful vocation.

JOHN W. GARRETT,

PRES. BALTIMORE AND OHIO RAILWAY.

We presume that there is not a railway or business man in the country to whom the name of John W. Garrett is not familiar. He is known to the entire country, and in the commercial centers of Europe, as the head of the great corporation that controls the Baltimore and Ohio Railway and its connections.

He was born in Baltimore, July 21, 1820, and left Lafayette College, at Easton, Pa., at nineteen, to enter his father's commercial counting-room, whither his brother had preceded him as partner. The two sons widened the business, and it became the American branch of the great house of Peabody & Co., of London, and represented in this country some of the most important commercial houses of London and Liverpool.

In 1858 Mr. Garrett was elected president of the Baltimore and Ohio Railway Company. A new order of things appeared, and at the next annual meeting of the company its fruits were apparent. The gross receipts of the road for 1859 was an increase of $725,325.16 in the

comparative net gains. The first practical result of it was the payment to the stockholders in the spring of 1859 of the first semi-annual dividend of the regular series, which has never been interrupted since.

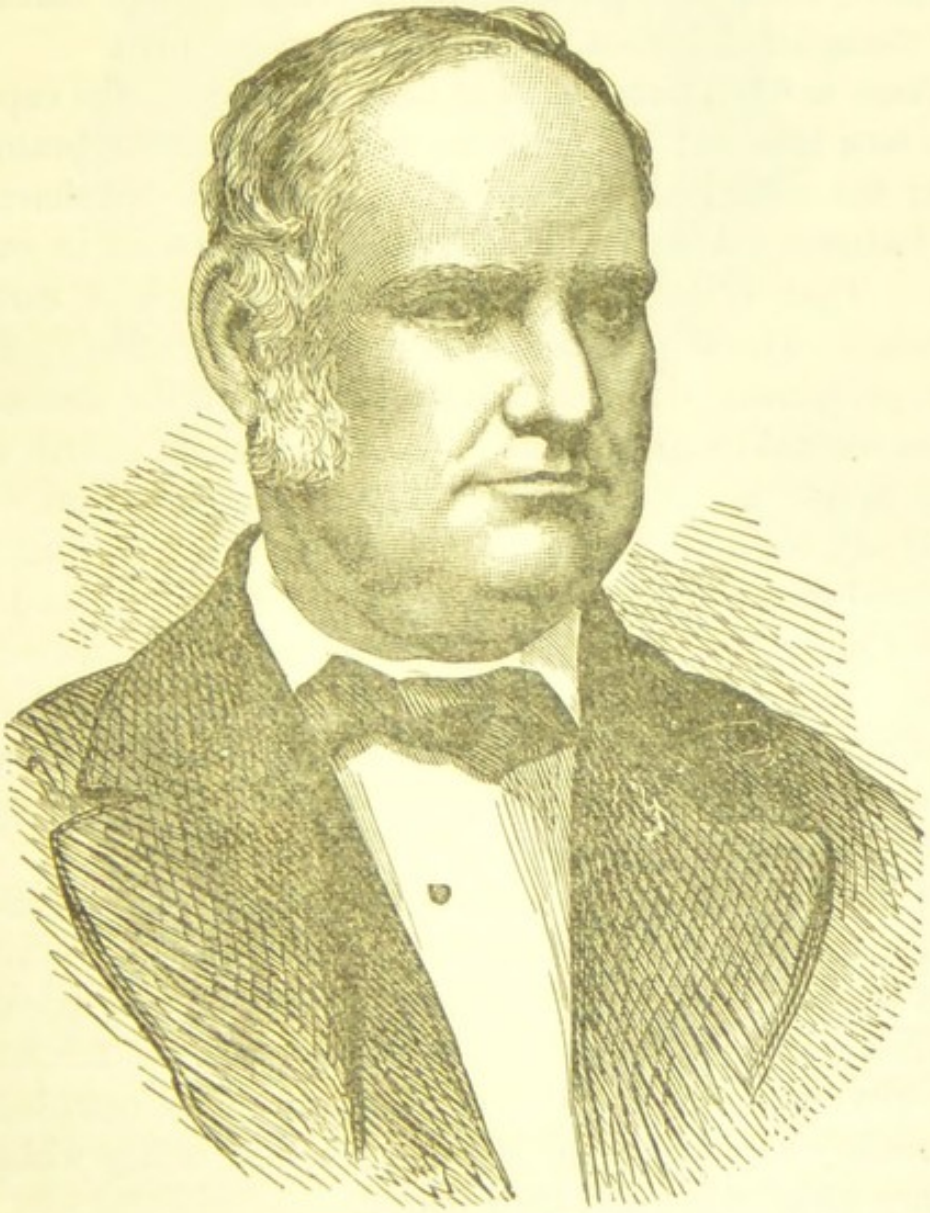
In 1858 when Mr. Garrett first took part in the management the stock of the road was quoted at $57. A recent quotation in the Baltimore Stock Board makes the stock stand at $200, and none to be had even at this figure.

We like this face. It looks stanch, steadfast, and determined. It looks honest and intelligent, as if the owner had no concealments, and no need of them, and could be trusted in business, social or political life. He has a world of intuition—that sense of truth which comes flashing upon the mind without waiting to verify its evidences, and brings conviction and decision. This is a man for emergencies; and will manage more crooked and restless men than most men in similar relations, and he has peculiar ability to bring men to terms who would quarrel with nearly everybody. He will win friends among foes. He has the tact to disagree with people without exciting their animosity.

He is very friendly, large-hearted, genial, and calculated to inspire confidence; is a first-rate judge of strangers. Men stand before him luminous, and he looks through them as one can look through a ladder, and it does not do much good for people to try to deceive him. He does not believe in sham of any sort. He believes in justice; he loves it because it is just. He has the tendency to mind his own business, and to be master of it; to feel self-satisfied with his efforts, with his judgment, and is willing to be criticised.

During the late war Mr. Garrett played a very important part in its conduct, and few have any idea of how intimate was his connection with many of the most important military operations that took place. President Lincoln had the greatest confidence in Mr. Garrett's judgment, and

some of the most critical movements of the Union armies were made upon his advice. His relations with the Government were marked by excellent judgment, tact, and consummate ability.



JOHN W. GARRETT.

Mr. Garrett's absorbing interests have not deterred him from humanitarian pursuits, and he is a well-read and cultivated gentleman. In person he is large and portly, of affable and polished manners, determined and curt of business speech, but withal a pleasant and agreeable man.

JAMES LICK, OF CALIFORNIA

THE BENEVOLENT MILLIONAIRE.

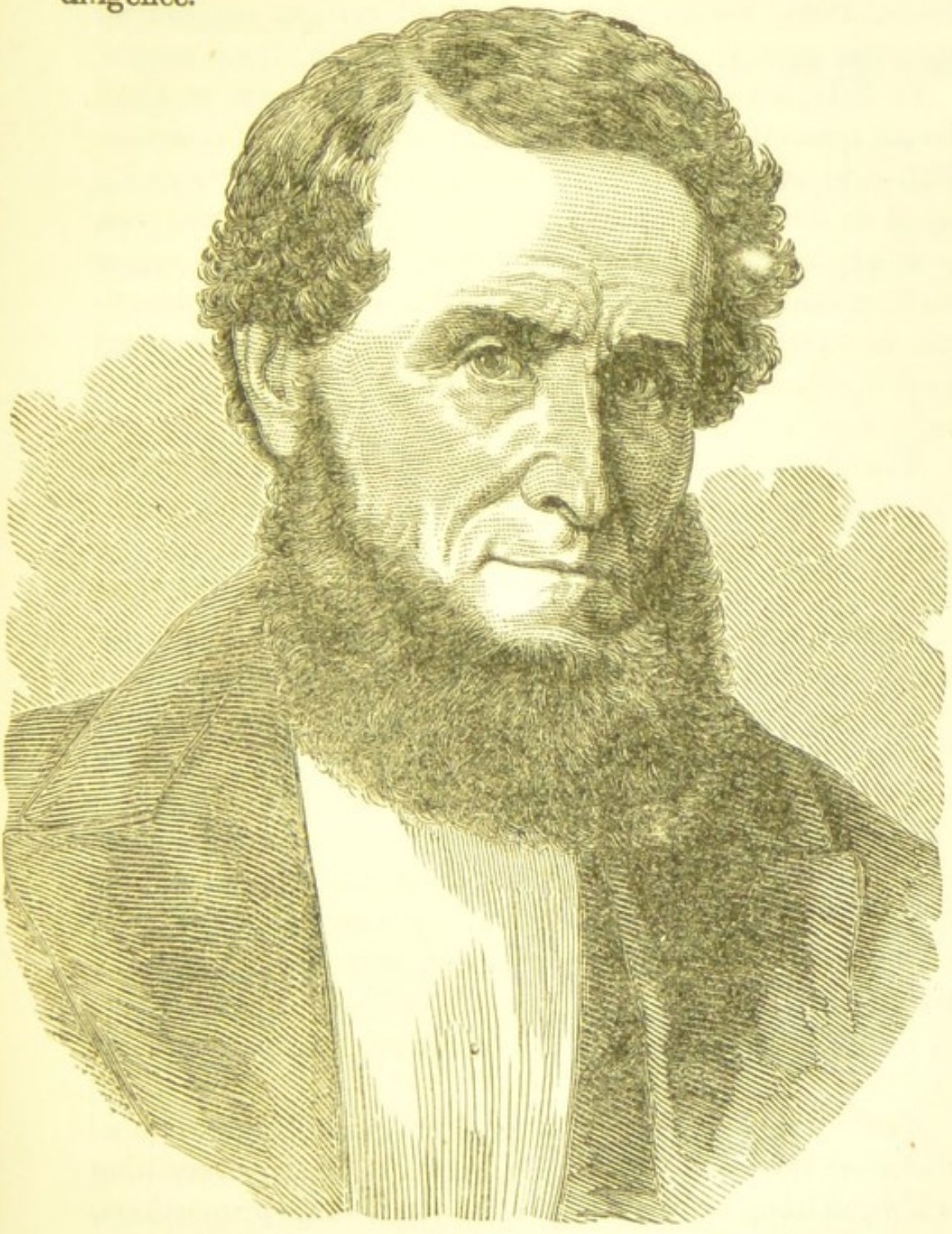
THIS face indicates an active, keen, shrewd, cautious, secretive, earnest, tenacious, persevering, saving, calculating thoughtful, honest, kindly, enterprising man.

There is "business" in that head and face. The expression how intense! There is no dullness in either brain or face; the clear penetrating mind acts through and sharpens the features. Activity, energy, go-ahead are seen in every line. That closely-knit brow means close and careful scrutiny. Those piercing eyes mean penetration. That thin, prominent nose, with its dilating nostrils, means an active mental temperament. That compressed mouth and long upper lip mean determination and decision. He could say no, and stick to it. That high, broad, and full forehead means ability to think, reason, originate; and the large Constructiveness assists in planning and contriving; while the large Combativeness and Destructiveness contribute toward the execution of his designs. He had large Firmness and Continuity, and so held steadily to a purpose, finishing what he began.

Of Mr. JAMES LICK who has not heard, especially through the general interest awakened by his munificent contributions to California science, art, and society? The peculiar features of his gift-making, challenge respect, for, while they are out of the usual line of endowments established by wealthy capitalists, they have a practical utility which is at once understood and appreciated.

James Lick was born at Fredericksburg, Lebanon Co., Penn., on the 25th of August, 1796. Having a mechanical turn of mind, he was not satisfied with the pursuit of his father, who was a farmer. He desired to engage in enterprises of a broad, expansive character, and in whatever he attempted as a young man, with few facilities and fewer

encouragements. he exhibited rarest energy, enterprise, and diligence.



JAMES LICK.

In 1821 he left his old home and went to South America. In Buenos Ayres he spent ten years, owning or controlling

large ranchos. He lived in Chili four years, and eleven in Lima, Peru, always pushing forward certain commercial projects, quietly, unobtrusively, but with excellent results.

In 1847, when the news of the gold discoveries in California reached him, he was a business man in Valparaiso. Believing an opportunity had come for a grand "strike," he at once set out for San Francisco, and there selected such property as his keen foresight decided would rapidly appreciate in value, and invested the profits of his South American ventures in it. It is said that he then purchased land to the extent of $20,000 worth, and to-day that land is valued at millions.

The good judgment of Mr. Lick is well shown in the following incident, which we find in a California publication:

"In 1853, J. B. Weller, United States Senator from California, said, in his place, 'I would not give six bits for all the agricultural lands in California.' At this very time Mr. Lick was preparing the foundations for a flouring-mill in Santa Clara County, which, with its massive foundations, fine burr-stones and interior finishings of solid mahogany, had, before it was completed, cost him half a million of dollars. This done, he took fifty acres of adjoining land, reduced its surface to a spirit level, and set, by the square and compass, with his own hands, the whole with the choicest varieties of pear trees. These operations, and numerous others, proved very remunerative."

Ten years or so later he erected the Lick House, one of the finest hotels in the country. In fine, nearly everything which he has done since 1855 has been of large proportions, at once creditable to the man and honorable to city and State where he has made his home. He had not forgotten his birthplace in Lebanon County, Penn., for he had the old house removed all the way to his farm in California, and

there set up and furnished with the same appointments as were familiar to him so many years ago.

The manner in which Mr. Lick has applied his vast estate is thus set forth :

"To the observatory, founded by him on Mt. Hamilton, he gave $700,000, to purchase such a telescope and other apparatus as the world had not yet seen. He gave $100,000 for public monuments in Sacramento, and $150,000 for city baths for the people ; $540,000 for a school of mechanical arts in California, and $60,000 for a monument in Golden Gate Park to Francis B. Key, author of 'The Star-Spangled Banner.' Various sums are given to beneficent societies—for instance : 'Old Ladies' Home, San Francisco, $100,000 ; Ladies' Protection and Relief Society, San Francisco, $25,000 ; Protestant Orphan Asylum, San Francisco, $25,000 ; Orphan Asylum, San José, $25,000 ; Mechanics' Institute, San Francisco, $10,000 ; Society for the Prevention of Cruelty to Animals, San Francisco, $10,000 ; to Academy of Sciences and Pioneer Society, San Francisco, residue of estate—perhaps $225,000.'"

Some criticism has been made on the large amount designated by Mr. Lick for the Key monument, and in this place it may be stated that that munificent patron of art had more reason for his act in this behalf than people, not old Californians, appreciate.

When California was on the brink of being hurried out of the Union, by secession advocates, in 1861, that song was hissed from the stage in the leading theatre of San Francisco. The following evening that theatre was densely crowded with lovers of the old flag, and as it appeared upon the stage in the hands of the lady vocalist who had been driven off the night before, the Star-Spangled Banner was greeted with one of the most thrilling and soul-stirring acclaims that ever went up from human voices, and that night secession stock in San Francisco went almost to

zero, and never rose again. For a long time after that the soul-stirring verses were among the most popular of songs sung on the Pacific slope. Mr. Lick's proposed memorial to its author is an expression of patriotic remembrances.

His gifts amount to $2,000,000. He provided for the comfort of his relatives also, and reserved to himself his homestead and $25,000 a year.

Taken altogether a more splendid act of benevolence and public-spiritedness does not exist on the record of American millionaries.

Mr. Lick died in 1876.

SAMUEL SLOAN.

PRES. DELAWARE, LACKAWANNA, AND WESTERN R. R.

Every person on looking at this portrait must be struck with the remarkable character of its outlines, chiseled on the principle of accuracy, precision, and delicacy. There are thought and sentiment, positiveness, endurance, and earnestness. He is remarkable for his quickness of observation, his accuracy of opinion, and for a self-poised decisiveness with which he reaches conclusions.

He would have made a very able lawyer, his power showing itself in the clearness of his plans, correctness of judgment, and in the quiet persistency with which he would have gone forward in carrying out his purposes.

He was born on Christmas Day, 1817, at Lisburn, near Belfast, Ireland. His parents were Scotch Presbyterians, industrious, frugal, and intelligent. He was about two years old when they emigrated to America, and settled in the city of New York. Samuel became a pupil in the first public school of New York; he afterward attended the grammar school of Columbia College, and continued his studies until his father's death, in 1830. He secured a

clerkship in an old-established commercial house, and remained with it until 1845, when he was deemed worthy of a partnership. Mr. Sloan, having in 1855 been elected



SAMUEL SLOAN.

President of the Hudson River Railroad Company, retired from the business, and gave his whole attention to the interests of the railway.

In the fall of 1857 he was elected State Senator. Mr. Sloan remained in the presidency of the Hudson River

Railroad until 1867, and a year after was elected on a commission of the trunk railroad, consisting of the New York and Erie, the Baltimore and Ohio, New York Central, and Pennsylvania Railroad Companies, adjusting complications arising out of the competition in the passenger and freight traffic of the railroads mentioned.

He had been a director in connection with the Delaware, Lackawanna and Western Railroad Company ever since 1864, and in February, 1869, he was elected president of that extensive organization.

Mr. Sloan is the personification of a business man, distinguished by sound and practical sense. He is a fluent writer, expressing his meaning in clear and terse language. He has ever taken an interest in philanthropic and religious matters, exhibiting in these, as well as in his business relations, intelligence and executive skill. In his general deportment he is quiet and unostentatious. He is tall and slender, with hair formerly dark, now tinged with gray, and dark eyes, and a face indicating a studious and reflective habit of mind.

GEN. GEORGE A. CUSTER.

The death of Gen. Custer and of his command in the campaign against the Sioux in Montana, June 25, 1876, produced a deep impression throughout the country. His dashing, chivalric character was the admiration of all who esteem high courage and soldierly prowess, and his death is felt to be a national loss. One year before his death he obtained a written description of character at our office, and the examiner (the author) had not the slightest inkling of the name and rank of his subject until after he had closed his dictation. The description appears in full in the *Phrenological Journal* for Sept., 1876. We make a single quotation :

"You should always avoid overdoing. It is as natural for you to overdo as it is for birds to spread their wings when they feel in a hurry, and it makes little difference what your



GEN. GEO. A. CUSTER.

business is, you would contrive somehow to overdo at it. You make work of pleasure. If you were an overworked citizen and went to the country to rusticate for a month in the summer, you would get up all sorts of enterprises, and

excursions to mountain-tops, romantic ravines, fishing grounds and what-not; and you would blister your hands with rowing, and your feet with tramping, and your face with unaccustomed exposure to sunshine, and you would be a sort of captain-general of all such doings. If you were an army officer and in active service, you would get as much work out of a horse as General Custer or Phil. Sheridan would, that is to say, as much as the horse could render. If you were running a machine, that machine would have to go a few turns faster to the minute than machines of that sort are generally run."

George A. Custer was born in Ohio about the year 1839. At the age of sixteen he received a nomination to West Point, and graduated in June, 1861. The war had just begun and the armies were organizing, and he was sent into active service with the Fifth Regular Cavalry as a first lieutenant under McClellan. In the summer of 1863, he was made a brigadier-general of volunteers, and he did good work in the battle of Gettysburg, and was brevetted a major in the regular army on the day of the conflict at Gettysburg, and in 1864 he was brevetted major-general of volunteers, then being but about twenty-four years of age. On the 13th of March, 1865, he was brevetted major-general in the regular army.

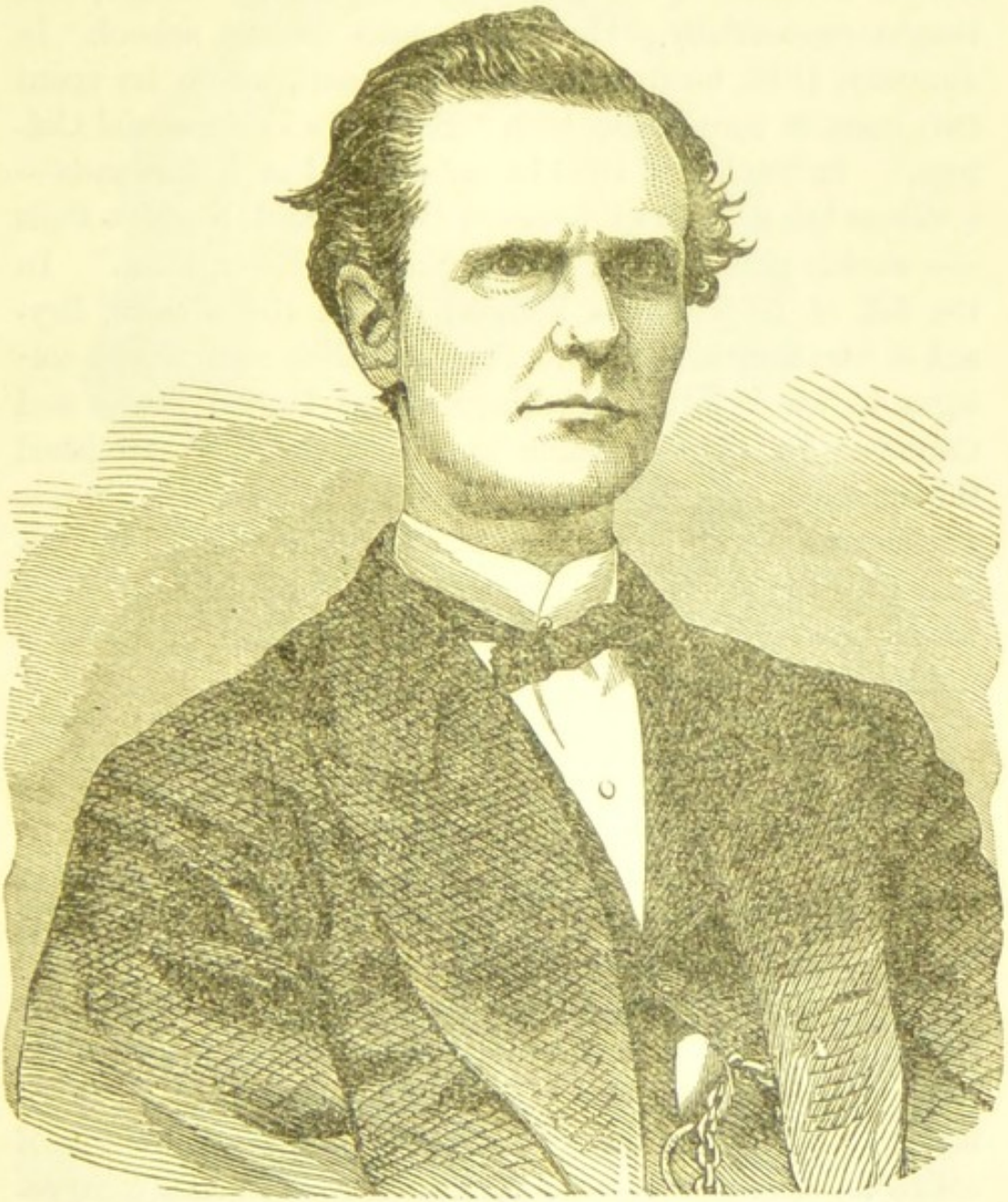
S. S. PACKARD,

PRESIDENT OF PACKARD'S BUSINESS COLLEGE.

Mr. S. S. Packard, whose portrait is before the reader, looks to be the active, wide-awake, intense spirit he is. He stands about five feet nine, and weighs nearly one hundred and fifty pounds. His eyes are blue, his hair brown, his complexion fair.

His brain is decidedly large, nearly twenty-three inches in circumference, and its quality is good. The mental tem

perament greatly predominates, and he is of the high-pressure stamp. He is capable of excelling in any one of a hundred pursuits. He has great versatility, vivacity,



S. S. PACKARD.

enthusiasm, and push. We count him among our rising men, and, through his college, making a high mark.

He was born in Cummington, Massachusetts, April 28, 1826. His father, with his five boys, sought as a home the

then new country of Ohio. When about fourteen he attended a boys' academy at Granville, about six miles away. He excelled in penmanship, and at the age of sixteen determined to enter upon his career as writing master, and taught successfully. He then taught district school. In January, 1848, he removed to Cincinnati, where he spent two years in connection with "Bartlett's Commercial College." In the fall of 1853 he established at Tonawanda—a village lying midway between Buffalo and Niagara Falls—a weekly paper, called "The Niagara River Pilot." In the fall of 1856 he was induced to join the Messrs. Bryant & Stratton in their efforts to establish commercial colleges in every city and village of the United States and Canada. In 1858 he came to New York, and established the most excellent institution which he has now in charge. Its success is well and widely known. In 1859–60 he prepared for the press three separate works on book-keeping, which have met the expectation of publishers, and also a public demand.

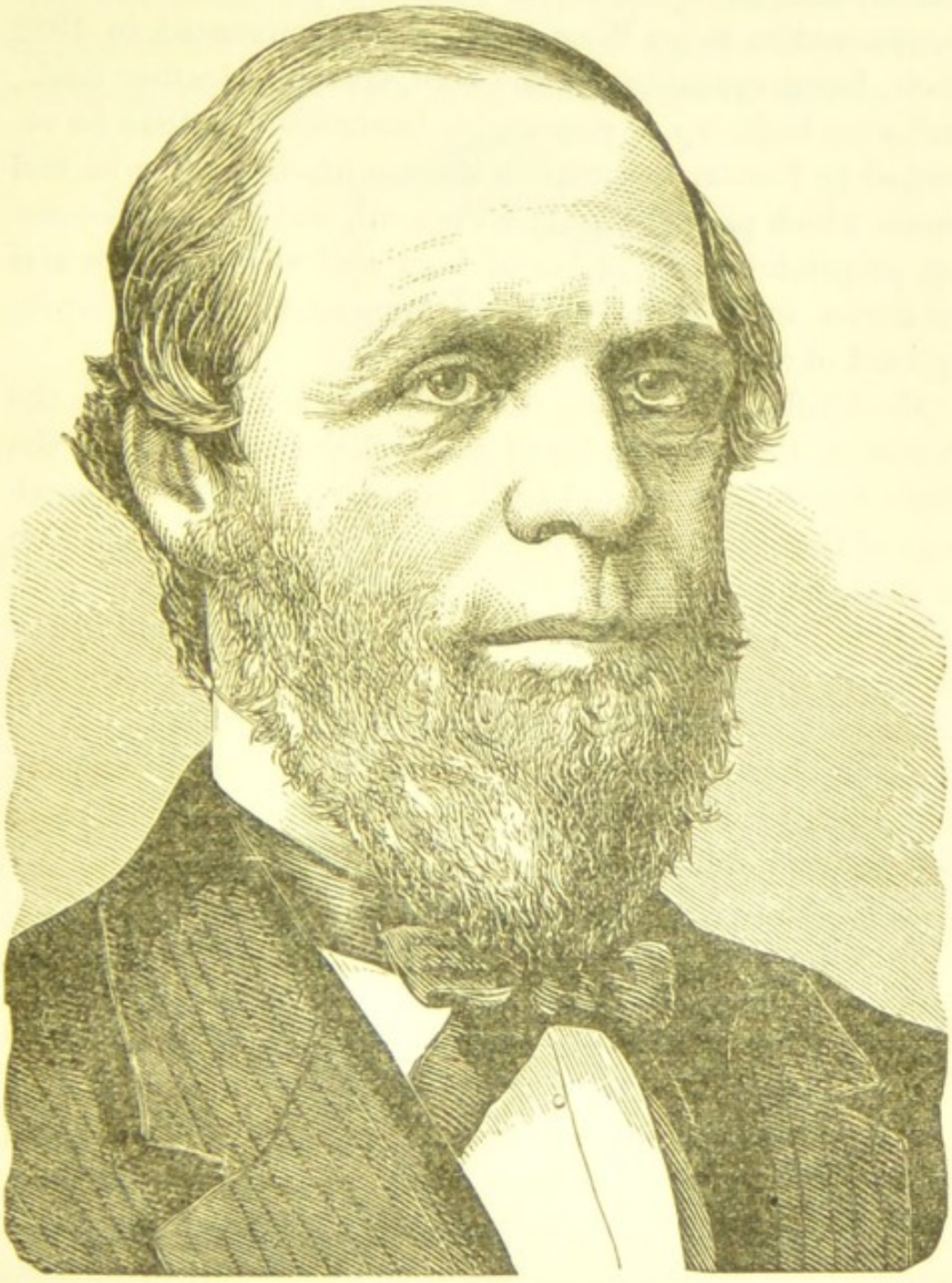
WILLIAM CLAFLIN,

EX-GOV. OF MASSACHUSETTS.

This gentleman has a combination of mental developments which leads him to form very specific individual opinions, and he early in life learned to decide questions from his own point of view. He does not look through other people's spectacles. Facts which he acquires himself are positive and decided, and his mind is centered, focalized, pointed and positive, rather than broad, comprehensive, and philosophical.

As a business man, he looks after practical affairs, and though he may have book-keepers, he wants to see the books; though he may have salesmen, he would like to be in the midst of his business. As a manufacturer, he would

be very discriminating, would learn how to make an article with less expense than most men. He has what may be



EX.-GOV. CLAFLIN.

called common sense—a mind that acts directly, not with wide philosophic sweeps, but with microscopic analysis and discrimination.

Governor Claflin was born at Milford, Mass., March 6th, 1818. His father was a tanner. At an early period he exhibited unusual aptitude for business, and announced his determination to go West. There he commenced in 1839 at St. Louis operations in the boot, shoe, and leather trade, and soon built up a respectable business. In 1845 he returned to Boston to establish the manufacture of boots and shoes, which proved highly successful, and he has become the proprietor of a number of boot and shoe factories and tanneries in different parts of Massachusetts, employing upward of five hundred hands.

Mr. Claflin, from 1849 to 1852, was a member of the House of Representatives of Massachusetts; served in the State Senate in 1860 and 1861, presiding over the proceedings of that body in the latter year. At the State election in 1865, he was elected Lieutenant-Governor of Massachusetts, and in 1868 was elected to be Governor, and in the elections for State officers in 1869 and in 1870, was re-elected.

He is liberal in charity, but unostentatious, dispensing his wealth with a free hand wherever his discreet judgment determines it will prove an agent of good.

ANDREW D. WHITE,

PRESIDENT OF CORNELL UNIVERSITY AND U. S. MINISTER TO GERMANY.

Mr. White is a natural leader of thinkers, and possesses also the qualities which make him a leader of men as men. He has ambition, is mindful of rank and reputation, and while he seeks to build himself up in knowledge, in respectability, rank, and standing, he inclines to lift other people up as well, and give them large opportunities for attainment and advancement. A man so organized is not likely to be afraid of rivals; he does not stop to discuss that. His

ambition does not need to pull any one down in order that he may rise; he feels strong in himself.

He has talent for research and inquiry, the ability to compass broad fields of thought and plow more deeply than most men, combined with imagination that gives him ca-



ANDREW D. WHITE.

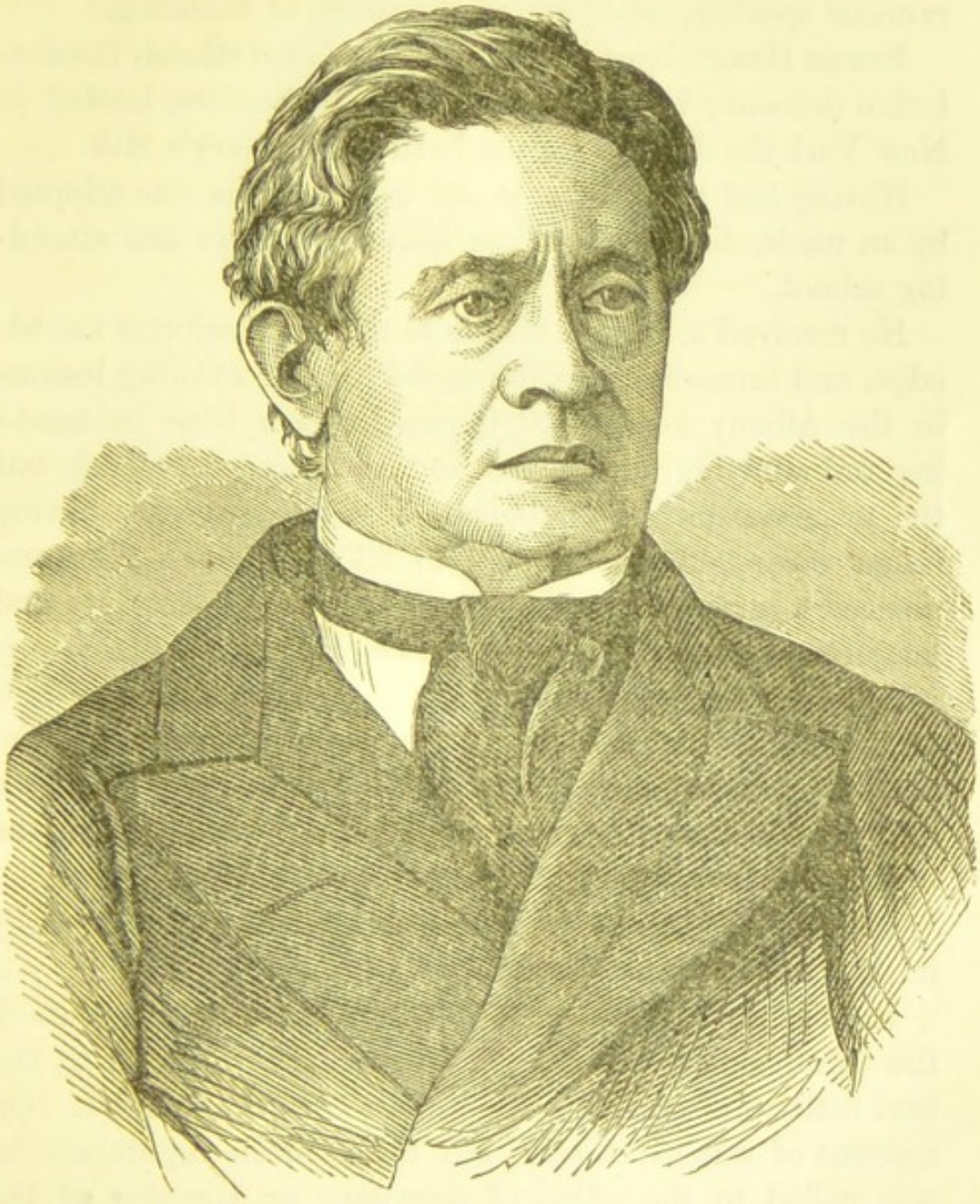
pacity to broaden out his life, and moral sentiment enough to regulate and control his emotions and passions. We regard him as a very superior man—first, in quality; second, in sentiment; third, in mind.

Andrew D. White was born in Cortland County, N. Y., in 1832. He was well educated, studying at Hobart Col

lege, taking the baccalaureate degree at Yale, and then visiting Europe for the purpose of a course in history. He remained abroad about two years, stopping mainly in Paris and Berlin. In 1856 he spent another year at Yale, as special student of history, when he was elected to the chair of History and English Literature in Michigan University.

In 1862, he was elected to the State Senate of New York, and re-elected in 1864. During his two terms he introduced several important bills for making the common schools entirely free, and for establishing normal schools. While in the Legislature the question arose with reference to the State accepting the Congressional land-endowment for colleges of agriculture and the mechanical arts. The share allotted to New York amounted to nearly a million acres. The friends of the existing colleges wished to have it parceled among them; but Mr. White advocated the keeping of the endowment for founding a new institution worthy of the country and the State. Mr. Cornell, himself a senator, offered an additional donation of $500,000, provided the Congressional endowment should be preserved intact, and the institution located at Ithaca, Mr. Cornell's native town. This offer was accepted, and in 1865 the bill incorporating Cornell University was passed. This may be regarded as the turning point in Mr. White's career. He was appointed a trustee of the new institution, and in 1866 was elected its President. Since then his time and attention have been devoted to the University. He visited Europe for the third time in 1867–68, for the purpose of examining into the organization of the leading schools of agriculture and technology, and of purchasing books and apparatus for the University.

On the death of Bayard Taylor in 1879, Mr. White was appointed to succeed him as United States Minister at Berlin, still retaining his presidency of Cornell.



PROF. JOSEPH HENRY,

LATE OF THE SMITHSONIAN INSTITUTE.

The full and prominent forehead of this eminent scholar, with his open and intelligent eye, show sharp criticism, quick perception, and sound and logical handling of the facts acquired.

With practice, he would have been an excellent extemporaneous speaker, especially in the realm of teaching.

JOSEPH HENRY, born in Albany, N. Y., is of Scotch Presbyterian descent; his grandparents, on both sides, landed in New York the day before the battle of Bunker's Hill.

Having lost his father at an early age, he was adopted by an uncle, dividing his time between a store and attending school.

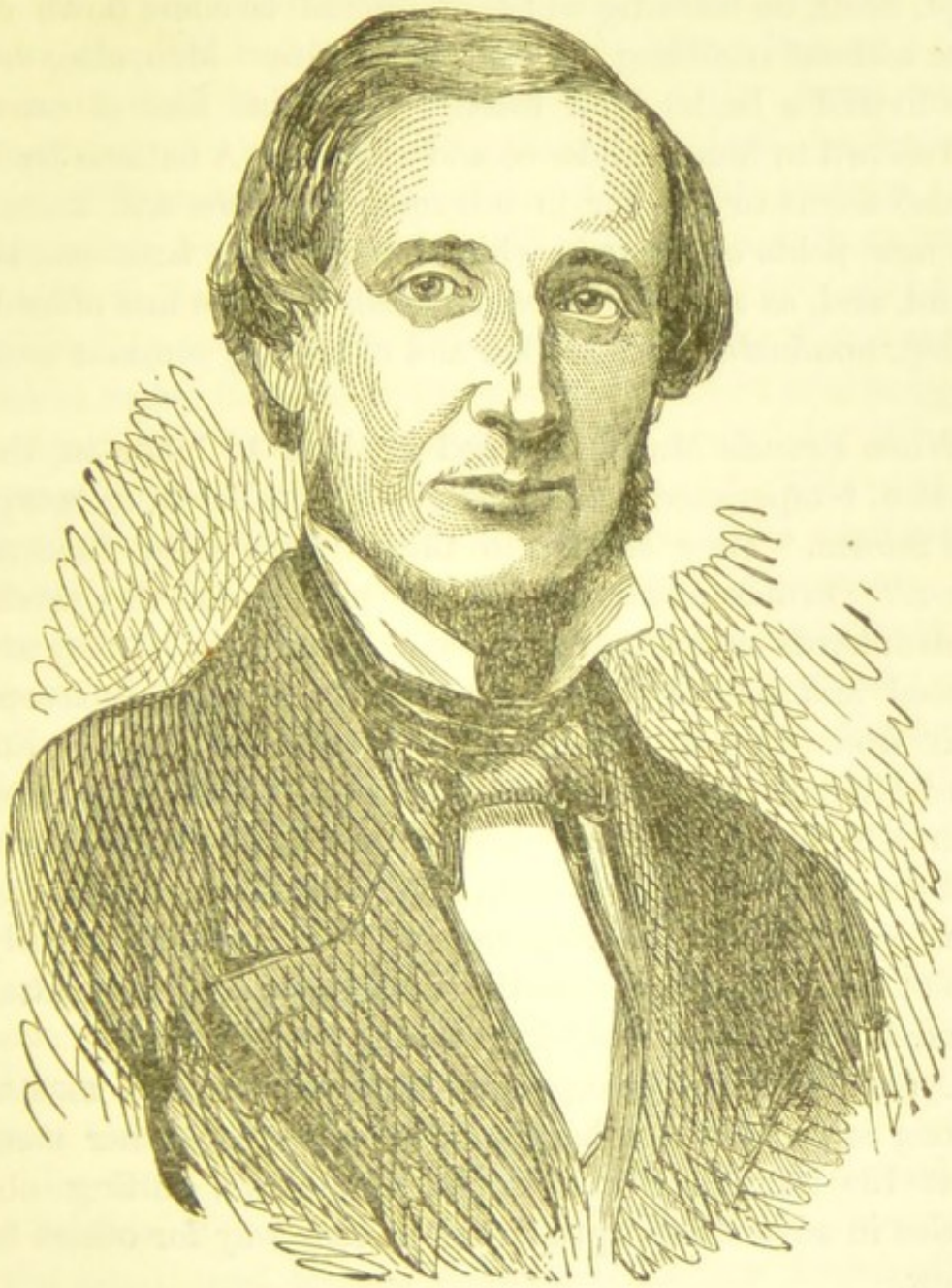
He resolved to devote his life to the acquisition of knowledge, and immediately commenced to take evening lessons in the Albany Academy. Occupying his time in teaching and studying, he learned and practiced surveying, but the professorship of mathematics in the Academy having fallen vacant, he was elected to fill the chair. He commenced a series of original investigations on electricity and magnetism, the first regular series on natural philosophy which had been prosecuted in this country since the days of Franklin. These researches made him favorably known, not only in this country, but also in Europe, and led to his call, in 1832, to the chair of Natural Philosophy in the College of New Jersey, at Princeton.

In 1835 he was elected Professor of Natural Philosophy in the University of Virginia.

In 1846 he was requested by the Board of Regents of the Smithsonian Institution, to give his views as to the best method of realizing the intentions of its founder. On account of this exposition, and his scientific reputation, he was called to the office of Secretary or Director of the establishment, and brought the institution into a condition of financial prosperity and wide reputation.

He was a member of various societies in this country and abroad, and has several times received the degree of LL.D., the last time from Cambridge, Mass.

The mere naming of his great discoveries in science would alone transcend our space.



CYRUS W. FIELD,

THE FATHER OF SUBMARINE TELEGRAPHY.

The veracious historian of Capt. Scott tells us that his vigilance as a hunter, and his accuracy as a marksman, were so widely known to the 'coons in his neighborhood, that when one of them from the tree-top saw the captain with his rifle, it would merely inquire of him if he were

Capt. Scott, on learning which it offered to come down at once without troubling the captain to fire. Men, also, desire to find a leader, and usually recognize him at once, and accord to him confidence and respect. A natural leader also seems to live far in advance of others, and knows the new fields of effort in which fortune and fame can be found, and, as a matter of course, falls into the line of leadership, nominated by intuition and elected by common consent.

When Francis Murphy visited a place to labor in the cause of temperance multitudes rushed to listen, to weep, and reform. They seemed to think "Now is the time or never." Armies of men signed the pledge, and thousands of drunkards have been redeemed. Moody and Sankey are invited and prepared for, and thousands willingly accept their leadership, and enter upon a new life. When Edward Kimball comes to a church which is hopelessly loaded with debt, his magic touch seems to transform the minds and the pockets of the people, and their debts vanish like April snow under the glowing sun. The people eagerly accept their chief, and heartily co-operate, and ever after wonder how the great work was done.

Cyrus W. Field is organized to be a natural master among men. His life has been, in respect to other men, what the keen coulter is to the plow-share, cutting obstacles in advance and preparing an easy way for others to follow.

Instead of presenting to our readers the portrait of a man of sixty years, bald, bearded and bleached by time, we prefer to give his likeness as he looked in that supreme moment of his life, when, like another Neptune, he strode from the ocean, carrying in one hand his dripping trident, and in the other hand the electric cable, vivid with the emancipated thought of the world, and at once the harbinger and hope of a new era in civilization.

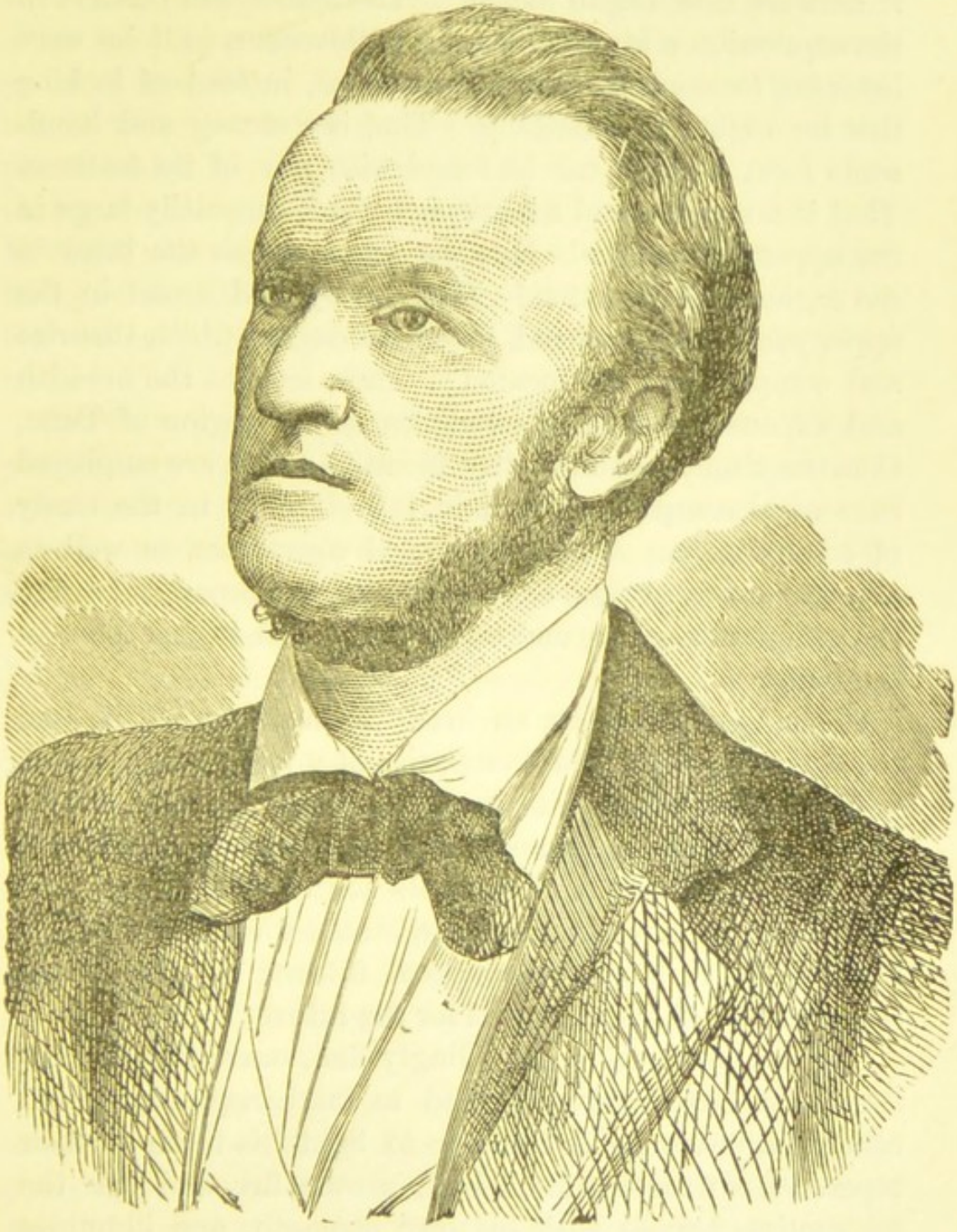
Mr. Field was born in Stockbridge, Mass., Nov. 30, 1819, was educated in his native town ; at fifteen, became a merchant's clerk in New York, and after a few years was at the head of a prosperous business. In 1853 he partially retired from business, and traveled in South America. On his return he became interested in a telegraph line already begun in Newfoundland to cross the island, 400 miles from Cape Ray to St John's, from which a line of fast steamers could reach Europe in seven days. While studying this subject the thought flashed through his mind, "*Why not carry the telegraph line across the ocean?*" This was the seed thought which has grown into one of the most important interests of modern times—ocean telegraphy. To carry out this great thought he obtained in 1854 from the Legislature of Newfoundland a charter to construct a telegraph line from the continent of America to Newfoundland, and thence under the ocean to Europe. With him were associated Peter Cooper, Moses Taylor, Marshall O. Roberts, Chandler White, and Wilson G. Hunt, of New York, under the title of the "New York, Newfoundland, and London Telegraph Company," for the purpose of carrying this design into effect. They built the land line across Newfoundland, and laid a submarine cable to connect Cape Ray and Cape Breton.

In 1856 he went to London, and there organized the "Atlantic Telegraph Company" to carry the line across the ocean, and himself subscribed for one fourth of the whole capital of the company. By his personal application, he procured from the British and American governments aid in ships, and accompanied the expeditions which sailed from England in 1857 and 1858 to lay the cable across the Atlantic ocean. Twice the attempt failed, once in 1857 and once in 1858. The third attempt was successful, and in Aug., 1858, telegraphic communication was made across the ocean. The cable worked feebly and soon

became silent. The public lost faith, and to resuscitate the project now became more difficult than ever; but its chief promoter, Mr. Field, renewed his efforts, crossing and recrossing the ocean scores of times during seven weary years, until at last, in 1865, a better cable and better appliances were prepared, and the Great Eastern—a marvel of naval folly, except solely for cable laying—took it on board, and sailed West, and after paying out 1,200 miles, the cable broke and was lost, and the ship returned to England defeated.

In 1866 another expedition set out and was successful. The two shores of the Atlantic were united by the cable, and it worked perfectly. The Great Eastern returned to where the year before she had lost the cable, found it and spliced it with one she had on board for the purpose, and carried it safely to the western shore. Thus after twelve years of such labor as would have killed or discouraged almost any other man, in which he had crossed the ocean fifty times, he saw the great work completed. Mr. Field had the prophetic sagacity to see what ought and what could be done, and the courage to make the effort. The iron will and the persuasive wisdom which could lead, govern, and co-ordinate the mental, financial, legislative and popular forces requisite to begin, guide, and finish such an undertaking, might not again be found in a century. John Bright pronounced him "the Columbus of modern times."

His own country, by the unanimous vote of Congress, granted him a gold medal, and foreign countries also expressed grateful honor in every way permissible to the citizen of another country. Thus at the age of thirty-five, he devoted himself to the great, untried task, and at forty-seven he had realized his hopes, and won the perpetual gratitude of the human race.



WILHELM RICHARD WAGNER,

THE GREAT GERMAN COMPOSER.

When this portrait was presented to me, the name being hidden, my first remark was · "Who is that? He looks as

if he were listening to music." The reader will observe in the expression a kind of dreamy enthusiasm, as if he were listening for something to come to him, instead of looking that he might see something. That is a strong and handsome face; no fault can be found with any of its features. That is a massive and magnificent head, especially large in the upper side region. How capacious across the brow in the region of Perception! How heavy and broad in the upper part of the forehead, where the organs which theorize and comprehend are located! Then look at the breadth and expansiveness of the temples in the region of Tune, Constructiveness and Ideality, faculties which are employed in musical composition, and in invention, or in the study of combination. All great musical composers, as well as all great poets, artists, and mechanics, are broad and full in the temporal regions, and especially in the higher part of the temples.

The subject before us, an inventor in music far beyond the common prescribed boundaries of musical composition, with his wonderful, weird passages, has bewildered, astonished, and sometimes maddened the world of criticism. There are those who are his rivals for the public ear, who would decry his work; there are others who believe he has touched the realm of the musical future; that he is the phenomenon of the time and for the future.

The temperament is exceedingly fine, susceptible and enthusiastic. He does not need to take inspiration from other people's mental life, nor to light his torch at their taper. He warms himself by his own fire, and like the locomotive, travels with his own strength, and illumines his pathway for himself.

Wilhelm Richard Wagner was born in 1813, at Leipzig. His father died six months after the birth of his distinguished son. The widow married again, taking for Wagner's stepfather an actor and painter. It was his intention

to make a painter of Richard, but he found him possessed of no talent for drawing. Richard was only about seven years of age when his second father died, and the day before that event he requested the boy to play several pieces which he had learned on the piano. After listening to his playing, he remarked: "It is possible that Richard, who is good for nothing else, may make something of himself in music yet." Left now to himself, he learned nothing which he could not claim as entirely his own.

He wrote plays when but twelve, and he was but fifteen years of age when a composition of his was put upon the stage, and from that time his whole career has been one of advancement, although every step until he had reached his thirtieth year was against very discouraging obstacles.

In his eighteenth year he entered the University of Leipsic, as a student of philosophy. He now received music lessons of Weinlig, who was renowned as a teacher. He then gave most of his attention to composition.

When scarcely twenty-one he was made Music Director of the Magdeburg Theater, where he remained from 1834 to 1836, going from thence to accept a similar position at Königsberg, and thence into the theater at Riga, in the same capacity. Here he began his "Cola Rienzi" which he finished in Paris, and began to compose his "Flying Dutchman."

In Zurich he was first enabled to bring his peculiar musical talents into public favor. He wrote the three pamphlets, "Art and Revolution," "Art in the Future," and "Opera and Drama;" and also a considerable part of the so-called "Niebelungenring," a trilogy of operas, upon which he was more or less engaged for fifteen years. This work, together with its introduction, required four consecutive evenings for its complete representation

The great undertaking for the production of his "Nie-

belungenring," which had its accomplishment in the little town of Baireuth in Bavaria, in 1876, constitutes an era in German music. A theater was specially erected, and the series of operas belonging to the Niebelungen performed before a great and brilliant audience. Wagner's aim has been to give to German music a peculiarly German character—the motives, sources, *dramatis personæ*, melody, being German; at the same time he asserts that the hitherto popular drama and music "are insincere and trivial," and not calculated to elevate the mind of the hearers. His views on the proper sphere of music, and the nature of his own efforts as a composer are set forth with much elaboration in his "Gesammelte Shriften and Dichtungen," which constitute nine volumes, and were published in 1871.

In person, Wagner is short and thin, with a large head, strongly marked in outline, and resolute in expression.

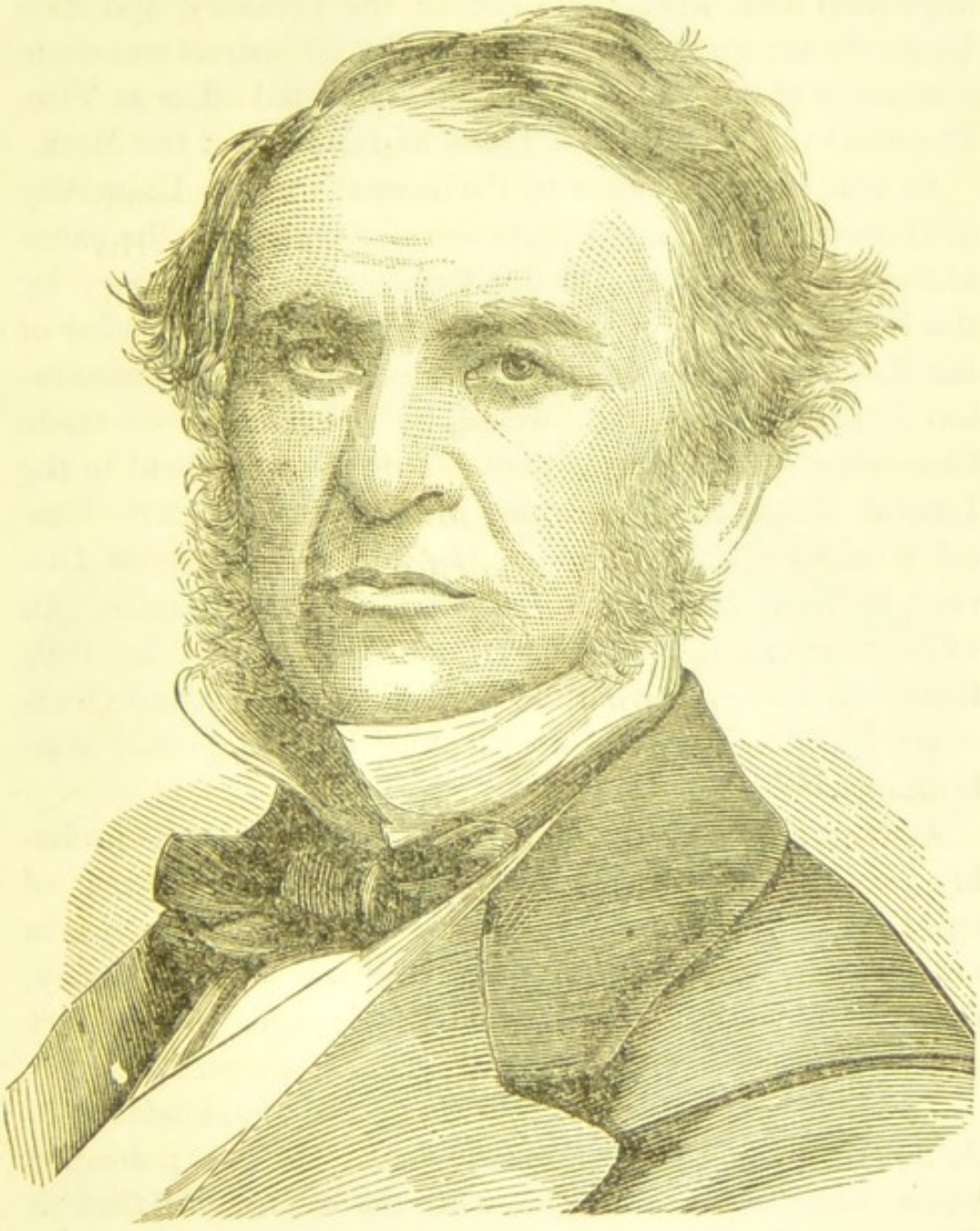
WILLIAM E. GLADSTONE,

PRIME MINISTER OF ENGLAND.

The mental and physical make up of this gentleman is remarkable, and for nothing, perhaps, more than the fact that it is not eccentric, but smooth and harmonious. His Temperament is strong and well balanced and his brain measures 23½ inches. He weighs 180 pounds, and is about six feet in height. The brain, therefore, being large, strong, and well sustained, we have an instance of power, endurance, and susceptibility in admirable combination. Endowed as he is by nature with abilities to be the first of statesmen, his culture and associations have been such as to ripen him for his work, and the times have opened for him a pathway to renown such as rarely falls to the lot of any man in any country.

The Rt. Hon. Wm. Evart Gladstone was born in Liverpool, Dec. 29, 1809. John Gladstone, afterward Sir John

Gladstone, was of Scottish birth, and an enterprising merchant. Becoming connected with the West India trade, he amassed great wealth, of which he spent freely on the



WILLIAM E. GLADSTONE.

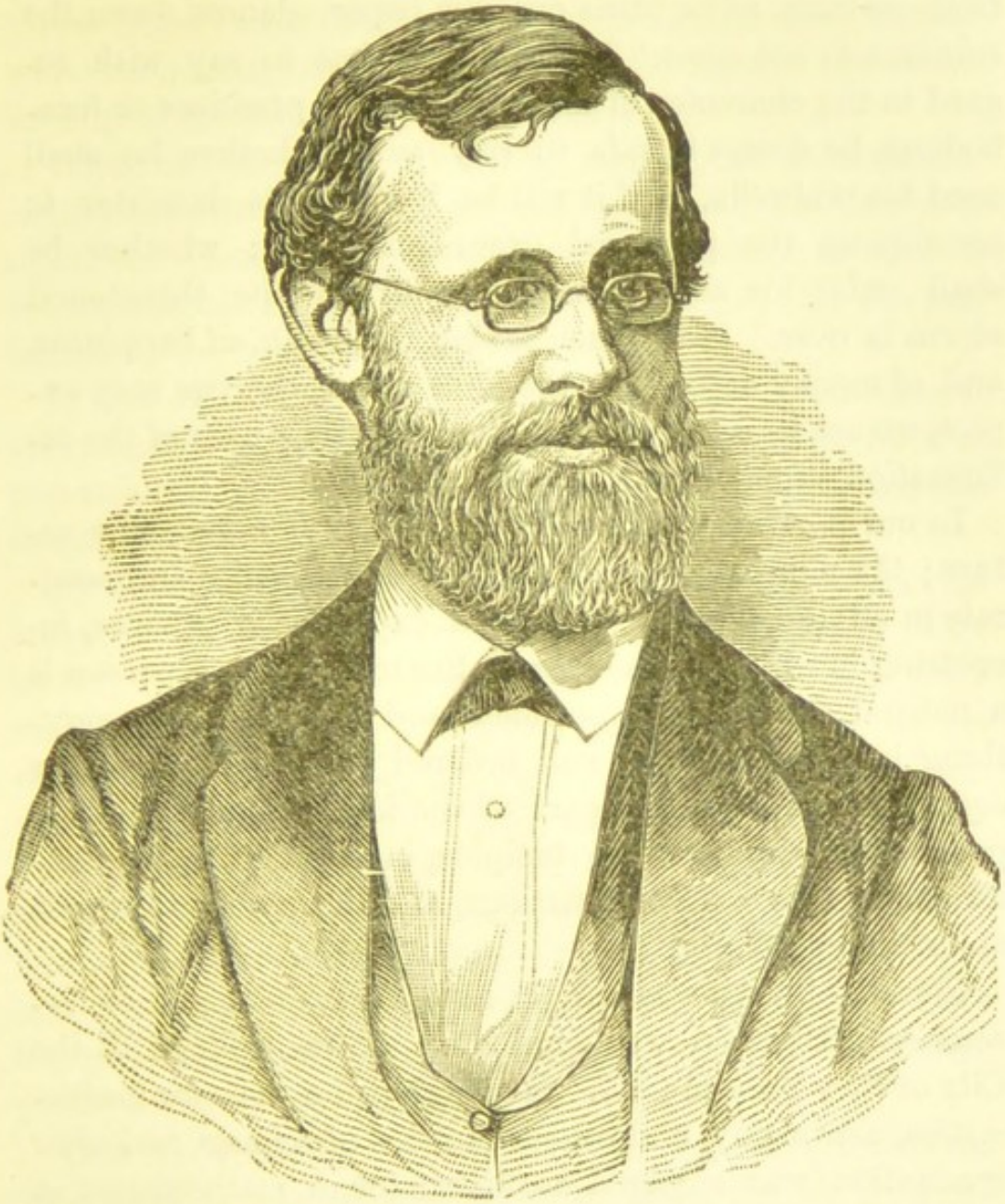
education of his children. William was distinguished in childhood for his rare intelligence. He was educated at Eaton and at Christ Church College, winning there the highest honors for scholarship.

Mr. Gladstone was but twenty-three when he represented the borough of Newark in the House of Commons. His abilities drew the notice of Sir Robert Peel, who, in 1835, appointed him a Junior Lord of the Treasury, and then Under-Secretary for the Colonies. Mr. Gladstone was made a member of the Privy-Council, and accepted office as Vice-President of the Board of Trade and Master of the Mint.

In 1847 he was elected to Parliament for the University of Oxford, and espoused more warmly than ever the cause of the Liberal party. On the formation of a ministry by the Earl of Aberdeen, Mr. Gladstone became Chancellor of the Exchequer. In June, 1859, when the second Palmerston Administration was formed, he was once more made Chancellor of the Exchequer. This post he held in the Liberal Ministries until the resignation of Earl Russell's cabinet in June, 1866. On the resignation of Disraeli in Dec., 1869, Mr. Gladstone became Premier. In 1874 he resigned, and Disraeli took his place. In 1880 there was another revolution in English politics, and Gladstone became Premier, which office he still (1882) continues to hold.

As an orator and as a statesman, Mr. Gladstone is probably the foremost in English politics. His fecundity of speech is remarkable, while at the same time his remarks are always characterized by great clearness and pertinency. One of the ablest economists of the age, his Budget speeches are marvelous efforts of business eloquence.

Amid his pressing public duties, he has found leisure to do no small amount of literary work. He has published "The State in its Relations with the Church," "Church Principles Considered in their Results," some able criticisms on Homer and the Greek Mythology, besides essays of a theological character. He has been twice elected Lord Rector of the University of Edinburgh, and in 1865 was made a member of the Institute of France.



CLEVELAND ABBE,

"PROBABILITIES."

Within a few years daily reports of the state of the weather at different parts of the country, and predictions with regard to the changes that may be expected in this or that section, have become a part of our every morning's news. The daily newspaper has its special accommodation for the reports of the Signal Service Bureau, and every

business man, as he turns over his paper, glances down the columns to see what "Probabilities" has to say with regard to the character of the day. On its promises or forebodings he deems it safe to rely as to whether he shall need his umbrella, or if it will be best for his daughter tc accompany the proposed excursion party; whether he shall order his ship to sail, or wait till the threatened storm is over. How much saving of health, of happiness, and of money depend on the kind of weather we may expect, we are learning through the increasing uses of the information supplied by this new institution.

In our portrait we have the indication of a very fine nature; the mind very active and exceedingly nice and accurate in all its efforts. The head expands as it rises, increasing in width all the way to the top. Such a person is a natural theorist and reasoner, and believes that everything in nature has a well ordered cause. Observe the squareness of the upper part of the forehead, also the expansive side-head at the temples, indicating the capacity for comprehending combinations, and the ability to invent and study out truth.

Cleveland Abbe was born in New York, on the 3d of December, 1838, and was graduated at the College of the City of New York in 1857. He developed a taste for mathematics, astronomy, and other branches of science, and after graduation was engaged as instructor in mathematics at the University of Michigan. He afterward took part in the Coast Survey Service, and had opportunity to pursue his favorite studies for three years under Dr. Gould at Cambridge, Mass. His preference, however, was the study of astronomy, and in the furtherance of that he accepted the offer of a position in one of the finest observatories of the world, the Royal Astronomical Institution of Russia, near St. Petersburg. After a stay of nearly three years he returned to America, and was engaged in work at the Na

tional Observatory in Washington for several months, and while thus occupied he received a call to assume the dictatorship of the Cincinnati Observatory.

While at Cincinnati Mr. Abbe carried out a most successful expedition, which occupied the most northern post of all the scientific parties that were dispatched to observe the memorable eclipse of August, 1869. His party was stationed in the heart of Dakota Territory.

It was while conducting the regular work of the observatory that he conceived and carried into execution the first practical attempt to form a meteorological weather-bureau in this country.

By earnest effort he succeeded in establishing, under the auspices of the Cincinnati Chamber of Commerce, some twenty or thirty posts of observation throughout the West and South, and along the Great Lakes, from which he received three times a day the results of simultaneous observations, as telegraphed to him at the observatory; and from these he compiled a "Daily Weather Bulletin," which was posted in the rooms of the Chamber of Commerce, and these "Probabilities" (for such they were first called by him) were eagerly sought and utilized for their business purposes by the large grain dealers and pork packers of that city.

This undertaking was carried on for several months with marked success, and when, in 1871, the U. S. Signal Service assumed the character of a Meteorological Department, Mr. Abbe was called upon as the most competent man to act as its meteorologist.

JOSEPH HICKSON,

MANAGER OF THE GRAND TRUNK RAILWAY OF CANADA.

The portrait before us indicates great strength of character and vigor of physical constitution. People feel wil-

ling to obey him. If he were in an army and ordered a charge, and led it, his men would follow as they did at Balaklava.

The forehead is plump and full at the base, showing practical talent, first rate memory of facts and things, power to gather up details and co-ordinate them, and to carry business in his mind without confusion.

If he were a teacher, he would hold his knowledge in solution on all the subjects of instruction, and be able to answer instantly any questions which might arise, and the pupils would get an idea that he knew everything.

His Constructiveness qualifies him to understand anything mechanical, and to see through complicated affairs instantly. He is intuitive in his judgment, his first opinions are his best, and his mind comes to a focus or a decision like that of a prize pigeon-shooter, whose first look at the bird tells the story.

Mr. Hickson was born in Northumberland, England, in 1830, and when a mere youth entered the employ of the York, Newcastle and Berwick Railway, and subsequently became connected with the Maryport and Carlisle Railway as chief agent at Carlisle. In 1851 he received an appointment on the Manchester and Lincolnshire Railway, and while there he became known to the gentlemen connected with the management of the Grand Trunk Railway of Canada, and in 1861 Sir Edward Watkins engaged Mr. Hickson as chief accountant. Shortly afterward he was appointed secretary and treasurer of the company, which office he occupied until his appointment as general manager.

Having been found faithful and of high capability in the performance of duties often very intricate, and having given entire satisfaction to the Home Board of Directors, on the withdrawal of Mr. Brydges he was placed in charge of the railway, and has since been chief executive of the

company in Canada, with the title of General Manager and Treasurer and President of the Executive Council.

He possesses the esteem of those associated with him in



JOSEPH HICKSON.

business, and of friends and acquaintances, on account of his superior abilities as a manager of affairs, and also on account of his sterling qualities of head and heart.

HERMANN LUDWIG HELMHOLTZ,

THE EMINENT GERMAN PHYSIOLOGIST.

The portrait before us is an admirable specimen of constitutional vitality and vigor. The head is broad from ear to ear, indicating force, courage, earnestness, and positiveness ; and it is massive in the forehead, showing talent for facts and things, and a desire for practical science.

His language qualifies him to express himself with ease and fluency, and he is well adapted to do the literary work that belongs to his pursuit.

Conspicuous among observers and experimenters in modern physiological science, stands Hermann Ludwig Helmholtz. He was born in Potsdam, Prussia, on the 31st of August, 1821 ; was the son of an instructor at the gymnasium of that city, and received his early mental training under the direction of his father, at the Royal Military School of Berlin, and studied medicine.

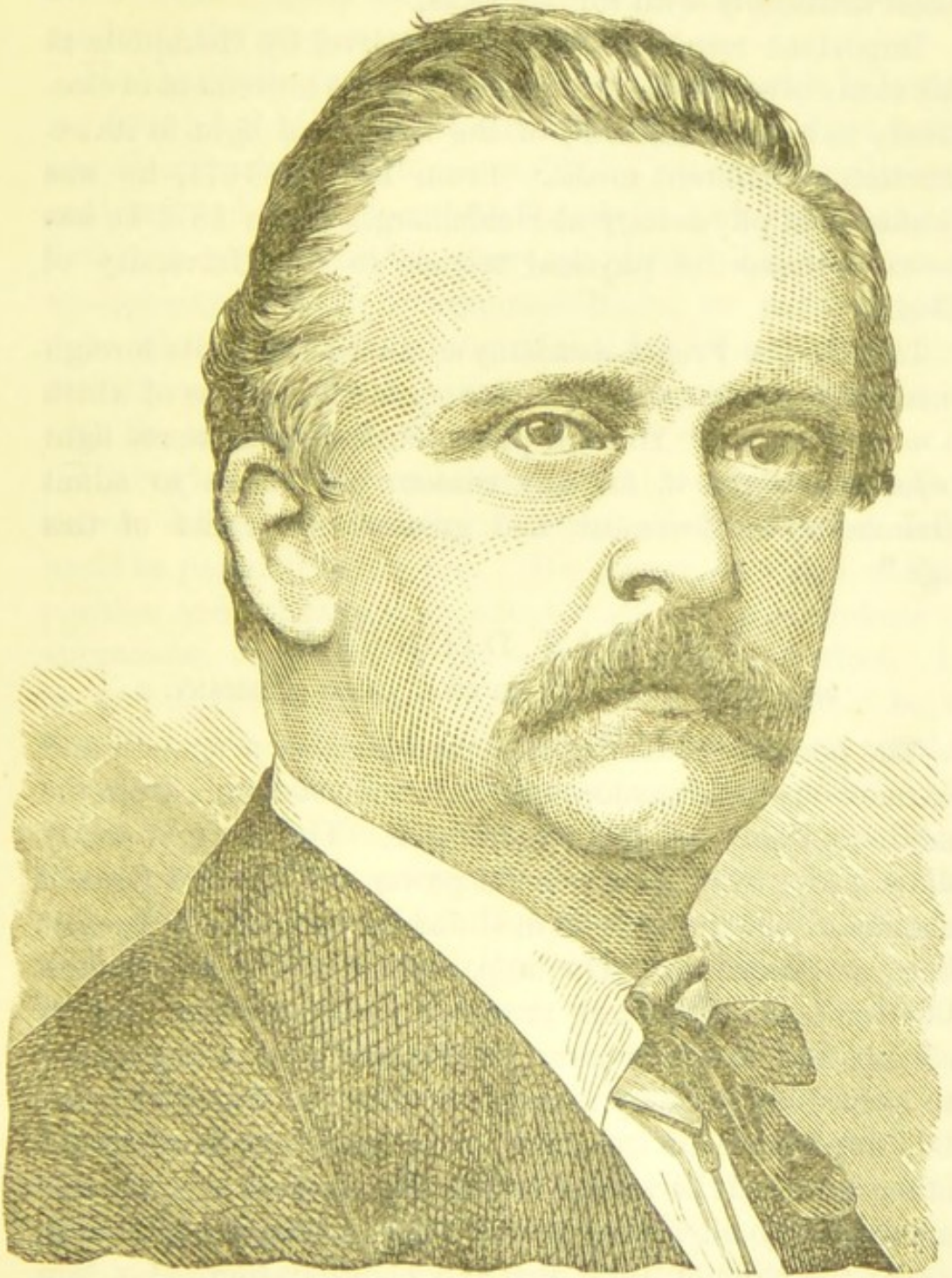
In 1834 he was appointed assistant surgeon in the Charity Hospital of that city, and afterward given a military position at Potsdam. Here, in 1847, he prepared his first volume for publication, on "The Conservation of Force." Its appearance attracted attention, and gave him high rank as a thinker and investigator in natural science.

In 1848 he was made assistant professor in the Anatomical Museum of Berlin, and in 1849 he was appointed to the chair of Physiology at the University of Königsberg.

From that time his most important discoveries and inventions which relate to physiology and therapeutics date One of these, made in 1851, was an eye mirror, for the examination of the retina of the eye in living beings.

In 1855 Helmholtz was called to the University of Bonn as professor of physiology and anatomy. Here he published his first investigations in acoustic physiology. A treatise on this subject was published in 1862 ; a second and

enlarged edition followed in 1865. He invented a method of analyzing sound, which has led to the acquirement of



HELMHOLTZ.

facts previously unthought of, and to the explanation of the principles governing in musical harmonies. He also

discovered the acoustic cause of the vowel sounds of human speech, and not only analyzed them, but also produced them artificially with tuning forks.

Important results have been achieved by Helmholtz in his study of atmospheric vibration; of the movement of electricity in bad conductors; of the motion of light in its refraction in different media. From 1865 to 1871, he was professor of physiology at Heidelberg. Since 1871 he has been professor of physical science in the University of Berlin.

In 1870 the French Academy admitted him to its foreign membership, after some discussion, in the course of which a member said: "You will place yourself in the worse light before the world if, for any reason, you refuse to admit Helmholtz, the foremost and greatest naturalist of this age."

THOMAS DICKSON,

PRES. DELAWARE AND HUDSON CANAL COMPANY.

The portrait of this gentleman indicates a smooth and harmonious organization, one that inherits more from the mother's than from the father's side. The head is amply developed, giving great general power and decided force of character, but the force is modified by smoothness, by balance, and harmony. He is persistent, yet he has in him the elements of patience, prudence, circumspection, guardedness, and he would carry his power in such a way as not to hazard his cause by rashness on the one hand, or incur the displeasure of those who co-operate with him on the other hand. If he wanted twenty men to work at some disagreeable job all night, he could get volunteers in abundance; the pay not being the only consideration. Let him be one of ten contractors engaged on some continuous line of work, at the end of six months this man would be able to select his help from all of the gangs. It would get

noised about among the men that he was fair in his dealings, and just and kind in his treatment of men; that he knew what a good day's work was, and when a man had rendered the proper amount of service.

He has intellectual grasp, is comparatively quick in learning facts; but his power lies in his ability to combine facts, and co-ordinate all the forces within his reach. He criticises, analyzes, and then generalizes largely and liberally; and it does not seem to hurry, worry, or disturb him to have a multiplicity of cares or responsibilities; he seems to take them all in, appreciating that which is best under the circumstances, and so can do the right thing at the right time, with the least possible friction.

He reads men with remarkable promptness and accuracy; he would be able to select men for positions as fast as they could be paraded before him. His power to judge of disposition and capacity is excellent. He is a good financier, appreciates the value of property, of time, and effort. If he had a thousand men working for him, it would be a standing joke, that nobody ever knew when he would "turn up," or when he would appear among his men.

He does not make much talk, but has the happy faculty of making other people talk, and thereby show their plans, while he reserves his, if necessary, or modifies them, as occasion may require. He would have made a good lawyer, and an excellent judge on the bench. In the social circle he is much beloved, in business circles respected; men do not fear him, yet they are not willing to disobey or disoblige him. There is scarcely an important field of effort in which he might not take a worthy and successful part. Among the professions we would first give him the law; second, engineering; medicine third; in the business world, the general management of men and affairs, rather than to be shut up in a commercial house, would be the best.

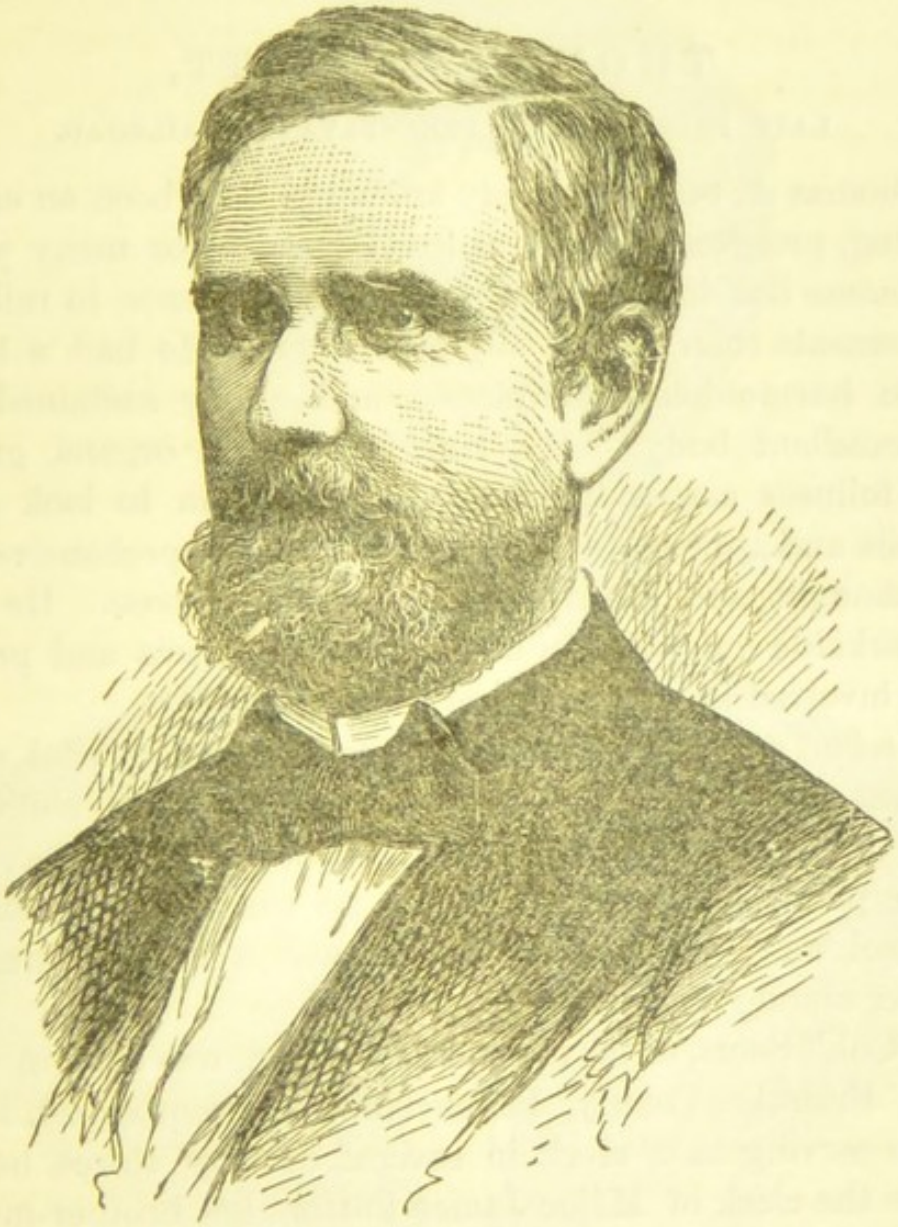
Mr. Dickson was born in Scotland in the year 1824 When he was but twelve years old his father emigrated to America, and settled at Carbondale, Pennsylvania. He early evinced strong intellectual powers, and also developed great executive abilities. As a merchant and manufacturer he was eminently successful. He was but little over thirty years of age when, in connection with his brothers, John and George, he established the "Dickson Manufacturing Company," which, with its extensive works, not only at Scranton, but at Carbondale and Wilkesbarre has become the leading manufacturing company in that part of Pennsylvania. In 1860, at the urgent request of the Canal Company, Thomas Dickson entered its employment in the important department of its mines, taking charge as Superintendent.

The first great effort of the new Superintendent was to extend the area of its coal fields. In 1866 Mr. Dickson was made General Superintendent of all the business of the company, and Vice-President; and in 1870, on the retirement of that noble man, George Talbot Olyphant, he became the President.

To form a proper appreciation of the duties which devolve upon Mr. Dickson as president of this Company, let it be understood that the Lackawanna Valley produces about twelve million tons of coal per annum, and the Company referred to can produce about one-fourth of it. In the Wyoming Valley twenty-eight breakers are owned or controlled by the Company, and with the working of all these, in addition to his railway duties, Mr. Dickson is thoroughly familiar. His early life and its practical experience qualify him to meet these burdensome duties in an eminent degree.

It is a common saying by the multitudes of people in the Lackawanna Valley, "I'd give more for Tom Dickson's

opinion on coal matters than for that of any other railway man in Northern Pennsylvania." In the difficulties which



THOMAS DICKSON.

occasionally occur in mining regions, wherein labor pits itself against capital, the Delaware & Hudson Company have ever been fortunate in possessing such a spirit as Thomas

Dickson to adjust the matters at variance. He has a hold upon the affections of the miners which is marvelous, and in no instance do they ever disregard his counsel.

THOMAS A. SCOTT,

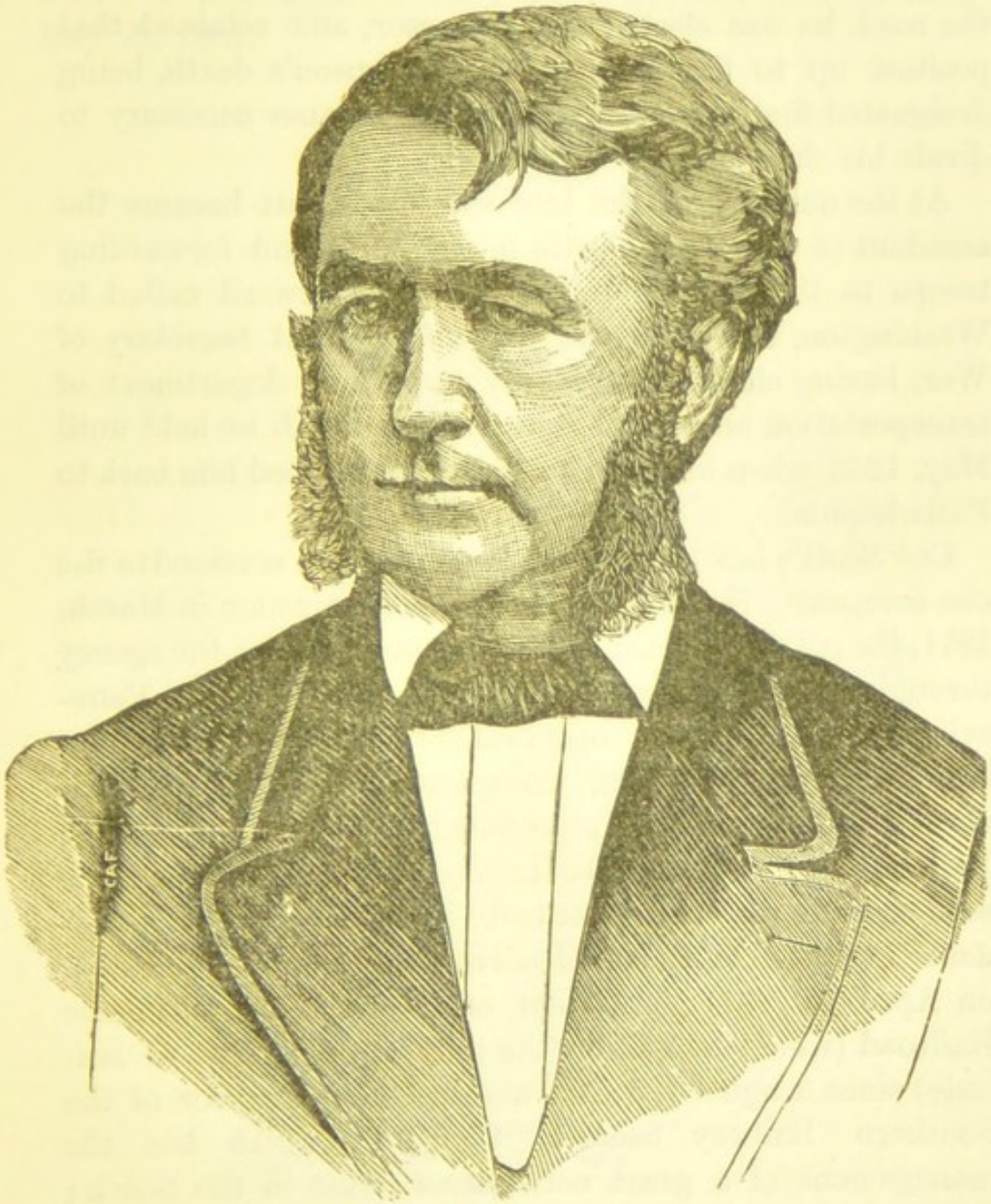
LATE PRESIDENT OF PENNSYLVANIA RAILROAD.

Thomas A. Scott is widely known to have been an enterprising, progressive, bold railroad man. For many years his name has had a more important influence in railway movements than that of any other man. He had a large brain harmoniously developed and amply sustained by an excellent body. His large perceptive organs, giving him fullness across the brows, enabled him to look after details and appreciate particulars; and comprehensiveness of thought and breadth of plan and purpose. He had remarkable quickness in taking in all the facts and principles involved in a large financial operation.

He had a great deal of what may be called vital magnetism, personal influence, power over others, ability to call out their affection, their talent, their courage, and their persistency, and, at the same time, he was able to control strong men. In fine, he was a natural king or leader among men.

"Col." Scott, as he is generally styled, was born in Loudon, Franklin County, Pennsylvania, December 28, 1824. After serving as a clerk in several country stores, he became the clerk of Major James Patton, his brother-in-law, who was collector of tolls at Columbia, on the State road. He next became a clerk in the extensive warehouse and commission establishment of the Leeches, at Columbia. In 1847 he left this position to go to Philadelphia, where he had been offered a situation as chief clerk to A. Boyd Cummings, the collector of tolls at the eastern terminus of the public works. After three years of service in that

relation, he availed himself of an opportunity to take an important position in the service of the Pennsylvania Rail-



COL. THOMAS A. SCOTT.

road Company, being stationed at Duncansville, as general agent of the mountain or eastern division of the road.

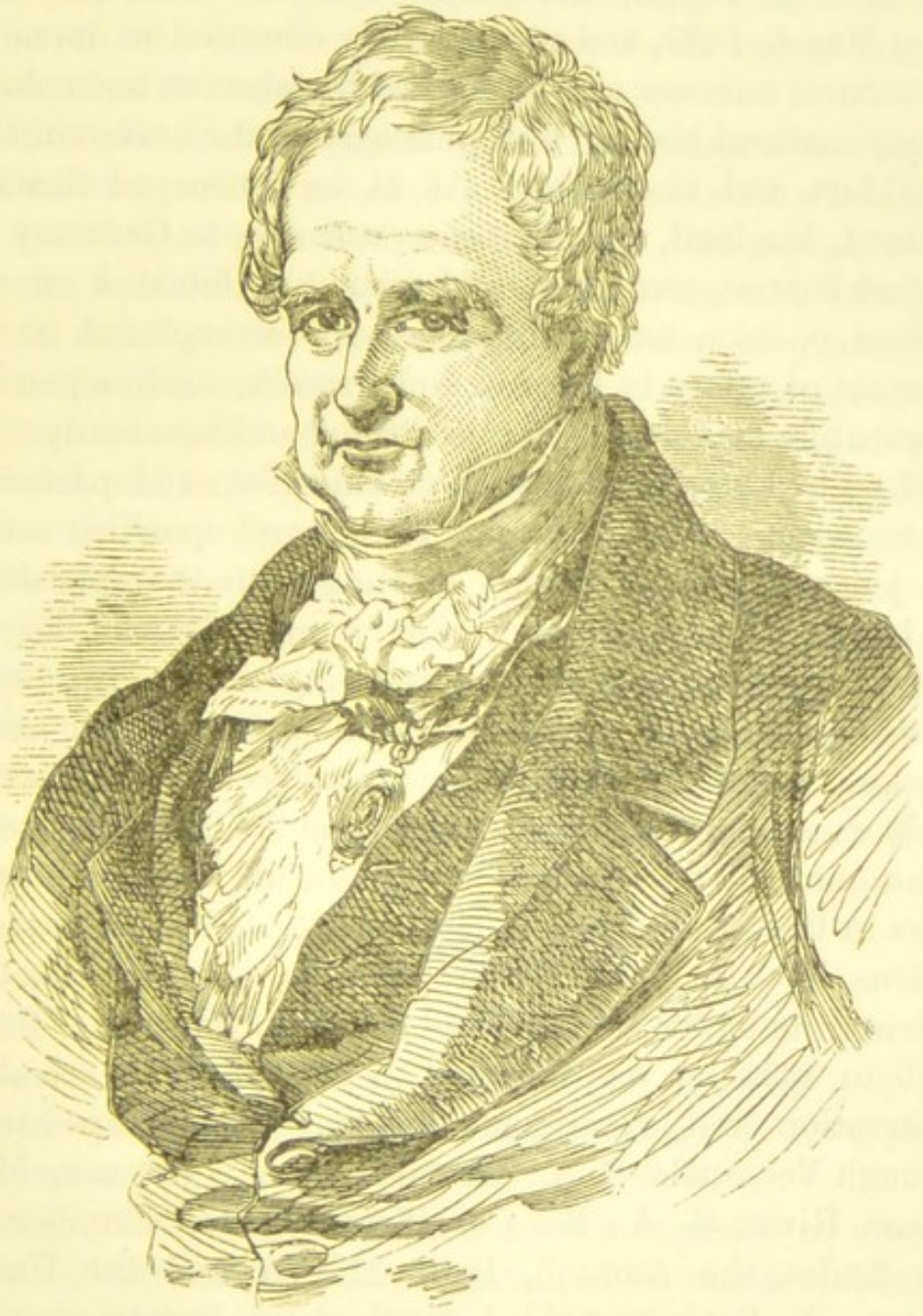
On the completion of the western division he was placed

in charge of that section, and was soon afterward made general superintendent of the entire line. In 1859, on the death of the Hon. William B. Foster, the vice-president of the road, he was elected his successor, and retained that position up to the time of Mr. Thompson's death, being designated first vice-president after it became necessary to divide his duties.

At the outbreak of the late war Col. Scott became the assistant of Governor Curtin in equipping and forwarding troops to the field. He was shortly afterward called to Washington, and acted the part of assistant Secretary of War, having charge of the very important department of transportation and supplies, a position which he held until May, 1862, when his railroad duties summoned him back to Philadelphia.

Col. Scott's labors, however, have not been confined to the one company. He has been from its organization in March, 1871, the president of the Pennsylvania Company, the agency through which the western roads leased by the Pennsylvania Railroad are operated; president of the Pan Handle Route (Pittsburg, Cincinnati, and St. Louis Railroad) since March, 1871; president of the Union Pacific Railroad, from March, 1871, to March, 1872, when this road passed under the control of Mr. Vanderbilt; president of the Texas Pacific Railroad since its organization on April 15, 1871; president of the Atlantic and Pacific Railroad (which is to follow the thirty-fifth parallel of latitude) since August 9, 1873; a controlling director of the Southern Railway Security Company, which has the management of a great network of roads in the South; and a director of the Kansas Pacific, Denver and Pacific, Denver and Rio Grande, and has a controlling interest in other roads. In 1874, the presidency of the Erie Railway of New York was offered him and declined. On the death of Mr. Thomoson, the esteemed and able president

of the Pennsylvania Railroad Company, Mr. Scott was chosen to succeed him by the unanimous suffrages of the Board of Directors. Broken down by overwork he died May 22, 1881.



BARON VON HUMBOLDT,

TRAVELER, SCIENTIST, PHILOSOPHER.

The name of this great German Naturalist is familiar even farther than letters and civilization are known. Ad-

miration for his greatness, as a scholar and as a man mingles with a tender and kindly reverence for his gentleness and goodness; hence his name is a household word from the cabin to the palace around the belted earth. He was born at Berlin, Germany, Sept. 14, 1769, and died there May 6, 1859, and was carefully educated at home in the natural sciences, and he studied the classics, technology, botany, natural history, and philology in the universities of Frankfort and Gottingen. At 21 he journeyed through Holland, England, and France; returning to Germany he studied finance, commerce, and mining. Obtained an important position as a mining expert he explored in the interests of mines in Bavaria and Prussia; made a journey of scientific exploration in Switzerland and Lombardy. In 1797 he had published a work on galvanism and perfected his knowledge of astronomy. He entered upon his scientific journeyings, and though meeting with the opposition of learned ignorance and bigotry in Italy and Egypt, nothing daunted he kept studying and growing. In 1798–9 he was making journeys in Spain for observation in astronomical, magnetic, and botanical subjects; and having made a most favorable impression upon the Spanish government, obtained its sanction to explore all Spanish possessions in Europe and in America, and to aid in his investigations he was permitted freedom to use any scientific instruments under royal control in those countries. From 1799 to 1804 he was engaged in every form of scientific observation and experiment incident to his expeditions through Venezuela, S. A., Oronoca Valley, Havana, Magdalena River, S. A., the Cordilleras, Quito, Chimborazo, the Andes, the Amazon, Peru, Mexico, and the United States. In Paris he resided, in all, about twenty years in prosecuting experiments, and collecting and publishing his important discoveries. He visited England in 1814 and the chief cities of Italy. From 1827, having resumed

Berlin as his residence, he lectured in public on his great discoveries, and in 1829 he visited, as a scientfic explorer, Asia, the Caspian Sea, and Russia, which was prolific of good results. This journey laid the foundation for magnetic and meteorological stations extending from Pekin, in China, to St. Petersburg, which have been copied largely throughout the scientific world.

Humboldt was distinguished for the comprehensiveness and accuracy of his researches, and for his ability to relate his knowledge to all that preceded him. He studied in his travels soils, mines, atmospheric and thermal changes, plants, and animals; he measured altitudes of mountains, and nothing in nature or in art seemed to escape his observation, and every subject he touched he developed and adorned, and largely embodied it in the "Cosmos" published late in life. He won the confidence and respect of the great, and the reverence and love of the humble, and for the last thirty years of his life he was the companion of kings and princes, and enjoyed government favor in valuable confidential political positions, and he left at his death, in 1859, the largest and richest scientific legacy to the world of any man whose life had ever shed light upon it.

DAVID WEBSTER,

THE GALLANT SCOTTISH SAILOR.

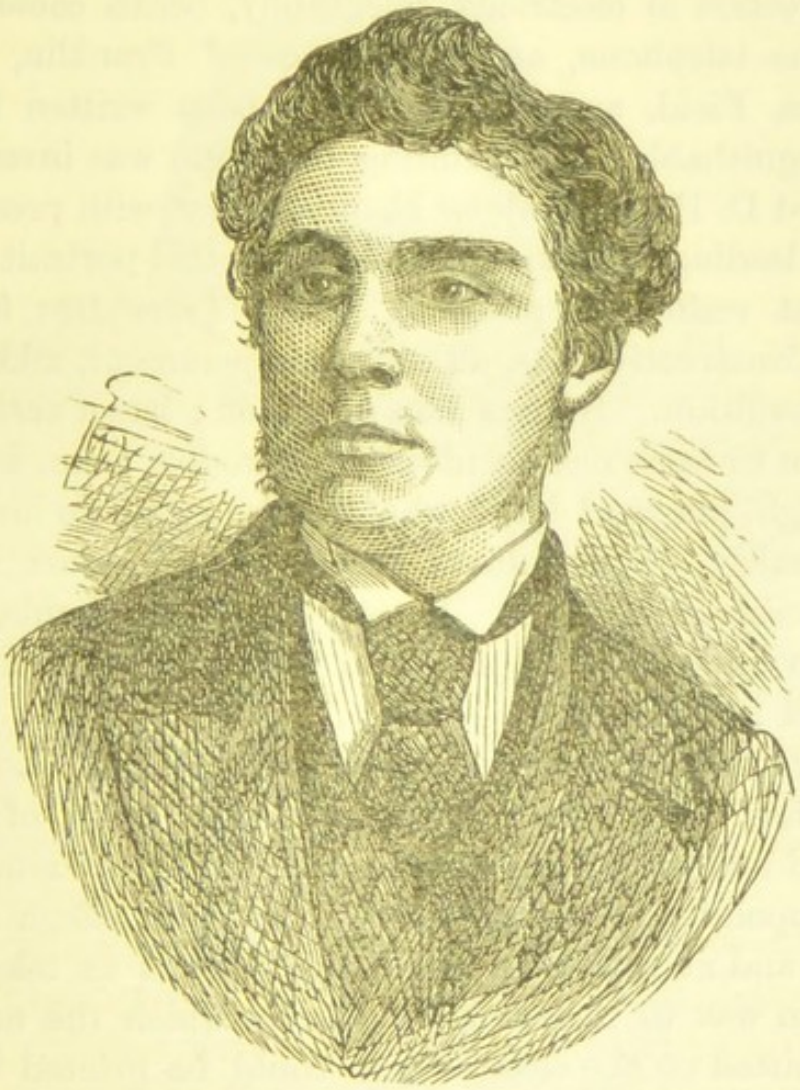
Deeds of gallantry and self-devotion on land and sea always command the respect and admiration of society everywhere.

David Webster was serving in the capacity of second mate on board of the bark Arracan, of Greenock, Scotland, while on a voyage in 1875 from Shields to Bombay. In the Indian Ocean the vessel took fire, and the flames spreading rapidly, the crew was obliged to abandon her and take to the boats. For three days the boats kept

together, the object entertained being to reach the Maldive Islands, but the current being too strong it was agreed to separate, and a division of provisions was made.

The master of the vessel took command of the long-boat, which he headed for Cochin, while the mate and Mr. Webster, each in charge of separate boats, made for the Maldive Islands. After two days Webster's boat was damaged by a heavy sea, and could not keep up with the mate's, and so lost sight of it. The brave fellow worked his little craft, with its freight of four persons besides himself, slowly along for about fifteen days, by which time the supply of provisions and water had been consumed. Soon the hunger of the men became so great that lots were cast which of them should be first killed to serve as food for the rest, and the lot fell upon the youngest, a boy named Horner; but Mr. Webster, who had been asleep while this terrible business was going on, awoke in time to save the boy's life. The baffled men that night made an attempt to kill Webster himself, but the boy Horner awoke him in time to save himself. Two hours later the crew again attempted to take Horner's life, but were prevented by the determined conduct of Webster, who threatened to shoot and throw overboard the first man who laid hands on the boy. Three days later one of the crew tried to sink the boat, and expressed his determination to take the boy's life. For this he would have been shot by Mr. Webster had not the cap on the gun missed fire. Soon after, putting a fresh cap on his gun, a bird flew over the boat which Webster shot; it was at once seized and devoured by the crew, even to the bones and feathers. Six days later some of the men became delirious. One of them lay down exhausted, when another struck him on the head with an iron belaying-pin. The blood which flowed was caught in a cup and drank by the man himself and the two other men. Afterward they fought and bit one another, and only

left off when completely exhausted, to recommence as soon as they were able, the boy Horner during the time keeping watch with Webster. On the thirty-first day of their experience in the boat they were picked up, 600 miles from



DAVID WEBSTER.—BRAVE SEAMAN.

land, by the ship City of Manchester, by which they were taken to Calcutta.

The lives of all were saved by the courage and discretion of Webster, and, as a testimonial in acknowledgment of his noble conduct, Queen Victoria conferred upon him the Albert medal, an honor which was accompanied with the approval of the British Board of Trade.

EDWARD D. HUGHES,

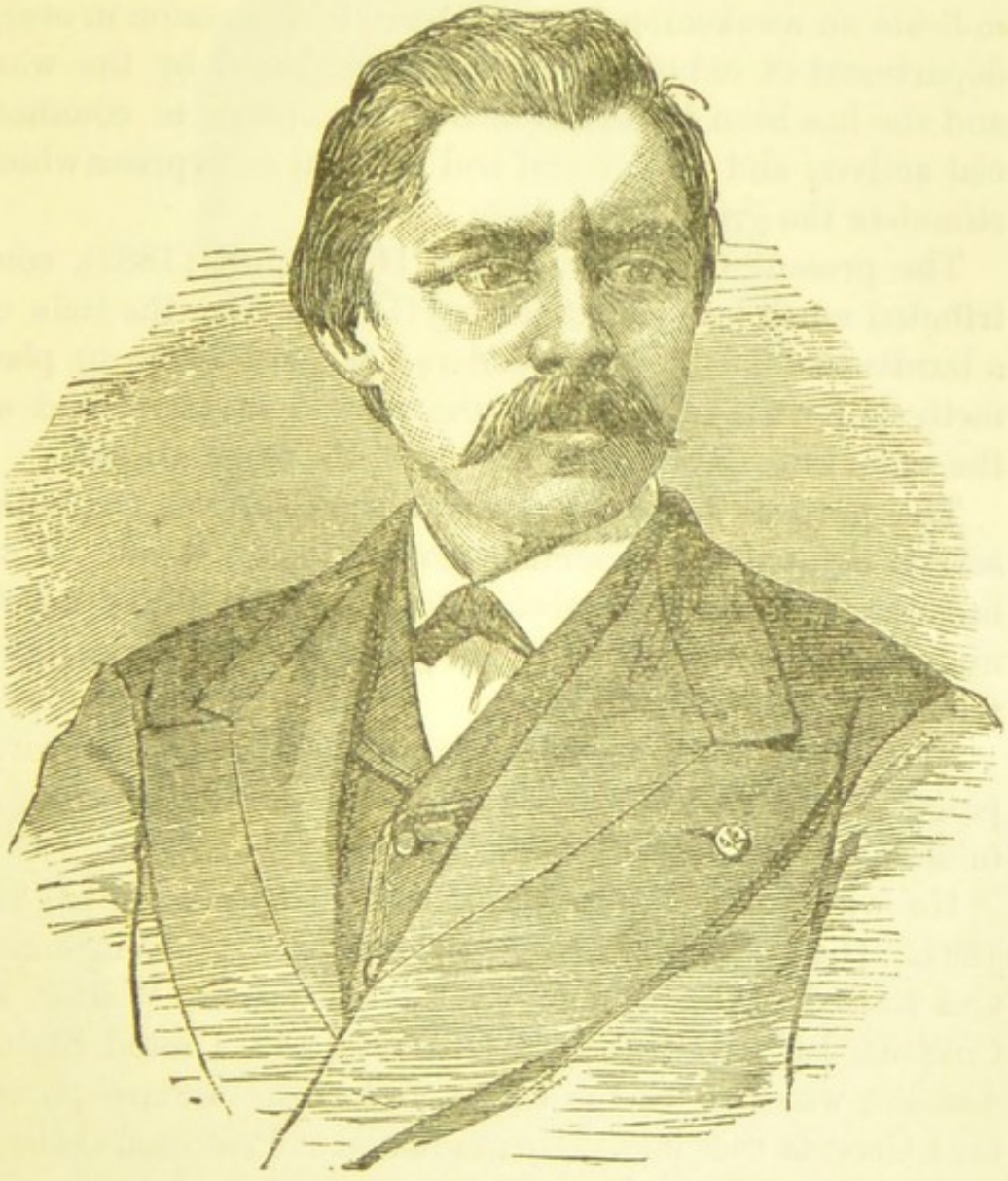
INVENTOR OF THE HUGHES PRINTING TELEGRAPH.

Americans may be justly proud of the achievements in the direction of electricity, telegraphy, ocean cable laying, and the telephone, and the names of Franklin, Morse, Hughes, Field, and Edison have been written in light inextinguishable. The printing telegraph was invented by Edward D. Hughes, whose likeness is herewith presented.

The leading indications exhibited in this portrait are an intellect eminently practical, strong perceptive faculties, large Constructiveness, an active temperament, and a good vital condition. He is a man of action; has a natural disposition to work out his ideas into tangible form, and in a thorough, practical way; whatever he attempts must have the quality of usefulness prominently marked to win his persistent attention. He is a natural mechanic, and is able to understand at a glance the processes and adaptations of mechanism.

Edward David Hughes was born in 1831 in Louisville, Ky. Early in life he was drawn to the study of mathematical and mechanical science. At the age of nineteen he was appointed professor of Physics in a College in Kentucky, and at that time began his studies in telegraphy. His aim was to devise a method by which the messages transmitted on the electric wire could be printed in common type-letters on paper. He succeeded in inventing an instrument making the scheme practicable, and in 1855 the American Telegraph Company adopted his device. In 1861 it was adopted in France, and successively in Italy and England in 1862; in Russia, 1865; in Prussia in 1866, and in other countries, European and American. The latest nation to appreciate the utility of Mr. Hughes's invention was Spain, which, in 1875, introduced it into telegraphic affairs.

In consideration of Mr. Hughes's services to science, in so practical a department as that of telegraphy, he has been made a member of nearly all the scientific academies of Europe. He received the great gold medal at the Uni-



EDWARD D. HUGHES.

versal Exposition of Paris in 1867; he has been decorated in Spain and other countries, and the sovereigns of Europe, following the lead of the scientists, have exhibited a very high consideration for him. The king of Spain in 1875 conferred a title of nobility upon him, viz., "the baron" of Hughes.

ALFRED H. COLQUITT,

GOVERNOR OF GEORGIA.

Among the Southern States, Georgia was the first to indicate an awakening from the terrible depression in every department of industry which was produced by the war and she has been far in advance of the others in commercial activity and those social and political enterprises which stimulate the growth of people.

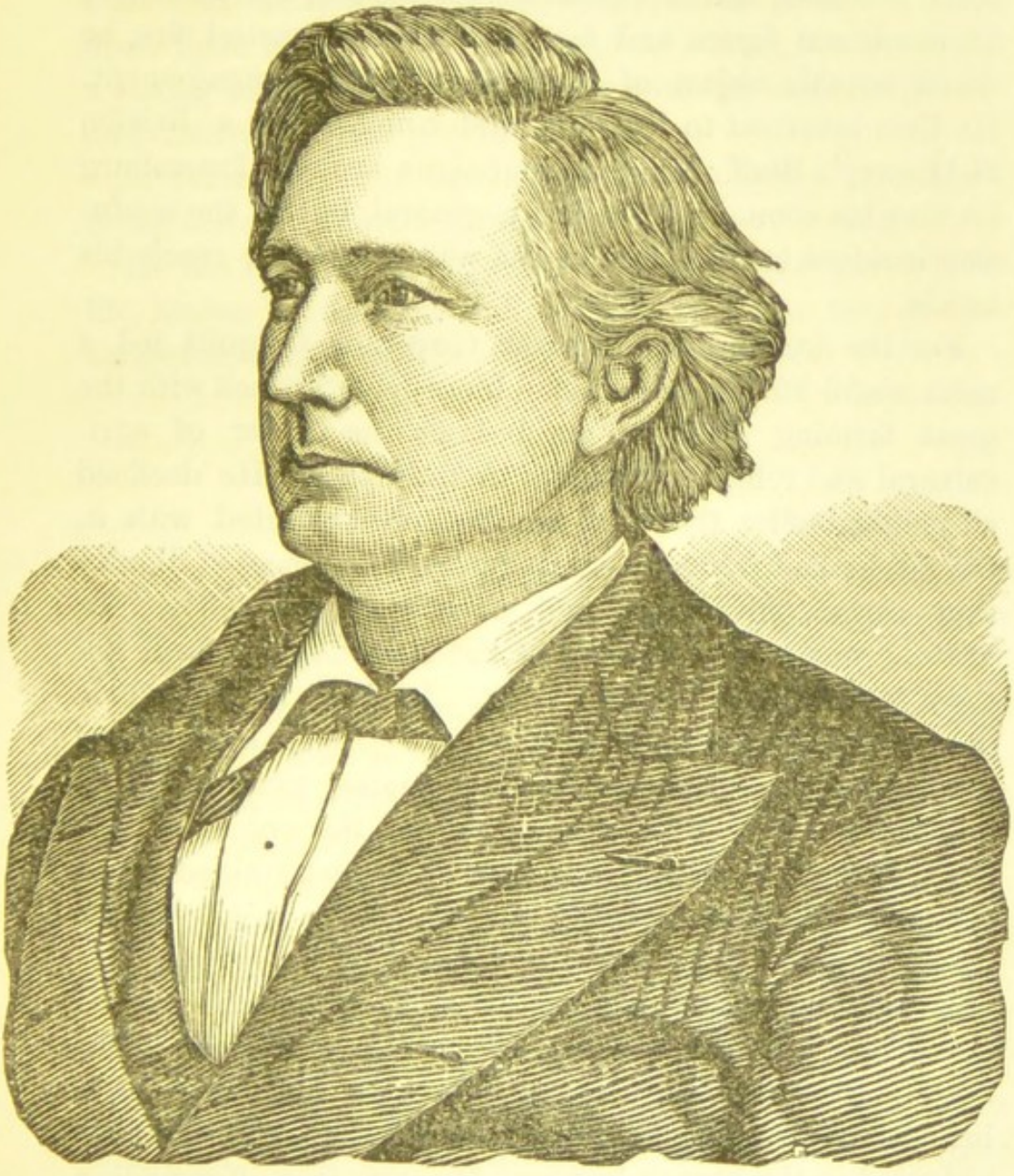
The present Governor, Alfred H. Colquitt (1882), contributed much toward extricating Georgia from the toils of a burdensome debt, and rendered it practicable to plan methods for the reduction of the rate of taxation, and at the same time advance the credit of the State abroad.

The portrait before us gives to the reader of character several pointed and prominent impressions. Health in its broadest and best sense seems evinced in the whole make-up. The next thought is power; a third, endurance; and a fourth, balance or harmony.

In that face we see strength, persistency, sincerity, practical ability, directness, clearness of thought, truthfulness, fidelity to friends, courage.

He was born in Walton County, Georgia, April 20, 1824. His grandfather, Henry Colquitt, was a Virginian, and settled in Georgia in 1801. His father, Walter T. Colquitt, Judge, Member of Congress, and United States Senator, was one of the ablest and most brilliant public men Georgia ever had. He graduated at Princeton College in 1844, was admitted to the bar in 1845, and began the practice of law in Macon. In 1847 he offered his services for the Mexican war, and was appointed a major. At the battle of Buena Vista he acted as aide to General Taylor. He returned home in 1848 and resumed his professional practice. In 1852, at the age of twenty-six, he was elected to Congress.

When the war opened he accepted its issues, entered the army as a captain in the 6th Georgia, and won rapid promotion, becoming in turn colonel and brigadier-general.



GOV. ALFRED H. COLQUITT, OF GEORGIA.

He took part in all the great campaigns in Virginia. At Antietam he performed signal service. At Sharpsburg he won his brigadier's stars. At Ocean Pond or Olustee,

Florida, he fought a battle in independent command. This battle was one of the most decisive of the far South. Colquitt won the title of "Hero of Olustee," and exhibited dash, coolness, and fine generalship. Riding a white horse, his handsome figure and face aflame with martial fire, he was a notable object of distinction in the engagement. He then returned to Virginia, and commanded a division at Drewry's Bluff. In the campaigns around Petersburg he won his commission as major-general, but in the confusion incident to the close of the war it did not reach his hands.

For the decade after the war Governor Colquitt led a most useful life to the public. Identifying himself with the great farming interests, he became the leader of agricultural and religious progress in the State. He declined all political office that had emolument connected with it, though he had frequently thrust upon him places of dignity that carry only honor and uncompensated labor. In 1870 he was made president of the State Agricultural Society, which he held for six years. In 1872 he was made delegate to the Baltimore Convention. As an agricultural worker he set his face resolutely against practices of an immoral nature. For instance, he was the one man who has had the courage to take publicly a determined stand against racing and gambling at a State Fair, and it was the most successful State Exposition ever held in Georgia.

In 1876 he was nominated by acclamation and elected Governor by the largest majority, 82,000, ever given in the State. His administration of this high office has been beneficial and brilliant. As a financial success it is unprecedented in the State's history. He came into office finding her credit dragging, a floating debt of $350,000 embarrassing her yearly, and the rate of taxation burdensome. In his first message to the General Assembly he lined out a comprehensive plan of retrenchment, which was made the

basis of legislative reforms, and which under his sturdy execution have worked results of a surprising character.

Toward the freedmen Governor Colquitt has shown a kind and conciliating spirit, which, in spite of the effect upon them of social troubles in other States, has produced a strong impression, in great part winning their confidence and disarming their prejudices.

In person he is a fine specimen of physical manhood, being erect, symmetrical, and dignified in movement.

He has very strong religious views and these pervade his life, toning his thought and conduct, whatever may be the subject to which his attention may be directed.

CHARLES P. KIMBALL,

CARRIAGE MAKER OF PORTLAND, MAINE.

Here is a large head, measuring twenty-three and a-half inches; and, fortunately there is body enough to give it support.

He is a decided thinker, wants to know the "why and wherefore," and is dissatisfied until he reaches it; and, though his intuitions give him an outline of the truth, he wants to go over it philosophically.

He loves the truth; believes that "honesty is the best policy"; is cautious, mindful of consequences; is very sensitive relative to reputation; has the power to govern, and at the same time to get the good-will of those who are under his control; is a singular compound of power, plausibility, and mellowness. He is strong, but carries his strength with gentleness, and will make his mark in the world—has already done it, and has left fewer scars where he has made his mark than many others who have done so much as he has.

Mr. Kimball was born in Maine on the 6th of August, 1826, of intelligent parents, and in humble life; he has

risen by the sheer force of native energy and persevering industry to a place second to none in his native State. Unaided by the advantages of a liberal education, he devoted his leisure to improving his mind in all branches of solid information. At the age of eighteen he joined his brother, a successful carriage-builder, and learned the trade.

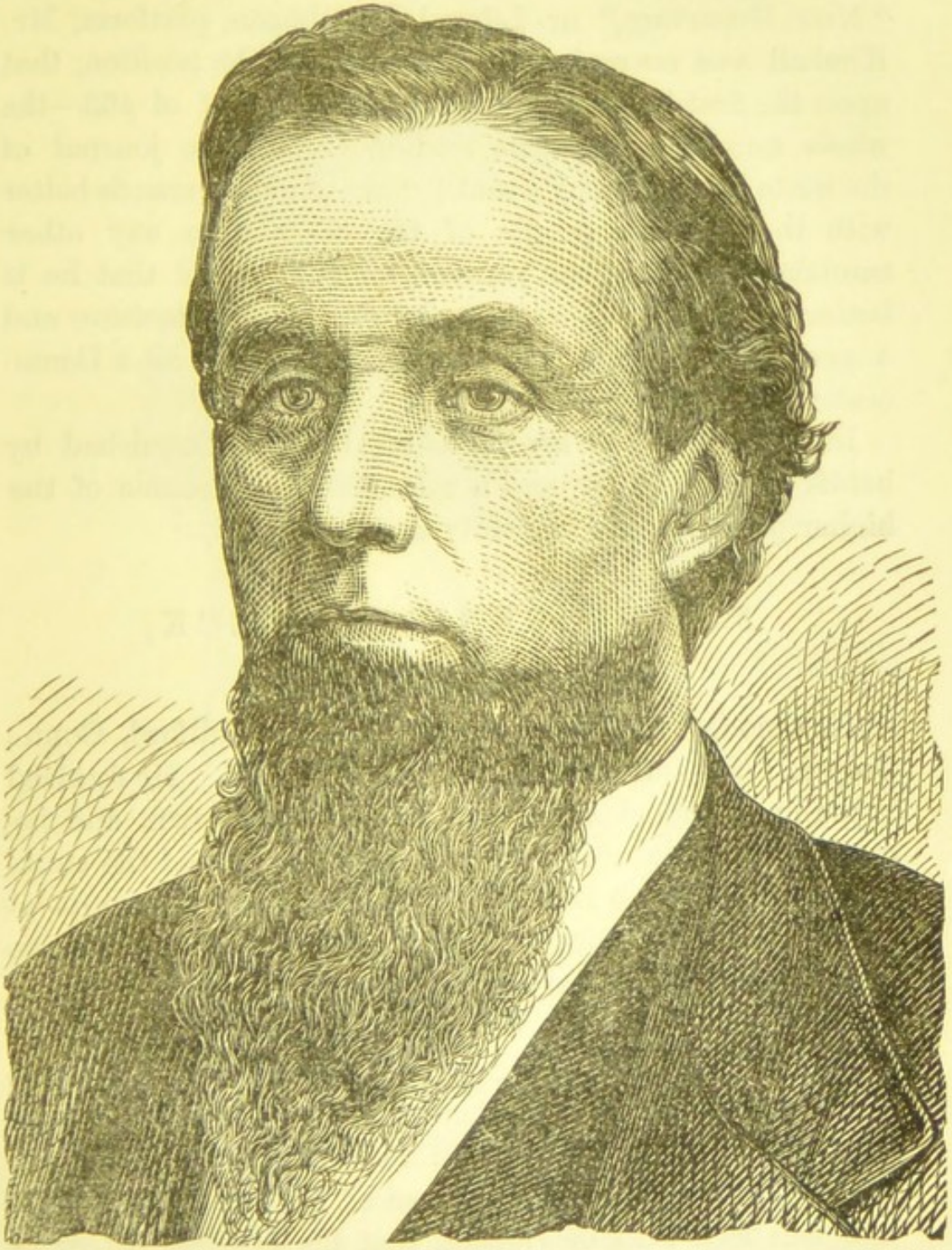
At the age of twenty-one he started a carriage manufactory on his own account, at Norway Village, in his native county. There the remarkable sources of his mechanical genius, his business enterprise, and force of character soon became apparent. No obstacle was too great to be overcome, no detail too trifling to receive his attention. So rapid was the increase of his business that soon there were scores in his employment, and the formerly quiet village became marked for its new life and animation.

The growth of his business, and the demand for improved facilities, determined Mr. Kimball on the removal to Portland, Maine, which took place in 1854. There he entered at once upon an extensive business, which now comprises two large manufactories. He is also a member of the firm of Kimball Bros., of Boston.

Mr. Kimball's originality and skill as a designer, and his entire familiarity with every part of his business, have given him an immense influence with his workmen, and secured an excellence in his carriages that has, while fixing his own reputation for trustworthiness and skill, also gained a world-wide recognition of the excellence of his workmanship. His extensive business, conducted with eminent executive and financial ability, has proved remunerative.

Mr. Kimball has long been a leading spirit in, and several years president of, the Maine Charitable Mechanics Association—a society having for its object the improvement of the condition of mechanics socially, mentally, and pecuniarily; and its prosperity and usefulness are largely due to his untiring in its behalf.

The Democratic Gubernatorial Convention held in Bangor in 1869, and over which he was called to preside,



CHARLES P. KIMBALL.

unanimously nominated him as their candidate for Governor, but he promptly and positively declined the honor·

and when the same party met in convention at Augusta in June, 1872, to put in nomination a candidate upon the "New Departure," or Liberal Republican, platform, Mr. Kimball was so eminently the man for the position, that upon the first ballot he received 445 votes out of 463—the whole number cast. The leading Republican journal of the State had previously said: "Mr. Kimball stands better with the business people of the State than any other candidate the party can present, for the reason that he is better known as an energetic and skillful manufacturer and a prompt and honorable business man than as a Democratic politician."

In the ordering of his life he has been distinguished by habits of temperance, and a systematic observance of the higher proprieties of morality and religion.

FITZ-GREENE HALLECK,

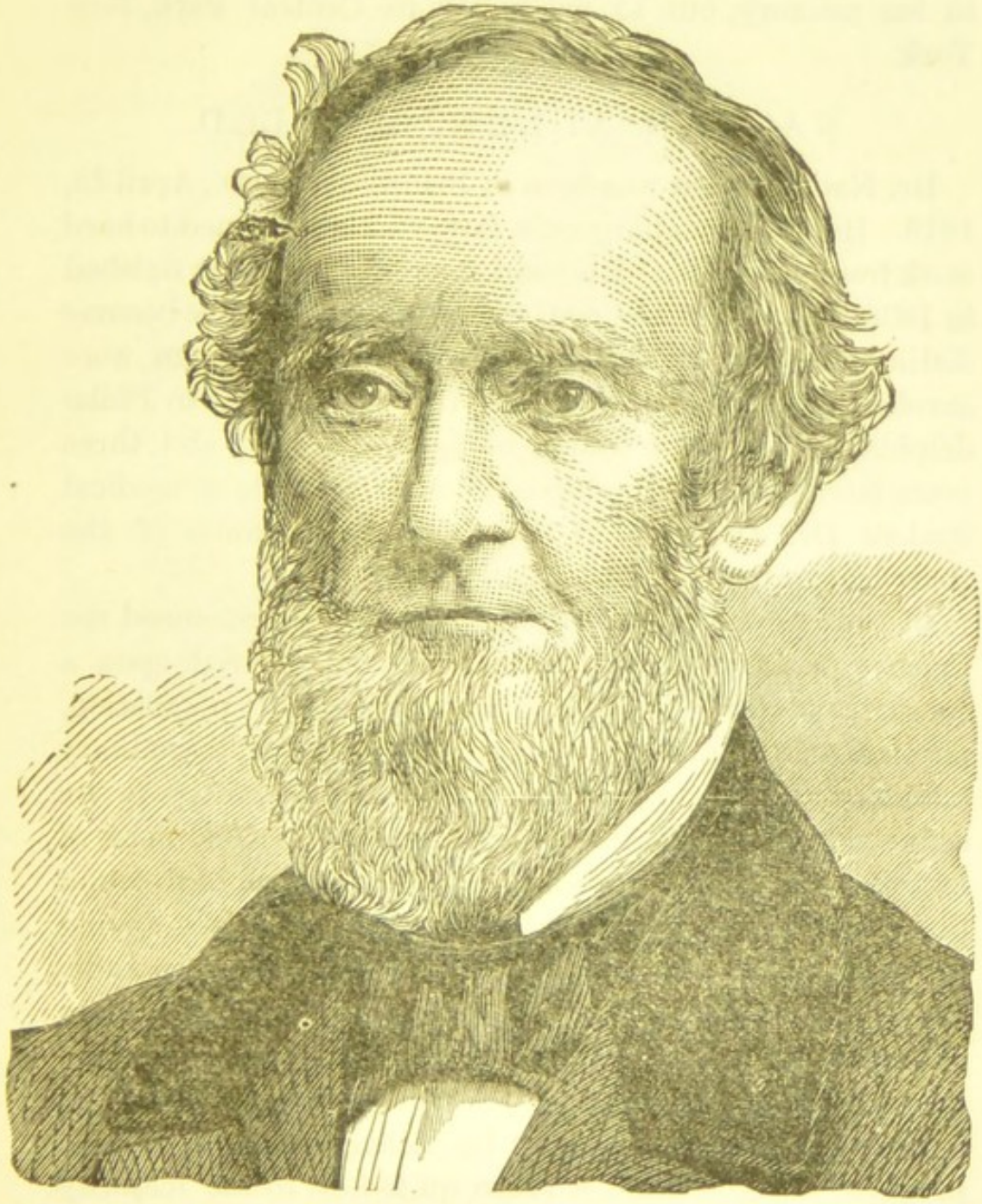
THE POET.

This modest son of genius was born at Guilford, Conn., July 8, 1790, and died there Nov. 17, 1867. He received a grammar-school education in his native town, and became clerk in a store there. In 1811 he entered the banking house of Jacob Barker in New York, in whose employment he remained for many years, and in 1832 entered the position of confidential assistant to John Jacob Astor in his enormous business, and remained with him until he died, March 29, 1848. He was named by Mr. Astor as one of the original trustees of the Astor Library. In 1849 he retired to his native place, to reside with an unmarried sister, where he remained the rest of his life.

It has been said of Halleck that his greatest defect as a writer was that he wrote so little. He formed a literary partnership with Joseph Rodman Drake to write the "Croaker" papers, which attracted great attention

Drake's death, in 1820, was touchingly commemorated by one of Halleck's tenderest poems, in which he said

"None knew thee but to love thee,
None named thee but to praise."



FITZ-GREENE HALLECK.

In 1819 he wrote a satire on the fashions, follies, and public characters of the day, entitled "Fanny."

In 1822–3 he visited Europe, and published anonymously an edition of his poems including "Alnwick Castle," "Burns" and "Marco Bozzaris," which last is regarded as a masterpiece. A full length bronze statue is erected, not to his memory, but to his honor, in Central Park, New York.

NATHAN ALLEN, M.D., LL.D.

Dr. Nathan Allen was born in Princeton, Mass., April 25, 1813. He was brought up on a farm and accustomed to hard work from early life. His academic education was finished in 1836 at Amherst College, where many who have become distinguished as clergymen, lawyers, and statesmen were enrolled among his classmates. In 1838 he went to Philadelphia to pursue a course of medical study, and three years later received the degree of M.D. While a medical student Dr. Allen edited the first three volumes of the *American Phrenological Journal.*

In 1841 he settled in Lowell, Mass., and commenced the practice of medicine, and soon afterward entered upon a course of researches relating to the laws of population, physical culture and degeneracy, public health, hereditary influences in the improvement of stock, longevity in its connection with life insurance, causes and treatment of insanity, etc. The results of his investigations have found their way to the public in many essays and treatises, among which his pamphlets on "The Opium Trade between India and China," "Medical Problems of the Day," "Intermarriage of Relations," and his "Report to the Massachusetts Legislature on Lunacy," are specially deserving of mention.

Through these publications Dr. Allen opened a field of practical thought and discussion quite new to the majority of thinking and scientific men. His position on the Massachusetts State Board of Charities for fifteen years, and his appointment as Examining Surgeon for Pensions for the

same time, have enabled him to exercise a marked public influence. For twenty years he has been a trustee of Amherst College, and chiefly instrumental in introducing the



NATHAN ALLEN, M.D, LL.D.

methods of physical culture for which Amherst College has taken special rank among American educational establishments.

Dr. Allen is among the first to maintain that the laws of propagation or population are based chiefly upon the science of physiology, and that a great predominance of

the nervous system becomes unproductive. When, therefore, a race or people become generally possessed of such an organization, the legitimate tendency is to run out in offspring, and as a race or people become extinct. This doctrine is comparatively new, and, if true, is one of vast importance.

In 1872 Dr. Allen visited Europe. To the International Congress which met in London that year to consider the matter of reforms in prisons and other correctional institutions, he was a delegate. His reputation had long preceded his visit and provided a cordial welcome from eminent men of his own profession, and secured many desirable opportunities to study the sanitary methods and institutions of England.

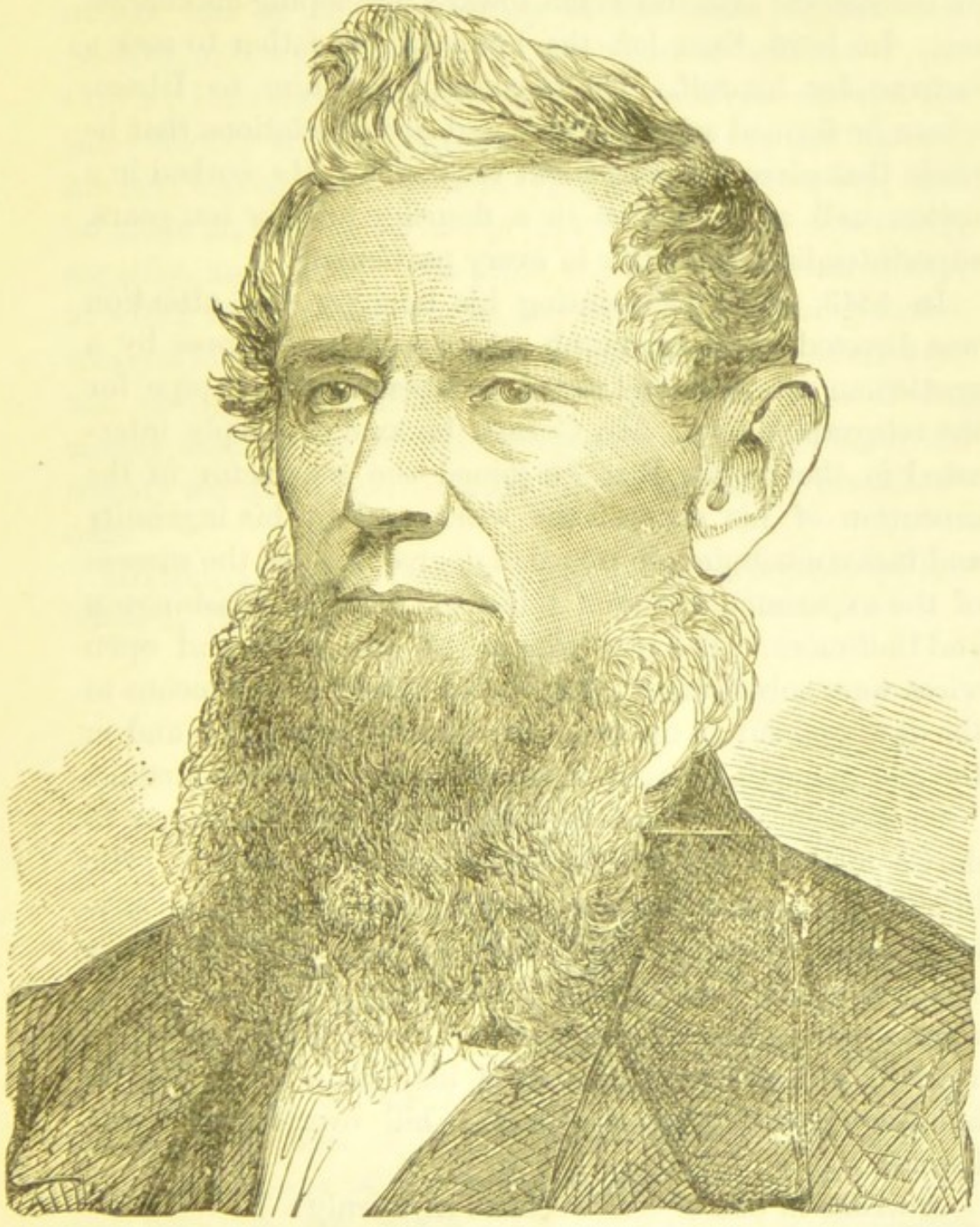
EZRA CORNELL,

FOUNDER OF CORNELL UNIVERSITY.

This eminent man, distinguished for his interest in popular education, and in the liberal arts, accomplished during the last twelve years of his life, which closed in Dec., 1874, what would be considered a noble life's work for any man, and stamped his name in undying characters upon the records of American philanthropy. He will be remembered as the founder of Cornell University, at Ithaca, N. Y., toward which he contributed $500,000 in cash, with the opening of which the American system of collegiate education may be said to have taken a new departure.

He was born at Westchester Landing, N. Y., on the 11th of January, 1807. His father was a potter, and young Cornell spent a good deal of his time in the shop where the wares were offered for sale, and in performing miscellaneous services. In 1819 his father removed to De Ruyter, in Madison County, where he settled on a farm, and also established a pottery. There the farm mainly occupied the attention of Ezra. His educational advantages were few.

and obtained chiefly by attending a few sessions of the winter school. This lack of mental training in his youth



EZRA CORNELL.

doubtless had an important influence in the philanthropic projects of his later years.

He exhibited a remarkable degree of constructive talent

when a mere boy. At eighteen he undertook to build a house for his father, and succeeded admirably. This trial of mechanical skill did much toward developing his character. In 1826 Ezra left the home of his father to seek a fortune for himself. Circumstances led him to Ithaca, where he formed such business and social relations that he made that place his permanent residence. He worked in a cotton mill at first, then in a flouring mill for ten years, superintending the latter in every particular.

In 1843, while prosecuting his business, his attention was directed to the telegraph schemes of Prof. Morse by a gentleman who had contracted to assist in laying pipe for the telegraphic line. Mr. Cornell became so deeply interested in the matter that he joined the contractor in the execution of his part of the work, and by his ingenuity and tact contributed, in no small degree, toward the success of the experimental line of telegraph between Washington and Baltimore. The pipe plan failed, and poles and open wires were substituted. He devoted his time and means to the development of the practical uses of telegraphy, and in the end reaped a harvest of success and a splendid fortune.

So soon as Mr. Cornell became a rich man he began to devise methods for the beneficial use of his wealth. His life-purpose was to found a great university, in which anybody could learn anything desirable among the sciences and arts of life. And in the little village where he stopped, when a young man of twenty-one, to work for a few dollars a month he saw the realization of his dream in the stately buildings which now crown the hill overlooking Lake Cayuga.

A writer in one of our weeklies says truly:

"Mr. Cornell was one of the men who are called peculiarly American, because of the feeling that his qualities and his career, the energy, probity, sagacity, industry, and economy which gave him the victory over adverse circumstances,

are precisely the forces which have subdued this continent and made this nation. He filled many positions, among others that of the presidency of the State Agricultural Society, and was chairman of the board of trustees of the Cornell University when he died, and in all he showed the same fidelity and intelligence. Personally tall and square, his face was of the American type, grave and shrewd; and he made an immediate and profound impression of honesty, sagacity, and pluck. His pride and joy was the university, to which his devotion was so absolute and absorbing that it was not always easy for him to understand why others were not as wholly interested as he." He felt "that all his money and his time and his powers were but a divine bounty which he held in trust for the benefit of his fellow-men."

His son, Alonzo B. Cornell, is now (1882) Governor of the State of New York.

WILLLIAM H. ASPINWALL,

THE SUCCESSFUL MERCHANT.

Among the names of enterprising Americans who have obtained a world-wide reputation in commercial affairs, few can claim the prominence of Aspinwall. The son of John Aspinwall, a prominent merchant many years ago, Mr. Aspinwall, born in New York in 1807, began business life in the counting-house of G. & S. Howland as a clerk, and in 1832, at the age of about twenty-five, was admitted into the firm. A few years later he assumed a prominent position in the business, the firm becoming known as How land & Aspinwall.

The business increased very rapidly, and the ships of Howland & Aspinwall paid frequent visits to the Pacific

coast, to the East and West Indies, to the Mediterranean, and to British ports. In 1850 Mr. Aspinwall retired from the active management of the firm, and devoted his energies to the enterprise of the Panama Railroad and the foundation of the Pacific Mail Steamship Company, a gigantic undertaking, with which his name will long be associated. European capitalists had long entertained some project of the kind, but it did not take any definite shape until 1850, after the Mexican war, when Congress, to render California more accessible, authorized contracts for the establishment of two lines of steamers, one from New York and New Orleans to Chagres, and another from Panama to California. William H. Aspinwall secured the line on the Pacific side, and George Law that on the Atlantic seaboard.

The construction of a railroad across the Isthmus of Darien was a part of Mr. Aspinwall's plan, and with Henry Chauncey and John L. Stephens he entered into a contract with the Government of New Granada for the construction of the work. A charter was granted by the Legislature of New York for the formation of a stock company. John L. Stephens was elected president of the company. Early in 1849 a contract was made for the construction of the road, which was begun in May, 1850, and continued for two years amid great discouragements. Up to 1851 the settlement about the terminus at Navy Bay had no distinctive name, and on February 2, 1852, the place was formally named Aspinwall. The road was opened to the city of Panama on February 17, 1855, being forty-nine miles in length. In 1847 Mr. Aspinwall, with others, received a contract from the United States for a monthly mail service on the Pacific Ocean, and became the active manager of the undertaking. In 1848 a charter for the Pacific Mail Steamship Company was obtained from the New York Legislature for twenty years. The capital stock

was $400,000, which in 1850 was raised to $2,000,000. The pioneer ship was the California. Until 1856 the company was very prosperous, but at that date Mr. Aspinwall, its



WM. H. ASPINWALL.—SUCCESSFUL MERCHANT.

founder, principal director, and president, retired—a loss which was severely felt.

In the early part of his career Mr. Aspinwall had good opportunities in the commercial world. He possessed the type of organization which appreciates opportunities, and converts them to practical account; he was not naturally speculative, yet was given to large ventures. It would be

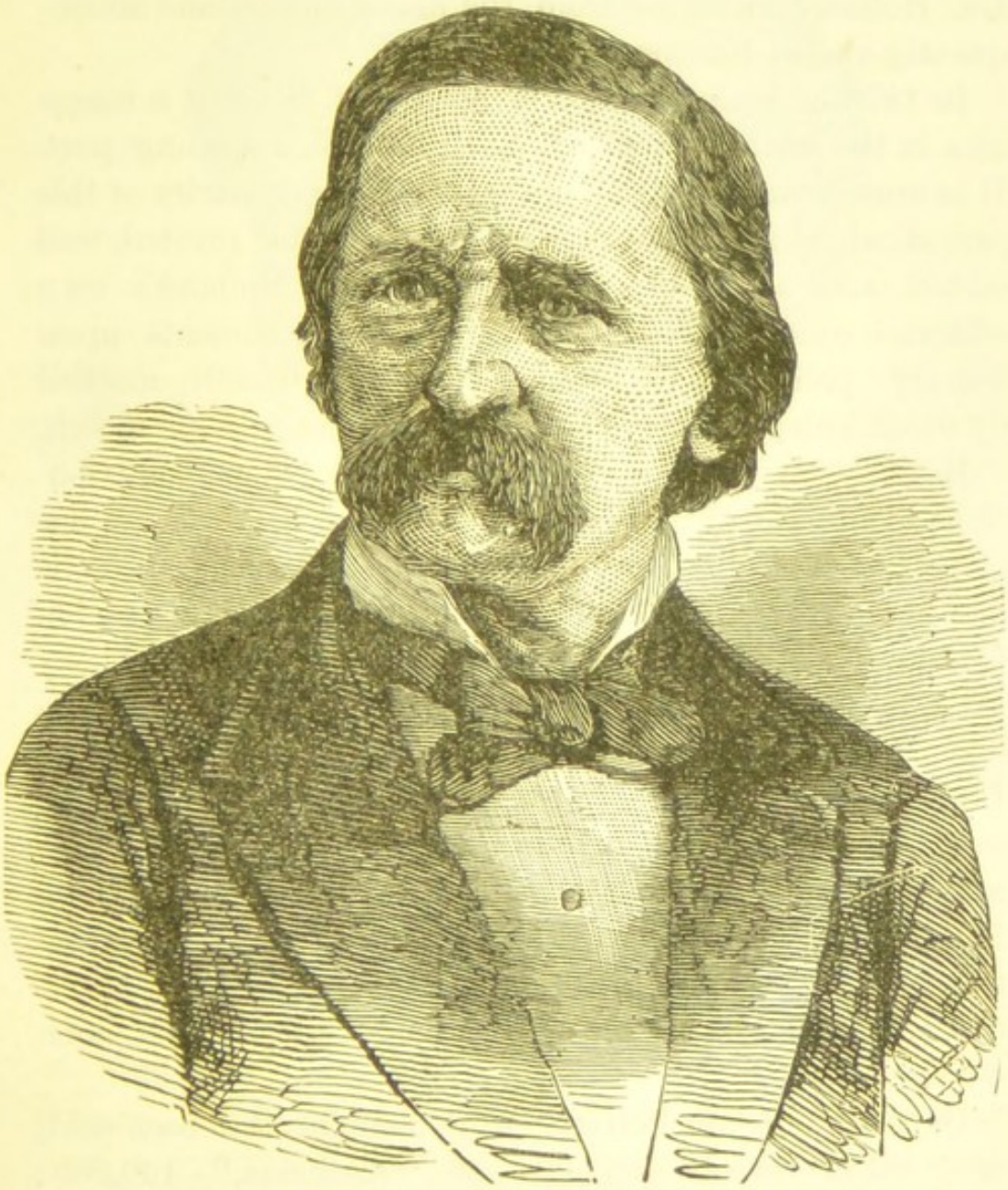
found, however, upon investigation, that these ventures had a substantial basis, that he could look forward confidently to definite results. He traveled considerably in foreign countries, and in the administration of his great wealth he was benevolent and public-spirited, but by no means ostentatious. He died in 1875.

DR. JOSIAH G. HOLLAND,

THE POPULAR AUTHOR AND EDITOR.

In the death of this gifted and genial man, which occurred from heart disease on the 12th Oct., 1881., literaature and society, of which he was an ornament, suffered a severe loss. His pleasant and polished writings made all his readers better, and he left a loving constituency which will long keep his memory fresh. He was born in Belchertown, Mass., July 14, 1819. His father was a machinist and inventor, a man of singular simplicity and purity of character, whose virtues his son has celebrated in a poem entitled "Daniel Gray," published several years ago in the *Atlantic Monthly*. Owing to failure of health while fitting for college, he was obliged to relinquish an academic course; and when twenty-one years old became a student of medicine, and graduated at the Berkshire Medical College in 1844, but after three year's practice in Springfield, Dr. Holland gave up his profession and entered upon a more congenial line of life, literature, to which all his natural tastes led him. While preparing for this new field he became teacher in a private school in Richmond, Va., and while thus engaged was chosen superintendent of the public schools in the city of Vicksburg, in Mississippi This office he accepted, and satisfactorily discharged its duties for a year and a quarter, when events of a domestic

nature called him back to Massachusetts. On his return to his Springfield home he was induced to accept a position, then vacant, in the office of the Springfield *Republican*.



DR. J. G. HOLLAND.

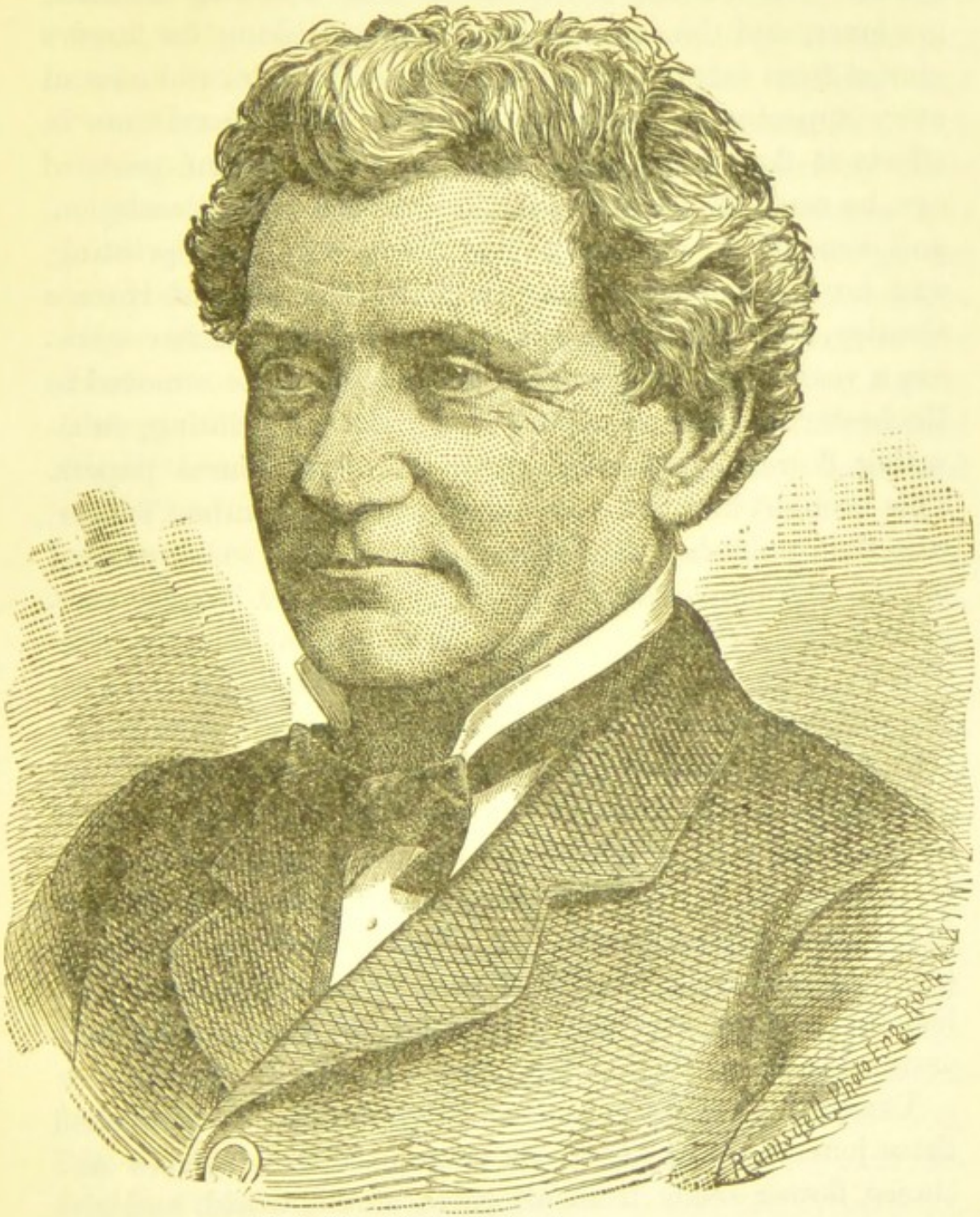
Here, associated with Mr. Samuel Bowles, he entered upon his first work as editor. The earlier years of this connection were years of severe labor, the two young men doing the entire editorial work of the establishment.

Two years after entering the office he became joint proprietor, and continued his interest in the business throughout the entire period which was occupied in raising the concern to its present magnitude and prosperity. In 1866 Dr. Holland withdrew from the management, and subsequently visited Europe.

In 1870 he became editor of *Scribner's Monthly*, a magazine in the establishment of which he took a leading part. It is unnecessary to dwell upon the great popularity of this periodical, which from the start has been well printed, well edited, and admirably illustrated. Dr. Holland's own editorial contributions were principally comments upon literary, political and social topics, and usually marked by much independence of opinion and plainness of speech.

Besides his editorial writings and occasional contributions to prominent magazines and other periodicals, he has given to the world several volumes of superior merit. His first book was "The History of Western Massachusetts," in two volumes. Then followed a novel, entitled "The Bay Path." Subsequently he produced "Bitter Sweet," a poem which has been generally admired; "The Titcomb Letters," an exceedingly pleasant volume; "Gold Foil," a series of essays; "Miss Gilbert's Career," a novel; "Lessons in Life"; "Letters to the Joneses"; "Plain Talks on Familiar Subjects"; "Kathrina," a poem of unusual sweetness. Among his later volumes "Arthur Bonnicastle," "Sevenoaks," and 'Nicholas Minturn" are noteworthy

Of the "Titcomb Letters," 61,000 copies have been sold; of "Bitter Sweet," 90,000; of "Kathrina," 100,000; while the circulation of the magazine has always been very large. His books have given pleasure and profit to a generation of readers, and in so large a list it is a great deal to say, as it would be of any author, that there is nothing in them offensive or unclean.



JAMES VICK.

THE EMINENT HORTICULTURIST.

James Vick is one of the most remarkable and well-known horticulturists in the United States. He was born Nov. 23, 1818, at Kingston, a suburb of Portsmouth, En-

gland. His father, a mechanic, was a skillful amateur gardener, and the son conceived a great liking for flowers almost from infancy, and attended the floral exhibitions at every opportunity, occupying much of his boyhood-time in efforts at flower culture. In 1833, when fifteen years of age, he came to America with his parents. With ambition, and some literary tastes, he had a desire to learn printing, and he commenced setting type by the side of Horace Greeley, who was then a journeyman printer. After working a year or two at the trade in New York, he removed to Rochester, N. Y., and commenced work at printing, cultivating flowers, and writing for the agricultural papers. This brought him into acquaintance with Luther Tucker, who then published the *Genesee Farmer*, and who was glad to give him employment on his paper. Mr. Tucker purchased the *Albany Cultivator*, and united the *Genesee Farmer* with it. But a paper called the *New Genesee Farmer* soon started in the field thus opened. The prefix "New," was soon dropped, and the paper was published with varied fortunes until 1850, when Mr. Vick was solicited to undertake its publication, which he did, running its circulation to the then unparalleled number of 50,000. Some three years after this Mr. Vick bought the *Horticulturist*, published by Luther Tucker, at Albany, and published it in Rochester for a number of years, being ably assisted in its editorial management by Mr. P. Barry.

THE SEED BUSINESS.—During the years that he published these journals it had been his custom to import new and choice flower seeds from all parts of the world, and give them as presents to his agents and correspondents, and to all who exhibited any interest in his journals; in fact, in all places and ways where he thought he could increase the love of flowers. This seemed to "be his mission." The neighbors of these favored ones, seeing such choice flowers

in their gardens, naturally inquired where the seeds came from, and, being informed, would write him to forward just such seeds as "his neighbor received last season," and "send on the bill." Not being in the business, Mr. Vick declined receiving any compensation, but invariably made a graceful present of the seeds desired. Of course, this kind of business grew rapidly on his hands, he giving away annually some $200 worth of imported seeds, besides large quantities grown by himself. He disposed of the *Horticulturist*, and commenced editing the *Rural New Yorker*, just established by Mr. D. D. T. Moore. He then abandoned his Free Seed business, which had become too large and costly for him to carry it on.

About 1857 Mr. Vick recommenced the seed business in earnest; all that had been done before was merely preliminary advertising—though not intended as such. He was literally driven into it, and from that time to this he has *driven it* with an energy, zeal, and judgment which have produced results simply marvellous. Most of the business is done by mail. From one to three thousand letters a day during the busy season are received and answered, the postage alone amounting to over $30,000 annually. Two and a half tons of mail matter have been forwarded in a single day. Until the present year all this business has been conducted in a rented building in State Street, but he has now completed and moved into an elegant and substantial building in East Avenue. It is built of brick, 54 ft. wide, 160 ft. long, and four stories high. He has employed in this building over one hundred experienced and trusty persons, a large proportion of them women. In the building is a printing office, a book-bindery, post-office, mailing and packing rooms, and every convenience which his long experience has taught him is necessary to the successful prosecution of his business. Mr. Vick oversees everything himself, yet he is never so much hurried as not to be ready

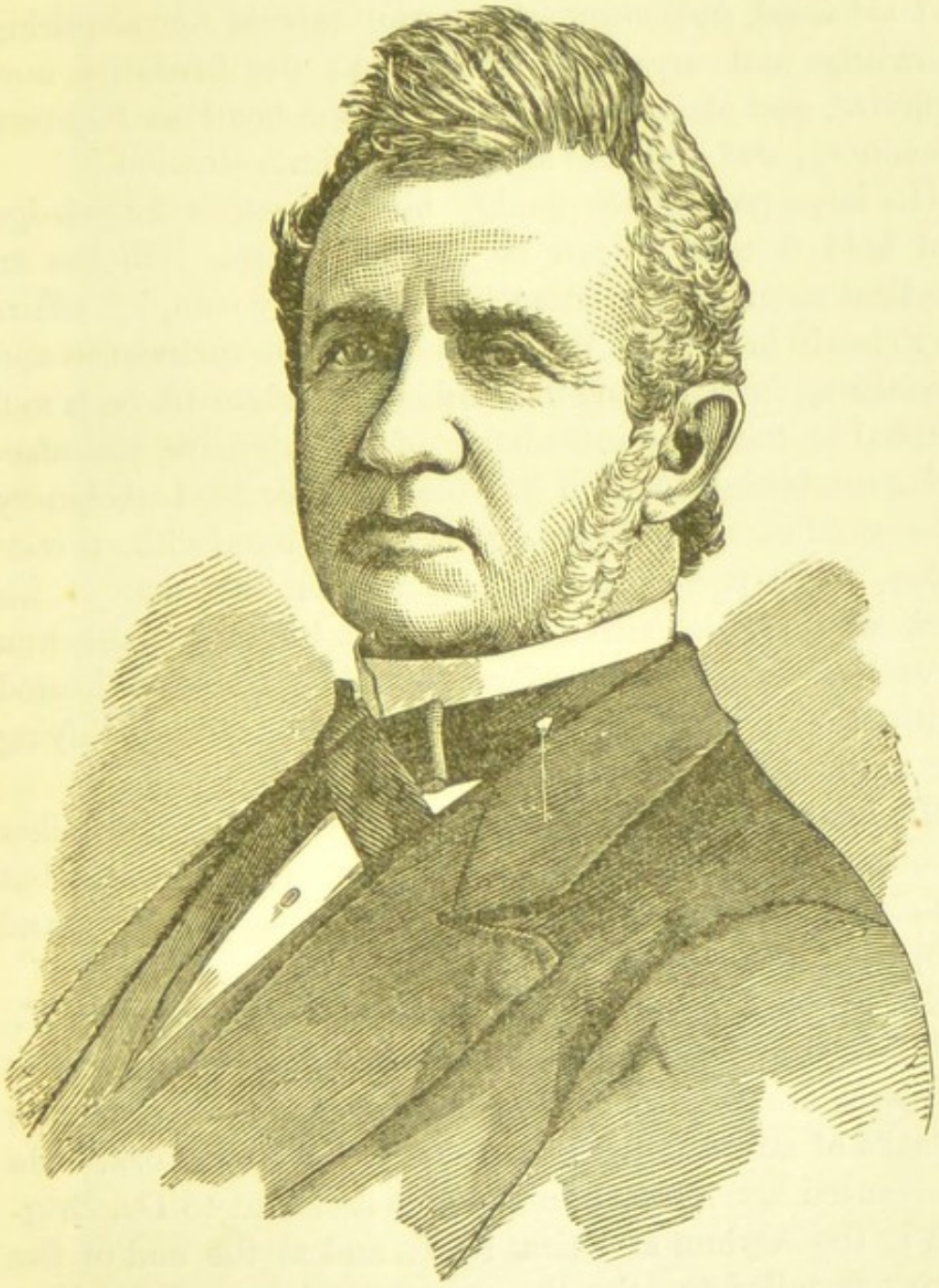
to receive visitors with the most cordial affability, and give much of his valuable time to works of benevolence and public good. He is always genial, just, and honorable. His success has been well deserved. He is an honor to the goodly city (Rochester) for which he has done so much to make famous the world over as the "Flower City." He died May, 1882.

DR. HORACE A. BUTTOLPH,

SUPERINTENDENT OF THE STATE ASYLUM FOR THE INSANE, AT MORRISTOWN, N. J.

Genius is evinced in many different directions. One shows it in poetry, another in art or invention, another in finance, another in administration; one shows it in law, another in medicine, another in writing or teaching, and each person follows the lead of one or more controlling faculties which lie in the direction of the peculiar talents or tastes exhibited. The subject before us appears to have genius in caring for the insane, and in addition to the medical and administrative drift of his mind, he has two other notable points, viz., a disposition remarkable for balance and equipoise, never losing his temper, his patience, or calm self-respect; and, secondly, a gift in mechanical invention and manipulation, which he has applied to the details of the great institution over which he now presides. He was one of the commission to select a site and prepare plans for the colossal structure; and in its completed form and in all the details for ventilation and warming, as well as for carrying out every domestic need of a perfect home, the talents of the superintendent are everywhere evinced. He has spent forty years in the care of the insane, five under Dr. Brigham at the Utica N. Y. Asylum, beginning in 1842, 29 at Trenton, N. J., as superintendent, and since 1876 in the new institution above named. While at the head of the

old institution at Trenton, he was appointed by the Legislature as one of a commission to prepare plans for the build



DR. HORACE A. BUTTOLPH.

ing, arranging, and fitting the new asylum, and we see in it his skill and talent, which had been educated by experience at Trenton, in all the perfected details. It runs like clock-

work without the ticking or the necessity for winding up, every assistant seeming to adopt the spirit of the place.

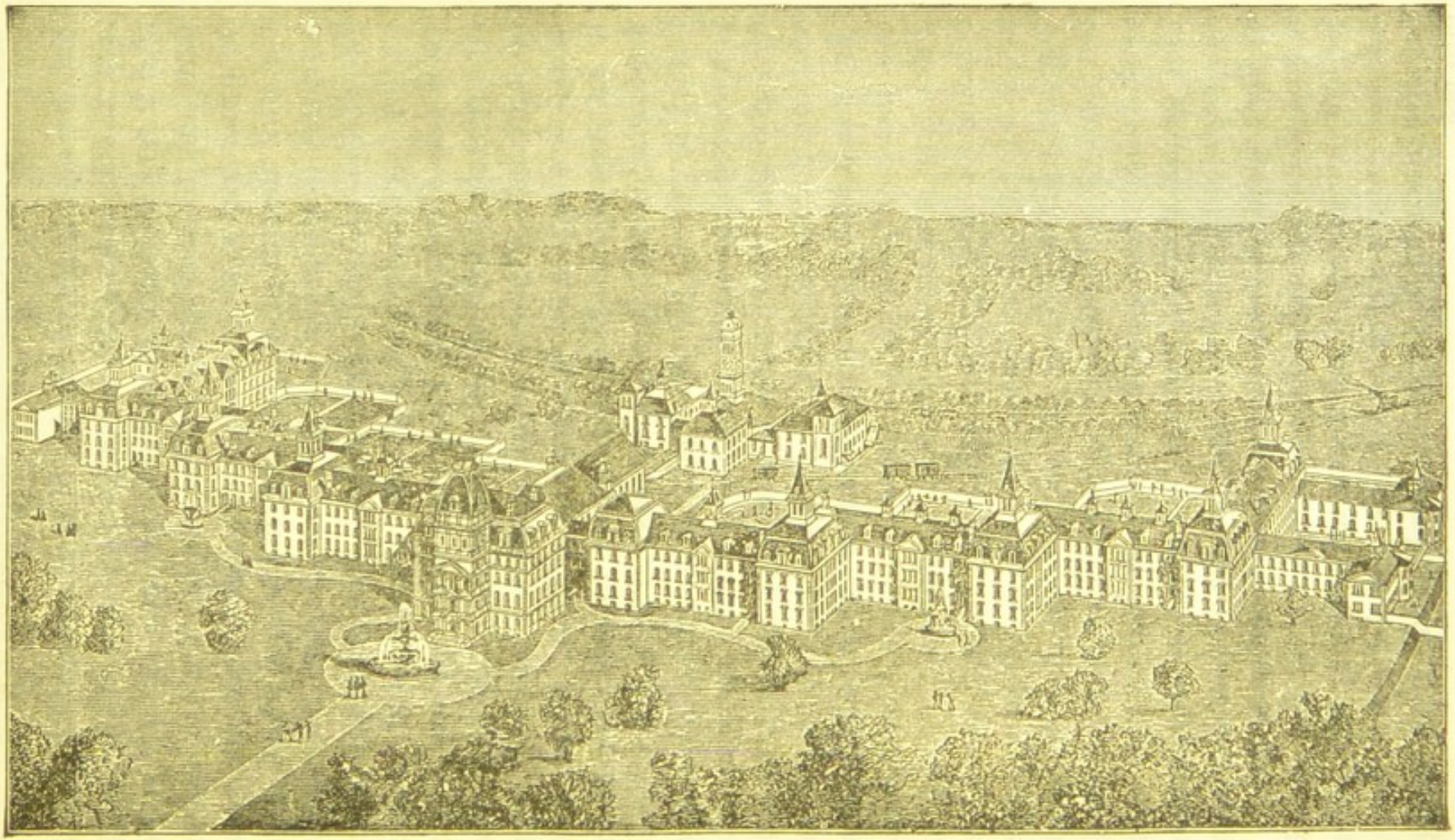
In the portrait we can see, in that fullness of the forehead and sidehead, indication of superior talents for acquiring knowledge and carrying it into effect; also inventive, constructive, and planning talent to comprehend and govern machinery, and organize and mould administration.

His large perceptives qualify him to gather knowledge and hold it until it can be applied to use. He has an excellent memory of particulars; can carry complex affairs very clearly in mind. With that large constructiveness and specializing intellect and discriminating judgment, he is well adapted to the superintendence of an extensive manufacturing establishment, with its world of associated machinery —he could carry all its details clearly in mind without confusion. His power and success are largely due to his mechanical and inventive talent, which not only enable him to understand material affairs, but also the complicated relations of human disposition and character, thus qualifying him to govern and control people.

His language is large enough to make him a good talker —not one very fluent or copious in the use of words, but one able to express himself with clearness, precision, and comprehensiveness.

He was born April 6, 1815, in Dutchess County, N. Y., attended the Stockbridge, Mass., Academy, graduated at the Berkshire Medical College, and attended one course for the sake of surgery in the University of New York. He commenced his lifework in 1842, as assistant to Dr. Brigham in the Asylum at Utica, N. Y., and at the end of five years was called to take the superintendency of the New Jersey State Lunatic Asylum at Trenton, which he remodelled and greatly improved, and in April, 1876, he was called to superintend the new Asylum at Morristown.

The work of erecting this building—or, rather, series of



STATE ASYLUM FOR THE INSANE AT MORRISTOWN, N. J.

buildings—was begun in 1872, and about two and a half million dollars have been expended upon it. This institution is very imposing in appearance, especially when viewed from the front, which stretches out in a continuous line from north to south over 1,270 feet, each subdivision receding until the rear of the two extreme wings, which inclose a square court, are about 600 feet distant from the front line of the central projection. All the buildings are five stories high, including the basement, and are fire-proof as far as stone, brick, iron, and slate can make them. Every contrivance or facility known to science has been brought into requisition for the proper warming, ventilating, feeding, and lodging of the patients. The asylum in its present condition is intended to receive eight hundred patients with their attendants. The departments are heated by steam, for the supply of which, as well as the power needed to run the machinery of the shops, laundry, etc., are eight large boilers in a suitable building, placed at some distance in the rear of the central structure. It may give some idea of the great extent of the edifice to say that there are nearly eight acres of floors, two thousand doors, and twenty-five hundred windows. There are between four and five thousand radiators and about three thousand registers connected with the heating apparatus, together with something like eight miles of iron pipe for the conveyance of steam, water, and gas. The gas used is made on the premises in a separate building. The visitor who passes through the many passages of the basement and views the lines of iron pipe, will be at first bewildered by their apparent complexity ; but after a few moments of examination, especially if he be conducted by the superintendent, whose comprehension of the building with all its infinitude of detail is perfect, he will be astonished to perceive how simple the system is which has been brought into use.

Dr. Buttolph has devoted himself to his profession with enthusiasm, and the care of the insane has been a life-long study with him—indeed a sphere in which he has found enjoyment because of his peculiar adaptation to it, and the large measure of success which has attended his efforts to restore disordered minds to a normal condition.

We are not aware of any other person whose record as a physician to the insane entitles him to a higher place in the world's esteem than Dr. Buttolph, and the State of New Jersey has reason to be proud of the magnificent edifice which she has erected for the care of her unfortunate citizens who have lost their mental balance, and of the man who presides over the vast array of instrumentalities, moral and physical, which have been marshaled therein.

In 1872 Dr. Buttolph was honored by Princeton College with the degree of LL.D.

Dr. Buttolph accepts the composite structure of the brain and appreciates the necessity of varied employments for the exercise of the different organs and faculties of the mind. The following is substantially the light in which he regards

INSANITY OR MENTAL DERANGEMENT.

As in all discussions in relation to healthy mental action, it is necessary to make distinct allusion to the brain as the organ or agent by or through which the mind is manifested in this life; so, in disordered mental action or insanity, it is equally essential to a right understanding of the phenomena presented, and for adapting means for relief, to consider the brain as the part affected by disease; the disturbance resulting therefrom to the mental facilities, the moral and animal feelings being merely symptomatic of disease in the physical parts. At this point it may be stated that the

distinction to be made by man between insane and criminal conduct, is this. The former is prompted, or caused, by a diseased state of the brain, to be established by the circumstances and symptoms of each case separately; while the latter arises from, or is associated with, the healthy but perverted exercise of that organ. In the first he is partially or wholly irresponsible, because his moral liberty is abridged or restrained by disease; while in the other, he is responsible to the extent of his ability for judging and acting rightly, because thus far free.

This distinction does not apply to cases of idiocy, either intellectual or moral, in which the brain is defective in quality or development, or both, though healthy in action. A degree of confusion often arises in regard to the subject of insanity, from the language of statutory or legal definitions, which have been made or interpreted to embrace only or mainly those cases of insanity in which the intellectual faculties are specially at fault. In this way the whole class of cases of mental derangement in which excited, depressed, or perverted *feeling* is the leading symptom, and popularly though inaccurately called "moral insanity" is brought into disrepute, or wholly ignored by courts and juries.

In estimating the responsibility of an individual whose character and conduct have become changed through disease of the brain, no distinction is made by many observers and writers on account of the locality of the disease in that organ, or of the class of faculties, whether intellectual or affective are most involved; while the daily and hourly observation of men connected with the care of the insane show that the moral freedom, and therefore the responsibility of individuals, is as effectually abridged or suspended through derangement of the emotional faculties, as if the intellectual was deluded and most disturbed. The

members of the medical profession, in giving evidence in such cases, while carefully avoiding the error of seeming to favor the effort of criminals to escape merited punishment through a groundless plea of insanity, should, nevertheless, carefully distinguish between cases in which there is mainly eccentricity and moral obliquity, from genuine cases of derangement of the intellectual and emotional faculties, from disease of the regions and parts of the brain with which they stand related. With partially deranged intellect only, or mainly, in a given case, the knowledge of right and wrong may be a fair test of the responsibility of the subject of disease, but it is no sufficient test of responsibility when the impulsive feelings are morbidly strong, indeed *uncontrollable*, through disease of their respective organs in the brain.

If in the result of trials for capital offenses, extenuating circumstances are found to exist in favor of criminals, which should modify the rigor of the law, let them be used in favor of lessening, or so modifying the severity of legal penalties, as to put the exercise of mingled justice and mercy within the discretion of the court.

Executive clemency should then seldom or never be appealed to in behalf of culprits, except to correct obvious mistakes of fact, or of essential forms in legal proceedings.

The forms of mental derangement vary with the kind of morbid action present in the brain, whether it be excited, depressed, or perverted in its character; also, with the location of disease in that organ in the forming stage, and its *extension* during the progress of the case afterward. The causes of insanity are of two kinds or classes—predisposing and exciting. The first embraces hereditary or constitutional defects in the quality of the brain, by which it is rendered more susceptible to the effect of disturbing influences. This susceptibility is also greater when it is

inherited from both parents, and in families in which intermarriages have been frequent; the standard of physical vigor being thereby rendered much lower. It is not supposed in these cases that insanity is directly transmitted from parent to offspring, or that it will inevitably appear in the latter in the most favorable circumstances for health. It is presumed only, that a quality or condition of brain is communicated by which they are rendered more liable to attacks of cerebral disease, and hence to insanity.

The imperfect or susceptible state that remains after some of the diseases of infancy or childhood, that have appeared in a severe form, may predispose to this disease; too great indulgence of the appetite in the use of overstimulating or irritating articles of food or drink; injuries of the brain from blows, falls, etc., in childhood and afterlife, although they may be slight, are sometimes followed by increased liability to disease. Of the mental and moral causes that predispose to insanity, none exert a greater influence for evil than the imperfect development and training of the various faculties in their individual and associated capacity, as they are constituted to be mutually dependent upon each other in working out the great problem of life. If the intellectual, moral, or animal group of faculties, or any individual belonging to either, are neglected in their educational training, are cultivated too highly or at the expense of the rest, the equilibrium of the mind is impaired or destroyed, and the individual thus rendered liable to be affected unduly by the exciting, depressing, or the otherwise disturbing influences of life. Many of the systems, or rather plans of educational training in vogue, are defective in this respect, that they do not embrace a correct and comprehensive view of the constitution and wants of the mind, and thus tendencies to unbalanced states are directly developed, predisposing to mental disorder from slight causes.

The exciting causes of mental derangement are all those means and influences, whether physical, mental, or moral, that tend to disturb the bodily health and mental tranquillity of the individual.

In harmony with the view here presented in reference to the nature, forms, and causes of insanity, we regard attention to all those means tending to aid the full development of the brain, and thus establish the proper activity and strength of the faculties of the mind, as the most efficient and reliable means of warding off disease.

In regard to the general principles of treatment applicable to mental disorders, it may be stated that in asylums and hospitals for insane, as elsewhere, it may be properly divided into medical and moral ; the former including the use of medicines of various kinds, warm or cool bathing, regulated diet, etc.; the latter, all mental and moral influences that can be brought to bear upon an individual, as employment, amusements, regular habits of rising and retiring, proper nutrition, habits of order, cleanliness, etc., etc., the principle being to secure and maintain, as far as possible, a satisfied, cheerful, and hopeful state of mind.

F. A. P. BARNARD, LL.D.,

PRESIDENT OF COLUMBIA COLLEGE, NEW YORK.

The constitutional characteristics of this organization are decidedly marked. Power and endurance seem to stand out in relief, as if he could have taken a position in any field of effort where hard work and long and weary journeyings might be required. He could have been a farmer, or a mechanic, a navigator, a soldier, an explorer, and have

carried with him health, endurance, vigor, and that physical persistency which wins by tiring out opposition. He not only has strength, but there seems to be an intense activity, a quick sensibility to all that is interesting. His mind works rapidly as well as strongly, and he is persistent, never leaving a point until he has satisfied himself in respect to its treatment. When a boy, if he started to accomplish anything, everybody who knew him believed that he would catch the fish, or get the nuts, or shoot the squirrel, or win the prize. He always had a purpose, and a persistent earnestness in the accomplishment of that purpose, and he makes sure of his footing as he goes forward.

Frederick Augustus Porter Barnard was born May 5th, 1809, in Sheffield, Mass. At the age of fifteen he entered Yale College, and was graduated four years later, taking the highest honors. He then gave his attention to teaching, having obtained a position in the Hartford Grammar School. In 1830 he became tutor at Yale, served but one year, and then took charge of a department in the American Asylum for the Deaf and Dumb at Hartford. One year later he was called to the New York Institute for the Deaf and Dumb, where he remained five years; then was Professor of Mathematics and Natural Philosophy in the University at Tuscaloosa, Alabama, until 1848, when he was transferred to the chair of chemistry and natural history in the same institution. After six years in this professorship, he accepted the chair of mathematics, natural philosophy, and civil engineering in the University of Mississippi. Two years later he was elected president of that institution. He remained thus related until the opening of the late war, when he resigned.

In May, 1864, he was elected President of the Columbia College, New York. This important post he has occupied

until the present time, 1882, evincing in its administration an ability which has contributed much to extend the usefulness of that widely-known and highly-reputed institution.



F. A. P. BARNARD, LL.D.

PRESIDENT OF COLUMBIA COLLEGE, NEW YORK.

He has been a prolific and vigorous writer on educational, scientific, and other topics, evincing extended culture and broad views, and commanding a national influence.

THOMAS H. SELBY.

EX-MAYOR OF SAN FRANCISCO.

This is an expressive, not to say speaking countenance. It belongs to a strongly marked character; there is both thought and force in it.

Had he developed in a literary instead of in a commercial direction, he could have attained the topmost round of the ladder, and sent his name down to posterity in thoughts and books which would live.

Educated for the law, he would have readily worked into statesmanship. In short, he could have filled any place in any sphere of action to which he may have aspired.

There is Combativeness without querulousness; Destructiveness without cruelty, and force with kindness and consideration. He has Caution without timidity, and economy without parsimony.

Such an organization governs circumstances instead of being governed by them; it makes its own way in the world without depending on *luck* or chance.

Mr. Selby, for many years one of the most prominent merchants of the Pacific coast, was born in the city of New York. His school training was concluded while he was but a youth, and then he obtained employment in the store of Mr. A. T. Stewart One of his associate clerks and most intimate friends at that time was Cyrus W. Field, afterward so successful and eminent in telegraphic enterprise.

In 1849, when the agitation consequent upon the discoveries of gold in California was at its height, young Selby concluded to go thither and try his hand for a fortune.

Instead, however, of attempting the uncertain and dangerous pursuit of a miner, he commenced business in

San Francisco, and laid the foundation of the present house of Thomas H. Selby & Co.

Mr. Selby has had a hand in nearly every important



THOMAS H. SELBY.

business enterprise on the Pacific coast, and many prosperous movements of to-day owe their existence to his suggestive mind. The great smelting works, the shot-tower, and other large manufactories, affording employ-

ment to hundreds of persons, and leading agencies in the development of the resources of the Golden State, are the offspring of his fertile mind and keen foresight. He repeatedly declined the nomination of the "Tax Payers'" or Independent Party; but it was forced upon him as the only man in whose strength they could confide for victory at the ballot-box. In 1869 he was elected, and in December took his seat as mayor of San Francisco for two years.

SIR JOSIAH MASON.

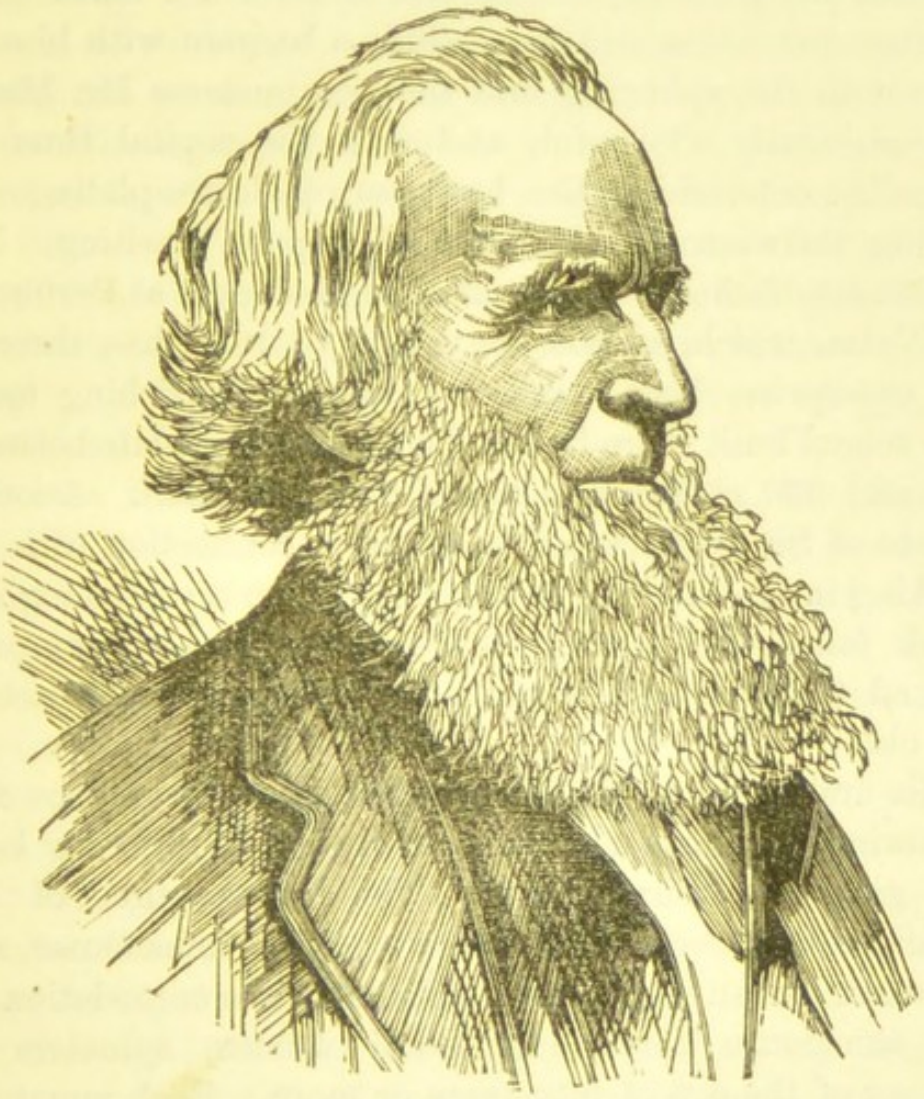
AN EMINENT ENGLISH BENEFACTOR.

One of the more conspicuous men of England in the spheres of industrial success and practical philanthropy was Sir Josiah Mason. He rose from poverty to the possession of great wealth, from complete obscurity to special distinction. This implies the possession by Mr. Mason of superior mental powers, and his head being over twenty-four inches in circumference--an extraordinary development—confirms the instructive history. In 1862 his head measured twenty-three and a half inches, and in 1870 twenty-four and a half inches, and measured by the same careful man, L. N. Fowler, in 1880, twenty-five inches.

Sir Josiah Mason was born at Kidderminster, February 23, 1795, when quite young he worked as a shoemaker, then as a baker, and next as carpet weaver. At the age of twenty he went to Birmingham, where for ten years he was a jeweler and gilt toy-maker. At thirty he became connected with the manufacture of steel split-rings and key-rings, which was conducted by Samuel Harrison, the first inventor of steel split-rings. Mr. Mason regarded this as the foundation of his worldly prosperity. He afterward succeeded to the business of Mr. Harrison, and then added to it the manufacture of steel pens.

Mr. Mason's introduction to the pen trade is strikingly

illustrative of his business intellect. In the year 1828 or 1829 he was walking up Bull Street, in Birmingham, when, looking into the shop window of a then well-known stationer, he saw a card containing nine steel pens, the



SIR JOSIAH MASON.

price of which was 3s. 6d. (84 cents). Infinitely better pens are now sold at 10 cents per gross. "The novelty of the thing," said Mr. Mason, "induced me to go in. The proprietor was writing with one of the pens. I instantly saw that I could improve upon it, and I bought the pen for sixpence." On examining it, Mr. Mason made out the name of the maker to be "Perry, Red Lion Square, Lon

don." When he got home he made three pens, from which he selected the best, and sent it by that night's post to Mr. Perry. Two days afterwards Mr. Perry presented himself in Lancaster Street, to see the man who had made a better pen than his, to ascertain if he could make them in large quantities, and to conclude a bargain with him.

In both the split-ring and the pen business Mr. Mason was eminently successful, and with the capital thus acquired he entered into the business of electro-plating and gilding, then into the business of copper smelting. Mr Mason established a copper-smelting business at Pernbury, in Wales, which, an obscure village in 1850, has, through his enterprise, been converted into a flourishing town. The school built there by his firm to accommodate between 400 and 500 children, is now found too small. Another sphere of Sir Josiah's activities was in connection with the banking interests of the Midlands. When the Birmingham Bank failed, he became chairman of a new company formed to assist and, if possible, to repair the losses of the old.

His first great work of benevolence was the erection and endowing of almshouses, and an orphan asylum for boys and girls near Birmingham. The first portion of the buildings was erected in 1858, one part as almshouses, and the other for an orphanage. There is accommodation in the almshouse portion for thirty women, spinsters or widows of the age of fifty years or more. Each inmate is provided with a furnished house, coal, gas, and other advantages. The part which was originally the Orphanage is now converted into a home for girls educated at the Orphanage, who may be out of service, or suffering from sickness. Not satisfied with these acts of beneficence, Mr. Mason laid the foundation stone of a new orphanage himself, on the 19th of September, 1860, and it was finished and first occupied in 1868. In addition to the expenditure

of $300,000 on the building, Sir Josiah has endowed the institution with land and building estates of the estimated value of $1,000,000. The inmates of the Orphanage are to be "lodged, clothed, fed, maintained, educated," and brought up at the cost of "the Orphanage income." There is no restriction whatever as to locality, nationality, or religious persuasion. The institution is now capable of accommodating 300 girls, 150 boys, and 50 infants (boys), who meet together for meals and prayers, but are separated as to school and dormitories. The rules permit the admission of boys from seven to ten years old, and girls from four to ten years. Boys leave when they are fourteen years of age; girls from fifteen to seventeen years of age, as situations are found for them.

Besides this noble and munificent charity, Mr. Mason has built and endowed a college for the study of practical science, to promote "thorough systematic education and instruction, adapted to the practical, mechanical, and artistic requirements of the manufactures and industrial pursuits."

The college was completed early in the fall of 1880, and is a magnificent Gothic edifice, with a frontage of 148 feet. The buildings cover an area of about 2,400 square yards, but when the plan of the founder is carried out they will occupy nearly double that area.

In the year 1872 Her Majesty conferred on Mr. Mason the honor of knighthood, in recognition of the munificence of his many benevolent and philanthropic labors for the good of his fellow-men. Of all who have received the honor at the hands of the Queen, few have merited it so well as Mr. Mason. There are some remarkable resemblances between Mr. Mason and the late Mr. Peabody. Both were born within five days of each other, both began poor and became wealthy through their own energy and industry, and both have distributed nearly a similar sum

among the poor. But while Mr. Peabody handed over his money to trustees and left the arrangements to them, Mr. Mason has superintended the details of his own charities.

He died in 1881.

JOHN A. BROADUS, D.D., LL.D.,

THE EMINENT BAPTIST CLERGYMAN AND SCHOLAR.

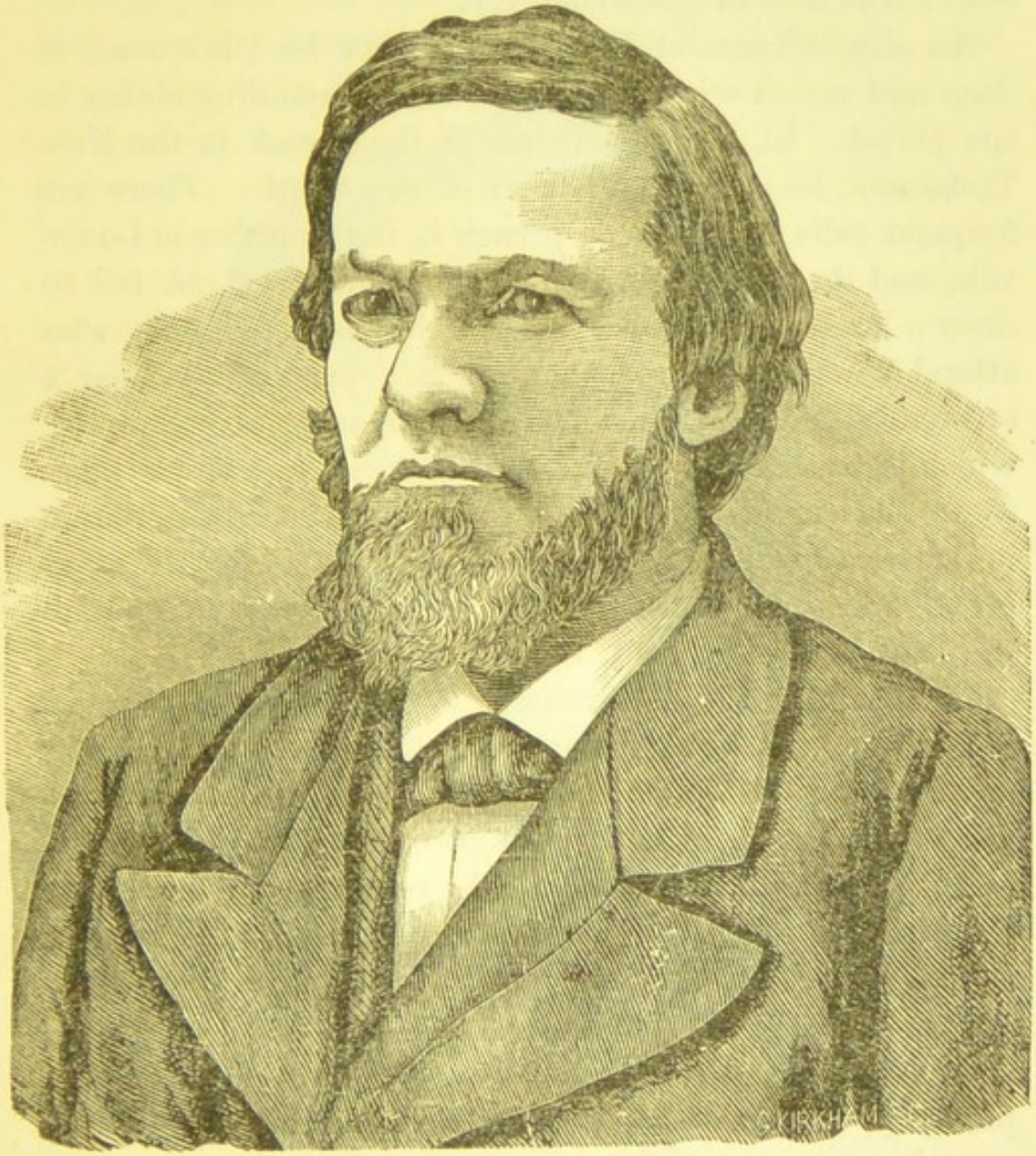
The wide reputation and commanding influence of this solid thinker and ripe scholar, warrant for him a place in our pages, since, wherever he is known the ablest men acknowledge his natural talents and varied acquirements. That massive head, strong face, and ample body, challenge respect and win the confidence of every beholder. He is a man who can be angry and not boil over, who can reprove delinquents without abusing them, who can preach strong doctrines without seeming personal. Some must be angry before they are strong or brave; he is both strong and brave without the necessity of showing anger. When he is much provoked, and it will not help his cause, he does not permit himself to explode.

His power to reason and criticise, to combine facts and logical arguments, to systematize and build up a subject or argument, are shown in all his work.

An organization like this would rank well in any department of effort and usefulness, where the competition is strong and the duties demand courage, outreaching thought, and dignity and force of character.

John Albert Broadus was born in Culpepper County, Virginia, on the 24th of January, 1827. His family is of Welsh extraction, and the name was formerly spelled Broadhurst. He completed his studies at the University of Virginia. Dr. Gessner Harrison was then Professor of Ancient Languages, as he had been for more than a quarter of a century, and with him young Broadus formed a close intimacy. In after years one of the results of this friend

ship was the marriage of the student to the professor's daughter. In 1850 Mr. Broadus received his degree from the University, and a year later he was offered and accepted the position of Assistant Professor of Ancient



REV. JOHN A. BROADUS.

Languages in his *alma mater*. Two years later, the Baptist church of Charlottesville invited him to take its pulpit, and he accepted it. As a young man he was eminently fitted for the place of a teacher. This the prominent members of Southern Baptist circles were not long in discover-

ing; and when a vacancy occurred in the Theological Seminary in 1859 he was invited to take the Professorship of New Testament Interpretation and Homiletics, which he still occupies. The seminary was then located at Greenville, S. C.; it is now in Louisville, Ky.

An acquaintance of Dr. Broadus says he "is a man of deep and varied scholarship, and of commanding ability in the pulpit. In his knowledge of the Greek in the New Testament, he is without a peer in the South. There are frequent calls upon him to preach in the churches in Louisville, and the announcement of his name does not fail to draw a large congregation. Even his own students who attend his daily lectures, consider it a privilege to hear a sermon by him and to come under the sway of his power, which is remarkable in the lecture-room, but is far more so in the crowded assembly. The Baptist denomination in America has no man to-day of whom it is rightly more proud, and there is probably no man in the denomination who has done more for it than Dr. Broadus."

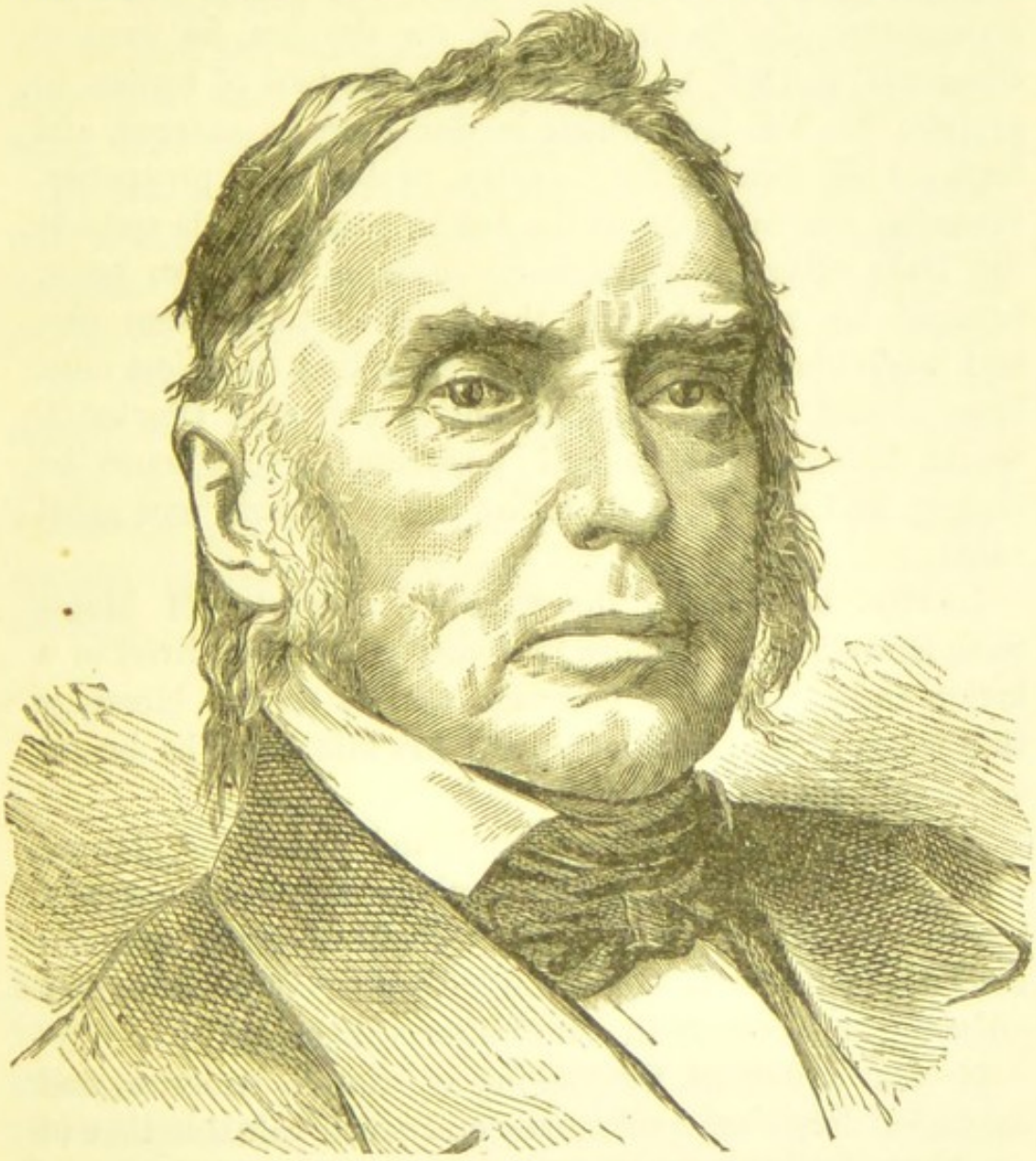
He has published a volume or two of sermons, an account of a visit to Palestine, and lectures on the History of Preaching, which were delivered in the Newton Theological Seminary, Mass. In his own department of special instruction he has published little, principally a Review of the American Bible Union's version of the New Testament, which was contributed to the *Religious Herald* of Richmond, Va., in 1867–69.

As a speaker Dr. Broadus is remarkable for the simplicity, yet vigor of his style. He wins the attention at once by the easy, off-hand manner of his opening, and develops the truth and application of the most profound principle with so much clearness, fertility of illustration, and self-command, that the listener is surprised to find apparently easy what he had previously regarded as paradoxical.

NICHOLAS LONGWORTH,

PHILANTHROPIC MILLIONAIRE OF CINCINNATI.

Nicholas Longworth, whose history and fortunes were so closely identified with those of Cincinnati for more than half a century, was born in Newark, N. J., Jan. 16, 1783.



NICHOLAS LONGWORTH.

He was descended from good English and Holland stock, noted as pioneers and patriots in New Jersey and Long Island, and known for worth, wealth, and influential

standing among the communities where they dwelt. Their property, which was large, was lost in the vicissitudes of the Revolution, and it became necessary that our subject and his brothers should be early trained to self-help.

At nineteen years of age Nicholas Longworth went to Georgia, where his brother Joseph had a rice plantation, but finding that the climate of the South did not suit his constitution, and having a taste for the law, he went to Cincinnati in 1803, and began under the best of tuition to prepare for the bar, which in due time he entered, and began a life marked by industry, probity, and prosperity, investing his earnings at the bar in vacant lands outside the little village of Cincinnati, which, as the town grew, brought his property into the heart of the present city, and made him very rich. He foresaw that the West must have a vast growth, and he anticipated that Cincinnati would become a large and important place, hence he bought land in view of its future improvements and great value.

In 1806 he married the widowed daughter of Major Silas Howell, and for more than fifty years they lived in a loving and harmonious marriage, and of all the blessings that fell to Nicholas Longworth his wife was the bright and crowning one.

Mr. Longworth was a friend and patron of Hiram Powers, the artist, and of many others whose fame is now less known. He was greatly interested in horticulture, and his large gardens and well-arranged conservatories became objects of interest to all who visited Cincinnati.

He first undertook the making of wine in America, and expended large sums of money and much valuable time in conducting the experiments.

It was his hope that wine might be produced in America of so good a quality and so cheaply that it would take the place of distilled alcoholic liquors, and thus tend greatly to

lessen intemperance; and he persevered in this philanthropic design long after he discovered that his idea, to have a fair trial, must cost a very great sum of money, and in this industry there was invested, at the time of his death, nearly half a million dollars, and more than that sum had been sunk in the enterprise.

Mr. Longworth was a man of broad and liberal views; was so kind and charitable, bright, hopeful, and cheerful in disposition, that he made a most agreeable companion even when most engrossed by his affairs.

He had a keen and playful wit, and his sarcasms, aimed only at shams and pretences, cut deep. He was singularly simple in his mode of life, and, though sometimes a victim to misplaced confidence, he never lost faith in human nature.

He died Feb. 10, 1863, aged 81, leaving one son and two daughters. Having well and faithfully performed his part in life he left as a token of his talent and skill a fortune of fifteen millions, and as an evidence of his moral worth an unspotted reputation, and the universal respect of his fellow citizens.

GEORGE LAW.

FROM HOD TO STEAMSHIP.

George Law, long and widely known as a masterly business man and millionaire, was born in Jackson, Washington Co., N. Y., Oct. 25, 1806, and died in New York in 1881. His father was an energetic farmer, in moderate circumstances, who gave his children no opportunity for education except those obtained at the poor district school. George learned to read and write, became fond of reading, and that was the sum total of his early education. The boy was educated on the farm and by the brook, and he early evinced his skill by building miniature dams and

bridges. Among the books read by him in his youth was the "Life of William Ray," who left his father's farm, went out into the great world and made a fortune. This book fired the ambition of George Law, and at eighteen he worked all one summer for a farmer, earned forty dollars, and with that sum in his pocket walked to Troy with the hope of living over the career of William Ray. His father reluctantly consented to his going, but gave him no outfit.

Arriving at Troy he did a sensible and brave thing: he took the first job that offered, which was hod-carrying, at which he worked thirty-three days, and earned thirty-three dollars. In the winter work failed, and George, who felt the lack of education, bought Daboll's Arithmetic, Morse's Geography, and a work on single entry bookkeeping, and devoted his whole time during the winter months in mastering these books. He almost learned them by heart. In the spring he went to work as a mason and bricklayer, but his employer failed and he lost his summer's work, and was unable to pay up in full for his board; but nothing daunted he walked twenty-two miles to a job, earned the sum he owed, and walked back and paid his landlord.

A year or two afterward he was in Pennsylvania getting out stone for the canal at a fixed price by the foot; he rose to be a sub-contractor and finally a contractor, and before he was thirty years old he had made a fortune, married, and was the father of a little family. He then returned to his native State, and bid for and obtained some sections of the Croton Aqueduct. To him, also, was awarded the contract for building the High Bridge over the Harlem river for the passage of the Croton Aqueduct, and it was the execution of this work which made him a millionaire. He introduced so many ingenious plans for saving labor, that, though he took the work at a very low estimate, he made it immensely profitable. Afterward he was extensively engaged in ocean steam navigation, owning at one time no

less than sixteen large steamships. To him belongs much of the credit of the Panama Railroad. He did not origi-



GEORGE LAW.

nate the idea, but without the aid of his capital and energy the road could not at that time have been built. He

owned several ferries between New York and Brooklyn, and was quietly conducting business in several large and important channels. Of late years he has taken life easily in his Fifth Avenue residence, where, among thousands of costly books, he showed with pride the few school-books which he bought and studied in the first year of his independence. About 1855 he was much talked of as a candidate for the presidency. Mr. Law was a mighty man bodily and mentally. He weighed heavily, was very solid and enduring, and was tall and brawny as a giant, and he had a strong practical brain to match. Verily he was a law to himself, and always a law to all whom he employed. He knew what ought to be done and just how, and would brook no delay or deficiency. Hence he rose from being a mason's "clerk" to be a millionaire, and by his integrity and efficiency he literally "found and followed the royal road to wealth."

TWO PATHS OF LIFE;

OR,

INFLUENCE OF HABIT ON CHARACTER AND DESTINY.

THE old proverb, "A man is known by the company he keeps," finds illustration everywhere, especially among the young. Original organization gives power and tendency, but imitation of others and the mental habit growing out of it modify the character in such a manner and to such an extent as to produce an apparent revolution, even in the tone and temper, as well as in the direction of the mind and character, and the form of the head and body. A young person comes to a point in life when he can do this or that with equal facility; as at the switch on a railroad, but a point divides between one course of conduct and another. The decision is formed through the influence of some person, impulse, or thing, and henceforward the course is radically changed.

Sometimes a friendless boy with high hopes and strong passions, having no one to care for him, meets as by accident some good book, person, or influence which sets him in the right path. The doing of the first good act under right influences awakens his better elements, and his course is henceforward toward virtue, useful knowledge, honor, and happiness. Another of similar mental and physical constitution, standing in a similar manner, "where two ways meet," is acted upon by an adverse influence, and his way thence is downward, becoming trained by habit until the lower nature gains the predominance, and vice becomes not only the rule, but a pleasure, proving the old maxim, "Evil communications corrupt good manners." How necessary to the young is the choice of good company and favorable influences; and how useful the invocation, "Lead us not into temptation, but deliver us from evil."

The following contrasting series of faces illustrate the influence of a right and wrong course of life upon an individual, and may be called "The two paths of life," equally open to each person.



Fig. 1.—INNOCENT CHILD.

Here in Fig. 1 we have a child with all the faculties for good and evil, as yet without habits good or bad, but with power freely to choose his course. Let us suppose he

chooses the way of righteousness, associates with the moral and religious, lives temperately, is studious and industrious, and at fifteen he has an excellent reputation and presents an amiable, intelligent face as in Fig. 2.



Fig. 2.—RIGHT PATH.



Fig. 3.—WRONG PATH.

On the contrary, in Fig 3 we have an illustration of one who chooses the downward course—disobeys parents, plays truant from school, neglects or avoids religious and moral influences, casts off restraint, ignores respectability, becomes rough in feature, slovenly in dress, impudent and vulgar in manner ; he learns to smoke, chew, drink, swear and gamble; attends horse-races, cock-fights and prize-fights, spends his nights at some low play-house or dram-shop, and develops into the full-grown rowdy.

In process of time Fig. 2 develops into Fig 4, and is here seen in the full maturity of his faculties and powers, and is constantly becoming widely and well-known for his well-directed talent and for his upright and honorable manhood. His habits are regulated by a well-instructed judgment ; his body and brain act with harmony, clearness, and vigor. His features are comely, fresh, and open. Integrity and intelligence are stamped upon the head and beam from his manly face. He is a loving husband, a kind father, a faithful friend, an esteemed citizen, capable of

filling positions of responsibility, and is a man whom the people delight to honor.



Fig. 4.—VIRTUOUS.



Fig. 5.—VICIOUS.

On the contrary, Fig. 5 coming naturally from Fig 3, is familiar with all sorts of vice and vulgarity; he disregards the domestic ties, and his wife and children suffer from his tyranny, baseness, and neglect. He leads young men into vicious, if not criminal courses; he is a demagogue in politics, and obtains a precarious living by fraud and false pretenses. He is as corrupt in morals as he is in body, and his face shows his dissipation and depravity. Is it strange that such a manhood should ripen into such an old age as Fig. 6 represents, and that having violated every dictate of decency and every canon of morals, his career should be terminated in frenzied suicide, or his worthless life should end by delirium-tremens or the gallows, in a prison or a mad-house?

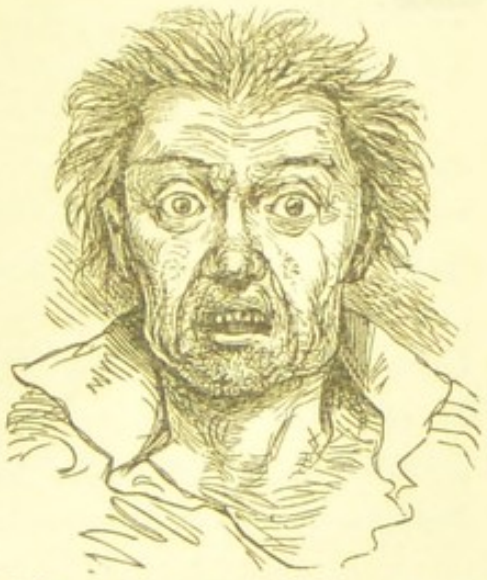


Fig. 6.—"SIN WHEN IT IS FINISHED."

With increasing years Fig. 4 naturally becomes as seen in Fig. 7, and garners his honors. Like the rich cluster, he becomes sweet-minded as he ripens, and in the autumnal sun of peace he patiently waits the gathering hand of the heavenly Father; and as he quietly glides from the fruition of a well-spent life, he enters upon his glorious future, and his memory remains the cherished legacy of his descendants.



Fig. 7.—VIRTUE ITS OWN REWARD.

Young men, this double picture is before you; you can become the one or the other; you can make life royal in all greatness and goodness, or you can be a failure in all that makes man "the image of God." Which do you decide to become?

CONCLUSION.

The road to success may be made grand by all who will bring to the performance of duty the qualities of honor, fidelity, and intelligence. Success is not fully represented by land, merchandise, or money ; it embraces, also, nobility of character, ripeness of culture, and soundness of health ; and in order that wealth made up of all these elements may be a crown of honor to their possessor, they must be achieved and used in harmony with the best instincts of human nature, and in obedience to the law of the highest.

In general, success is the representative of skill, industry, perseverance, temperance, and self-denial. When so acquired, it is a badge of respectability. Property may be acquired, however, by the exercise of talent and selfishness, while honor and morality in the means employed are ignored. Those who thus selfishly seek property without desiring to render for it to the public a fair equivalent, can not properly call their accumulations wealth, nor the way by which they reached it Success.

Wealth of mind and culture may also be sought, obtained, and used for mere selfish and personal ends, and employed with tyranny toward others, and without lasting benefit to themselves, because the spirit that inspired the desire for acquisition, and the path which led to it lacked moral purpose, which is one of the chief elements of royalty. Great talent and scholarship may be possessed, while honor and truth are lacking, and the character, though strong, is ignoble.

Wealth, rightly and broadly considered, is of three kinds—Financial, Mental, and Moral. A person may possess any one or two of these without the other, and it requires their harmonious combination to fulfill the complete idea of wealth.

We ought to have wealth of body, which is another word for health. With a good natural endowment, proper exercise, useful occupation, and temperance, health may be insured. By temperance we do not mean the avoidance, merely, of alcoholic stimulants, while indulging in overeating, wrong eating, and the use of narcotics. As we view the subject, true temperance is the *right use of right things.* Intemperance is the *wrong use* of *right things*, and *any use at all* of wrong things.

FINANCIAL wealth may be made noble only by the use of talent, foresight, and skill, directed by high moral purpose, and sustained by patient perseverance. A few, by the exercise of talent, force, and miserly greed, may ride over the rights of others, and capture a large amount of property, but such acquisitions in most cases prove an inward curse to their owners and the ruin of their children.

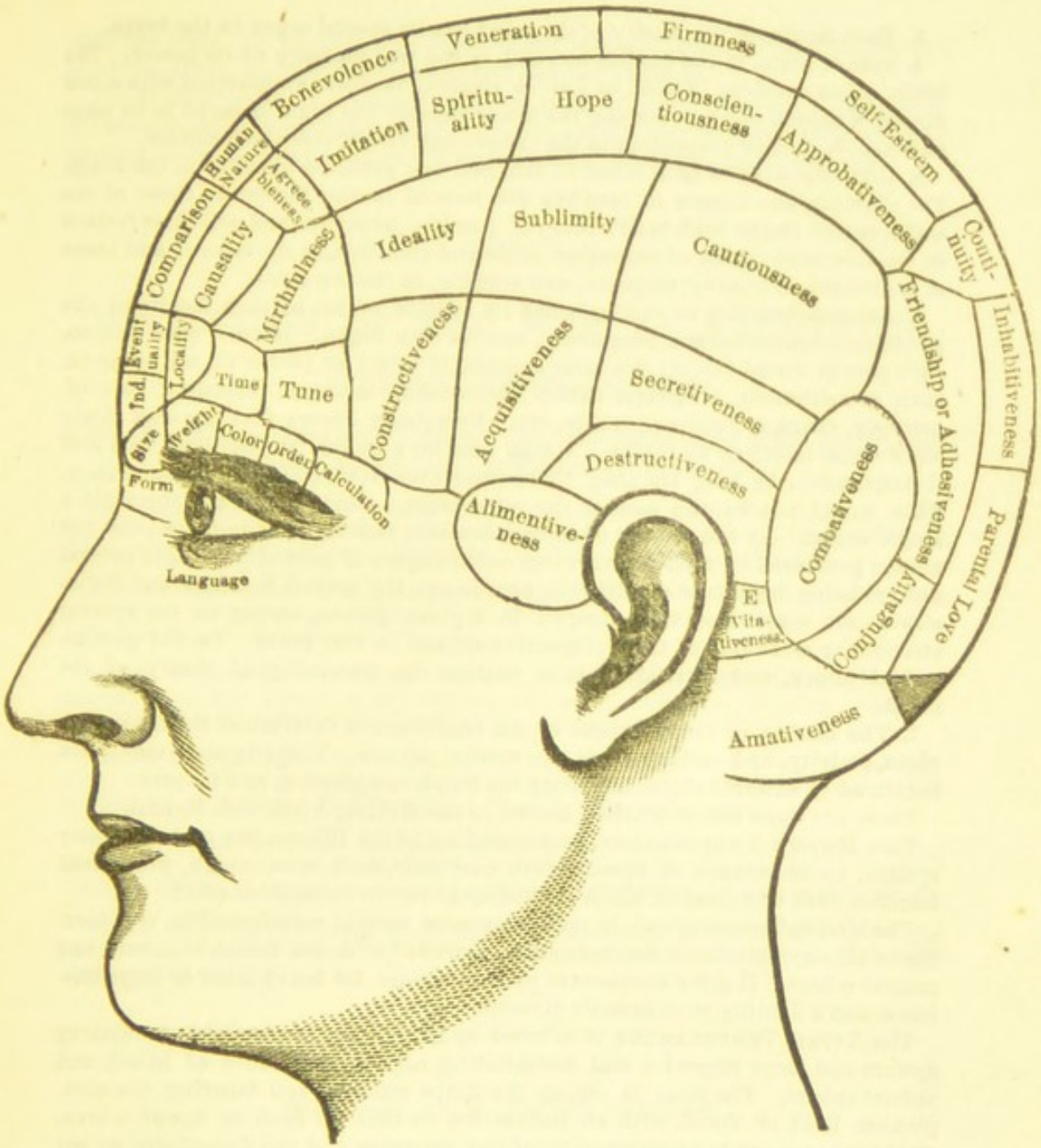
The history of successful business men who do not become bankrupt in soul, would indorse the sometimes neglected maxim that "Honesty is the best policy." We may refer to an eminent example of this in the case of the wealthiest merchant America has lost He learned his business thoroughly, and faithfully followed it, working hard, attending to details, avoiding speculation outside of his line of business; marking every article in plain figures at a fair and honest price, and selling to all on the *one price system.* The sons of wealth and of poverty, the influential and the obscure, stood on a level before his counters, and, in respect to price, there was "no respect of persons." The honest, one price system, which he inaugurated in this country, and carried out to the end, gave him a fortune of a hundred millions.

We have heard his course severely criticised respecting some business transactions outside of his commercial matters; also his course of action toward rival houses, especially new ones, in which he was esteemed selfish and

hard, and determined to break them down by underselling at prices ruinous to all but a millionaire. We believe he never wished to be regarded other than as the greatest merchant in the world. He did not profess to be a philanthropist, hence labored with a single eye to accumulation; but in his relations of business with his customers he brought talent, experience, good judgment, a fair and fixed price, and as a mere business policy, if it had no higher aim, it was successful. In his great capacity as a merchant, and in his square dealings with his patrons, he stood without a superior.

Some men are wealthy without much money, their possessions being moral and intellectual. Who cares to ask if Bancroft, Tennyson, or Longfellow (who but yesterday, March 26, 1882, was laid to his rest) have any surplus of property? All would be glad to suppose they had enough for their modest wants—yet we regard them as men of success—their wealth is of the finer sort. The names which shall remain fragrant long after the wealth of the mere millionaire may have spoiled half his descendants who have learned, not "to labor," but "to wait" for the opportunity to scatter their inheritance by reckless dissipation, are those who have sought through the royal road of talent and worth, the solid wealth of MIND, BODY, and ESTATE, which shall be a perpetual blessing.

Integrity is the corner-stone of success; diligence and talent the means of attaining it; and whoever can combine these, and wisely choose occupations suited to their endowments, may find and follow the true road to success, and other children besides their own "shall rise up and call them blessed."



PRINCIPLES OF PHRENOLOGY.

The term Phrenology signifies *discourse on the mind*, and is based on certain definite principles which are as easily understood as the science of chemistry or the laws of natural philosophy.

Phrenology claims to explain the powers and faculties of the mind, by studying the organization of the brain during life. Its doctrines, briefly stated, are:

1. The brain is the organ or instrument of the mind.

2. The mind has many faculties, some of which may be stronger or weaker than the rest in the same person.

3. Each faculty or propensity of the mind has its special organ in the brain.

4. Size of brain, if the quality be good, is the true measure of its power. The brain, when deficient in size, or low in quality, is always connected with a low degree of mental power. Among the lower animals the brain is found to be large and complicated in proportion to the variety and strength of the faculties.

5. Organs related to each other in function are grouped together in the brain. For example, the organs of intellect are located in the forehead; those of the social nature in the back-head; those of passion, appetite, and self-preservation in the side-head; those of aspiration, pride and ambition, in the crown; and those of sentiment, sympathy, morality, and religion, in the top-head.

6. As each function of the body has its specific organ, so each faculty of the mind, each sentiment and propensity, has its own organ. If this were not so, each person would exhibit the same amount of talent or power on all subjects, such as arithmetic, language, music, mechanism, memory, reasoning, love of property, courage, prudence, pride, etc. Everybody knows that persons rarely show equal talent on all topics. A man may be a genius at one thing, and find it impossible, by long training, to become even respectable in other things. This would not be the case if the mind were a single power and the brain a single organ. As the senses of seeing, hearing, tasting, smelling, etc., are not always possessed by each person in an equal degree of perfection—these several powers being dependent on different organs—so the mental faculties and dispositions are sometimes very unequal in a given person, owing to the greater strength or weakness of their respective organs in the brain. Partial genius, partial idiocy, and partial insanity sustain the phrenological theory of the mind.

7. The quality or temperament of the organization determines the degree of vigor, activity, and endurance of the mental powers. These temperaments are indicated by external signs, including the build, complexion, and texture.

There are three temperaments, known as the Motive, Vital, and Mental.

THE MOTIVE TEMPERAMENT, corresponding to the *Bilious*, has a strong bony system, an abundance of muscle, dark wiry hair, dark eyes, rough, prominent features, dark complexion, and a great disposition to locomotive effort.

The Motive Temperament, in its influence on mental manifestation, is favorable to dignity, sternness, determination, power of will, and desire to govern and control others. It gives slowness of passion, desire for heavy labor or large business, and a liability to miasmatic diseases.

The VITAL TEMPERAMENT is evinced by large lungs, a powerful circulatory system and large digestive and assimilating organs, abundance of blood, and animal spirits. The form is plump, the limbs rounded and tapering, the complexion light or florid, with an inclination to take on flesh as age advances. This temperament is a combination of the *Sanguine* and the *Lymphatic*, as set forth by Mr. Combe and other writers; but as the digestive and assimilating organs, which constitute the Lymphatic Temperament, together with the respiratory and circulatory systems, which constitute the Sanguine Temperament, are really VITAL organs, we regard their combination into one, under the name of VITAL TEMPERAMENT, as both convenient and philosophical.

THE MENTAL TEMPERAMENT (formerly called Nervous) depends on the development of the brain and nervous system, and is indicated by mental activity, light frame, thin skin, fine hair, delicate features, and large brain as compared

with the body. It imparts sensitiveness and vivacity to the mind, a disposition to think, study, or follow some light and delicate business.

The structures which, in excess or great predominance, determine these temperaments, exist in each individual. In one person one temperament may predominate—in the next, another. They can be modified by proper training.

DEFINITION OF THE MENTAL FACULTIES.

DOMESTIC PROPENSITIES.

This group of organs is located in the back-head, and gives length and fullness to the head backward from the ears.

No. 1, Amativeness—The faculty of physical love lends attractiveness to the opposite sex, and a desire to unite in wedlock and enjoy their company. *Excess:* Tendency to licentiousness. *Deficiency:* Indifference to the other sex.

A, Conjugal Love—The monogamic faculty, giving a desire to reciprocate the love of *one* in matrimony. *Excess:* Morbid tenacity of attachment. *Deficiency:* Aversion to permanent union; domestic vacillation.

No. 2, Philoprogenitiveness—Parental love; the parental instinct. Disposes one to give due attention to offspring and pets. *Excess:* Idolizing children; spoiling them by indulgence. *Deficiency:* Neglect of the young.

No. 3, Friendship—Adhesiveness; the social feeling; desire for companionship; attachment; devotion to friends. *Excess:* Undue fondness for friends and company. *Deficiency:* Indifference to friendly or social interests.

No. 4, Inhabitiveness—It gives a desire for a home, place of abode, or haven of rest. It also gives rise to love of country, and offensive nationalism. *Excess:* Undue exalting of one's own country and home. *Deficiency:* A roving disposition.

No. 5, Continuity—Gives undivided and continued attention to one subject until it is finished. *Excess:* Prolixity; absence of mind. *Deficiency:* Excessive fondness for variety.

THE SELFISH PROPENSITIES.

These organs give wideness of head above and about the ears.

E, Vitativeness—The love of life; a desire to exist. *Excess:* Great clinging to life; dread of death. *Deficiency:* Indifference to life or the care of it.

No. 6, Combativeness—Defense; courage; force of character; energy and indignation; belligerency. *Excess:* A quick, fault-finding, contentious disposition. *Deficiency:* cowardice, inefficiency, tameness.

No. 7, Destructiveness—Executiveness; thoroughness and severity. *Excess* Cruelty; vindictiveness. *Deficiency:* Inefficiency; a lack of fortitude under trial.

No. 8, Alimentiveness—Desire for food; appetite. *Excess:* Gluttony, intemperance. *Deficiency:* Want of appetite; indifference in regard to food.

No. 9, Acquisitiveness—Desire for property; it is the principal element in industry, economy, and providential forethought. *Excess:* Selfishness; avarice; covetousness. *Deficiency:* Want of economy; wastefulness; prodigality.

No. 10, Secretiveness—Concealment; policy; the conservative principle; aids Acquisitiveness in the retention of wealth. Misdirected, or in *Excess*, it is a prime element in hypocrisy, double-dealing, and evasion. *Deficiency:* Want of reserve, or proper tact; policy; concealment.

No. 11, Cautiousness—Fear; prudence; apprehends danger; is anxious, and sometimes timid and irresolute. *Excess:* Cowardice; timidity. *Deficiency:* Heedlessness; recklessness; imprudent haste; disregard of consequences.

ASPIRING GROUP.

Located in the crown of the head, and gives elevation upward and backward from the ears.

No. 12, Approbativeness—The desire to please, to gain admiration and popularity. This faculty is of great importance in social life. It gives to the person a desire to cultivate the amenities of social intercourse. *Excess:* Vanity; undue sensitiveness to praise or blame. *Deficiency:* Disregard of the opinions of others.

No. 13, Self-Esteem—Dignity; governing power; independence; the manly and commanding spirit. *Excess:* Arrogance; imperiousness. *Deficiency:* Self distrust and depreciation; a lack of self-assurance.

No. 14, Firmness—Steadfastness; perseverence; stability; decision; tenacity of purpose; determination; capacity to endure. *Excess:* Stubbornness; obstinacy. *Deficiency:* Instability; unsteadiness; with "no will of his own."

MORAL SENTIMENTS.

This group gives height and fullness to the top of the head.

No. 15, Conscientiousness—Justice; moral sentiment; self-examination; integrity; scrupulousness in matters of duty and obligation. It inclines one to hold to his convictions; to be "JUST, though the heavens fall." *Excess:* Censoriousness; great scrupulousness; self condemnation, and undue censure of others. *Deficiency:* Indifference to right or wrong; equivocation.

No. 16, Hope—Looks to the future; buoys the mind with enthusiastic expectations of the yet-to-be. In *Excess*, renders one visionary and extravagant in expectations. *Deficient:* Gives the tendency to despondency, sadness, and gloom.

No. 17, Spirituality—Faith, trust, an intuitive religious element, leads to prophecy, and the belief in the immortal and invisible. *Excess:* Superstition fanaticism. *Deficiency:* Skepticism; incredulity.

No. 18, Veneration—Reverence for Deity; desire to adore and worship; it also imparts deference for superiors, and respect for whatever is ancient or honorable. *Excess:* Idolatry; undue deference for persons. *Deficiency:* Disregard for things sacred, and for the aged and venerable.

No. 19, Benevolence—The desire to do good; tenderness; sympathy; charity, liberality, and philanthropy. *Excess:* Morbid generosity. *Deficiency:* Selfishness; indifference to the wants of others; lack of kindness and sympathy.

PERFECTIVE GROUP.

Located in the region of the temples, giving width and fullness to that part of the head.

No. 20, Constructiveness—The mechanical, planning and tool-using faculty. It aids in the construction of pictures, poetry, lectures, books, garments, houses, ships, schemes, and in all manual or mental dexterity, and aids the inventor. *Excess:* Attempting impossibilities, impractical contrivances, perpetual motions *Deficiency:* Inability to use tools; no mechanical skill or aptitude.

No. 21, Ideality—The esthetic faculty, or love of the beautiful and perfect. It is essential in poetry, in literature, the arts, and all that is refining and pure. *Excess:* fastidiousness; romance; dreaminess. *Deficiency:* Lack of taste.

B, Sublimity—May also be called an organ of the imagination. The stupendous in nature or art excites this faculty highly. In *Excess*, it leads to exaggeration. *Deficient:* It shows inability to appreciate the grand or majestic.

No. 22, Imitation—The copying instinct. It adapts one to society by copying manners. It helps the actor in representing character, and is one of the chief channels by which we obtain knowledge and benefit by surrounding influences. *Excess:* Mimicry; servile imitation. *Deficiency:* Oddity; eccentricity.

No. 23, Mirthfulness—Wit; humor; love of fun. It aids reason by ridiculing the absurd and incongruous. *Excess:* Improper ridicule of subjects. *Deficiency:* Excessive sedateness; indifference to wit and humor; can not appreciate a joke.

PERCEPTIVE ORGANS.

These give great fullness and prominence of the lower part of the forehead and length of head from the ears to the brows.

No. 24, Individuality—Observation; desire to see things and identify points of thought; memory of objects. The knowledge-gathering disposition. *Excess:* Prying curiosity and inquisitiveness. *Deficiency:* Dullness of observation.

No. 25, Form—Gives width between the eyes, and ability to remember countenances, and the outline shapes of things. It has to do with drawing and working by the eye. *Excess:* Undue sensitiveness to want of harmony in shapes. *Deficiency:* Forgets faces and forms, can not cut or draw with skill or accuracy.

No. 26, Size—Power to measure distances and quantities by the eye; also the weight of animals, or other objects by size. *Excess:* A constant comparison of size and proportion. *Deficiency:* Inability to estimate size and distance.

No. 27, Weight—Adapts man to the laws of gravity, whereby he walks erect and with grace and balance, rides a horse, balances and judges of the weight of things by lifting them. *Excess:* Disposition to climb and attempt hazardous feats of balancing; rope walking. *Deficiency:* Inability to judge of the perpendicular, or to keep the center of gravity.

No. 28, Color—This faculty enables us to discriminate hues and tints, and remember colors. *Excess:* Great fondness for colors; fastidious criticism of tints *Deficiency:* Inability to distinguish colors; "color blindness."

No. 29, Order—Method; arrangement; system; neatness. When large it makes one very neat, tidy, and methodical. *Excess:* Undue neatness. *Deficiency:* Slovenliness; disorder and general irregularity.

No. 30, Calculation—The power to enumerate, reckon, etc. *Excess:* Disposition to count and "reckon" everything. *Deficiency:* Lack of talent in relations of numbers; can not add, subtract, or multiply.

No. 31, Locality—The exploring faculty; love of travel, and ability to remember places. *Excess:* An unsettled, roving disposition. *Deficiency:* Poor memory of places; liability to lose the way.

LITERARY FACULTIES.

These are located across the middle of the forehead and serve to give roundness and fullness to that region.

No. 32, Eventuality—The historic faculty. Some people "talk like a book;" are full of anecdotal lore, can relate occurrences, and have a good memory. *Excess:* Tedious relation of facts and stories. *Deficiency:* Poor memory of events.

No. 33, Time—Gives a consciousness of duration; tells the time of day; aids the memory with dates and music. *Excess:* Undue particularity in matters relating to time; drumming with the foot or hand in company, to mark time of music. *Deficiency:* Fails to remember dates or keep time; fails to keep engagements.

No. 34, Tune—The musical instinct; ability to distinguish and remember musical sounds. *Excess:* Disposition to sing, whistle, or play at improper times and places. *Deficiency:* Inability to distinguish or appreciate music.

No. 35, Language—Located in the brain above and behind the eye, and when large forces the eye forward and downward, forming a sack, as it were, under it; when the organ is small, the eye appears to be sunken in the head, and this sack-like appearance does not exist. *Excess:* Redundancy of words; more words than thoughts or ideas; garrulity. *Deficiency:* Lack of verbal expression.

REASONING ORGANS.

These are located in the upper part of the forehead and give fullness, magnitude, and squareness to that part. Length from the opening of the ear to that part must be considered.

No. 36, Causality—The ability to comprehend principles, and to think abstractly; to understand the why-and-wherefore of subjects and things, and to synthetize. *Excess:* Too much theorising and impracticable philosophy. *Deficiency:* Weakness of judgment; inability to think, plan, or reason.

No. 37, Comparison—The analyzing, criticising, illustrating, comparing faculty. It enables one to use figures of speech, similes, parables, proverbs, etc. *Excess:* Captious criticism. *Deficiency:* Inability to reason by analogy.

C, Human Nature—The power to discern motives, character, and qualities of strangers. *Excess:* Intense personal prejudice; offensive criticism of character *Deficiency:* Indiscriminating confidence in everybody.

D, Suavity—Agreeableness; tendency to speak and act in a mellow, persuasive manner; to put a smooth surface on rough affairs, and say disagreeable things agreeably. *Excess:* Affectation; blarney. *Deficiency:* Want of ease of manner.

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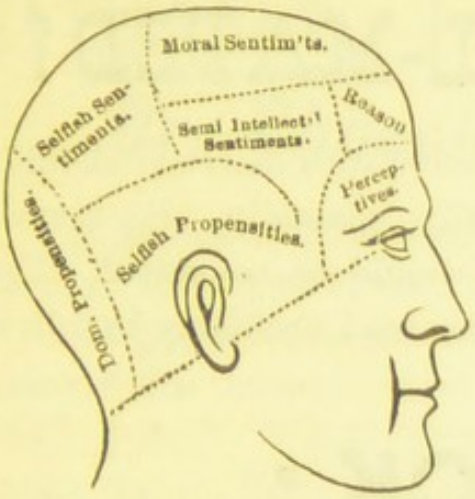
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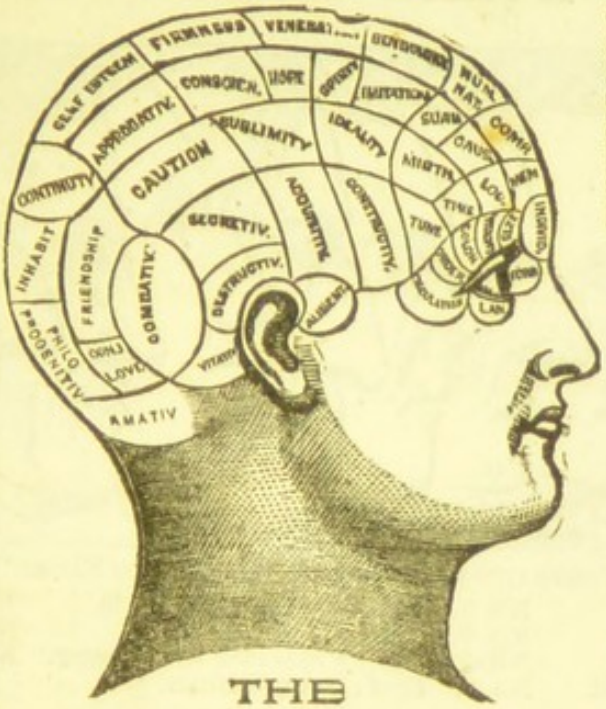
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