CHAPTER II.

GREAT MEN—GREAT WORKERS.

A man know as much as he works—ST. FRANCIS D'ASSISI.

The day is immeasurably long to him who knows not how to value and use it—GOETHE.

Nothing great ever began great—JOSEPH DE MAISTRE.

The wordes of Christ make his knightes to be hardie—WYCLIFFE,

Fame in this spur that the clear spirit doth raises—
That last infirmity of noble minds—
To scorn delights, and live laborious days.—MILTON.

Je sais qu'un noble esprit, sans honte et sans crime,
Tirée de son travail un tribut légitime.—BOILEAU.

THE state of civilization in which we live is for the most part the result of past labors. All that is great in morals, in intelligence, in art, or in science, has been advanced towards perfection by the workers who have preceded us. Each generation adds its contribution to the products of the past: and the accumulations of knowledge and science are handed down, with interest, to succeeding generations.

Intellectual workers, who "stand the first in worth as in command," form the true aristocracy of labor. They are the capitalists of society— the men of *caput* or head; for it is not money nor station, but brains and work, that confer the highest rank, and constitute the motive power of mankind. The highest working power has stood at the head of society in all ages. It may have encountered difficulties and obstructions, been persecuted, condemned, and apparently put to flight and destroyed yet the great spirits of the dead rule us now. Socrates, Plato, Descartes, and Locke, still live in philosophy; Homer, Virgil, Dante, and Shakespeare, in poetry; Aristotle, Galileo, Newton, and Lavoisier, in science; though their contemporary rulers—tyrants, consuls, presidents, kings, or emperors—have been all but forgotten.

The great men of antiquity, by increasing the realized products of mind, enlarged the heritage of our race. By adding their individual work to the collective labor of preceding generations, they rank among the greatest benefactors of mankind. In some men the impulse to work has become a passion, almost a divine fury. They found the field of labor so large, and life so short, that every moment was seized in order to yield its tribute of result. Work became necessary to their happiness, if not to their existence; it engrossed their whole nature.

It was said of Brousson that he appeared to be at once all action and all study. A man of indefatigable industry, he could never be idle. Bacon found in science a congenial field of labor in "the spent hour-glass of his passing life." Michael Angelo had a positive hunger for work. He said that the use of the mallet was absolutely necessary for his health. He snatched his rest at intervals, and rose in the middle of the night to resume the labors of the day. To his great temperance in living he himself attributed the length of his working life. When no longer able to walk he caused himself to be wheeled into the Belvedere to admire the statues, and even when blind he would take pleasure in examining their proportions with his hands.

Leonardo da Vinci was equally laborious and painstaking. He was draughtsman, painter, sculptor, chemist, mechanic, author, architect, and engineer; a man of the widest scope of intellect, and perhaps the most universal genius that

the world has ever known.* Titian also continued laboring until far advanced in life. When Vasari visited the painter in his eighty-ninth year, he found him with pencil in hand; and he continued to work for ten more years. It was Canova's greatest grief when he lay at death's door, worn out by labor and years, that he could make no more Venuses—*Dùnque non faro più Venere.*

Vandyke was indefatigable in his application, often finishing a completed portrait in a day. Jackson, the English artist, on one occasion painted five finished portraits in a long summer's day,—though this was for a wager. Teniers the Younger worked so industriously that he used jocularly to say, that to hold all his paintings, though they were of small size, it would be necessary to build a gallery two leagues in length. He continued his labors until beyond his eightieth year, retaining his powers unimpaired to the last.

Sir Joshua Reynolds had the passion for work of the true artist. Until he laid aside his pencil from illness at the age of sixty-six, he was constantly in his painting room, from ten till four daily; "laboring," as he himself said, "as hard as a mechanic working for his bread." When, on one occasion, he was enticed to pay a visit to a friend in the country, he returned to his work with renewed avidity, feeling as if he had been "kept from his natural food."

Nicholas Poussin said that he felt himself, as he grew old, "becoming more and more inflamed with the desire of surpassing himself and reaching the highest degree of

* "If any doubt," says Mr. Hallam, "could be harbored as to the right of Leonardo da Vinci to stand as the first name of the fifteenth century, which is beyond all doubt, but as to his originality in so many discoveries, which probably no one man, especially in such circumstances, has ever made, it must be on a hypothesis, not very untenable, that some parts of physical science had already attained at height which mere books do not record."—*Introduction to The Literature of Europe.*

perfection." The true man of genius is never fully satisfied with his own performances. He is often tormented by the feeling of powerlessness to embody in the work of his hands the idea of perfection which he had set up in his mind and imagination. When a bystander was admiring a statue which the Flemish sculptor Duquesnoy had just finished, the artist exclaimed, "Ah, if you could but see the statue that is here"—touching his forehead with his finger.

The same fastidiousness characterizes the literary artist. Though Virgil took eleven years to compose his *Æneid*, he was so dissatisfied with it when finished that he wished to commit it to the flames. Voltaire declared that he had not written a single work that satisfied his taste. In the process of committing an idea to paper the subtlest part of it escapes. Oudet says, "Le Dieu fait homme, c'est le Verbe. La pensée a perdu tout ce qu'elle a de divin, quand elle a été prisonniere dans un tuyau de plume et noyée dans une écritoire." So the portrait-painter often misses the most striking feature in the face, and fails to catch it and transfer it to the canvas.

A celebrated writer has observed that if only such works were published as satisfied their authors, the very greatest would remain unpublished; the actual results usually falling so far short of the ideal conception. The mind moves faster than the pen, and often sees much farther. By the time that the pen can overtake and register the idea, its gist and perfume have escaped beyond reach. The conceived idea may have been bright and clear as sunlight; yet the written passage may be enveloped in haze. What Pliny remarked of the poet Timanthus—that he felt his ideas were greater than the words in which he conveyed them; and that even when his art was carried to its

farthest limits, his genius went beyond it *—is doubtless more or less true of all great artists.

Hence the sedulous and indefatigable efforts of literary artists to give the best possible form of expression to their imaginative ideas. Ariosto wrote his celebrated stanzas descriptive of a tempest in sixteen different ways. Petrarch made forty-five alterations of a single verse. The manuscripts of Tasso were almost illegible by reason of his repeated erasures and corrections. Buffon wrote his *Epoques de la Nature* eleven times before he was satisfied with it. Gibbon wrote his *Memoirs* seven times, and left them unfinished. Pascal was not satisfied with one of his *Provincial Letters*, and he did not part with it until he had written it sixteen times over.

Philip Wouvermans was equally fastidious. He was so dissatisfied with his success as a painter that, shortly before his death, at forty-eight, he burned all the studies he had made during his life, for fear lest his son, who had a disposition for art, should be induced by the facilities they might offer to follow the same profession. Yet Wouvermans's pictures are now among the most highly prized of the Dutch school, and fetch large prices. In his own peculiar style he is one of the most masterly painters that ever lived.

A large number of distinguished men have forsaken the occupations in which they had been trained, and embraced others for which they felt they had a greater aptitude. They had been put by their parents into some special rut. They felt themselves round men in square holes—discontented, cramped, and worried. There is an old saga of a king and queen to whom a fair son was born. Twelve fairies came to the christening, each with a gift. A noble

* "In omnibus ejus operibus, intelligitur plus semper quam pingitur; et cum sit ars summa, ingenium tamen ultra artem est." *Hist. nat.*, Lib. 35, c. 10.

presence, wisdom, strength, beauty—all were poured upon him, until it seemed that he must exceed all mortal men. Then came the twelfth fairy, with the gift of Discontent; but the angry father turned her and her gift away. And the lad grew apace, a wonder of perfect powers; but, content with their possession, he cared to use them for neither good nor ill. There was no eagerness in him. Good-natured and quiet, he let life slip past him. He did nothing. And at last the king knew that the rejected had been the crowning gift.

Among those who have come out of their ruts—it may have been from discontent, or from the feeling of greater aptitude for other pursuits—have been many distinguished men. Some left the legal profession and went into science, art, or letters. Voltaire found the study of law intolerable; he gave it up and wandered into literature. Petrarch left law for poetry. Moliere spent five years in studying for the bar, and then wrote for the stage. Goldoni forsook the law for the drama. William Pitt was a barrister, and went the Western Circuit twice. Dr. Warburton, the famous prelate, practiced for several years as a county attorney. Lord Armstrong did the same at Newcastle, and finally embraced engineering. Sir William Beechy and J. B. Pyne left law for painting. On the contrary, Lord Chancellor Erskine was first a sailor, then a soldier, and eventually found his true place at the bar and on the bench.

Blackstone began his career with poetry; but he parted company with it, and wrote his "Farewell to the Muse" when he began to eat his terms at the Inn of Court which he frequented; yet Talfourd continued to write poetry while at the Bar, and wrote his drama of *Ion* when in full practice. Cormenin, the French peer and pamphleteer, began his studies with poetry; he afterwards wrote the best technical work on French Administrative Law. We are surprised to learn from Macready's *Reminiscences* that Mr.

Cobden, the Corn Law repealer, was a dramatic writer He once wrote a play called *The Phrenologist* and took it to a theatrical manager, but it was not accepted.

There are other professions from which men have broken away to follow the impulse of their genius. Count Tilly was brought up as a Jesuit priest, and left the church for the army. Cromwell was a grazing farmer, as well as a brewer, before he emerged into distinction as a soldier. General Jomini, Napoleon's favorite military historian, was in the early part of his life a stockbroker; and Marshal Jourdan was for some time a haberdasher. Pizarro was in early life a pig herd, and Captain Cook a village haberdasher's apprentice. Stanfield the painter, and Douglas Jerrold the author, spent the early part of their life at sea. They served in the same ship. On one occasion, when a play was got up, Stanfield painted the scenery, and Jerrold acted as stage manager. Strange to say, the next time they met on a like occasion was behind the scenes of Drury Lane Theatre, on the occasion of Douglas Jerrold's play of *Black-eyed Susan* being presented, for which Stanfield painted the scenery.

Letters attract the loose fish of all professions. Voudel, the national poet of Holland, was a hosier. Bernardin de St. Pierre, author of *Paul and Virginia* was first a civil engineer, then a military engineer, in France and Russia. He was dismissed for quarrelling with his superiors, and went into letters. Scott, the novelist, and Lockhart, the Quarterly Reviewer, were both Edinburgh advocates. Hazlitt and Thackeray went from art into letters. Paul de Kock was a banker's clerk in Paris when he first began to write,—as he himself says, "he knew not why." Zechokke, the historian, statesman, and novelist, began life as playwriter to a troop of strolling comedians. The Rev. John Brand, the antiquarian, and William Gifford, the Quarterly Reviewer, were bred shoemakers. Joseph Amos, another

antiquarian, was originally a plane-maker, and afterwards a ship-chandler. Speed, the chronicler, Sir John Hawkshaw, the general, Lambert, the mathematician, and Heinrich Young Stilling, the pietist and oculist, were all tailors.

Dr. Brown, the founder of the Brownonian philosophy, was bred a weaver; and "Capability Brown," the architect, a kitchen gardener. Sir Robert Strange, the engraver, led a seafaring life before he took to the burin. Aldrovandus, the naturalist, and Rubens, the painter, both served as pages in early life. Swedenborg, one of the most industrious of authors, was originally a metallurgist, then a professor of mechanics, and next a mining engineer. Picard, the astronomer, laid the foundation of his fame while acting as gardener to the Duc de Crequi. Bowerbank, the naturalist, was for the greater part of his life a distiller; and Herapath, the chemist, was originally a maltster and brewer. These men worked their way from small things to great; they were impelled to greatness by the influence of their genius as well as by the force of their will.

Many have left the profession of arms to embrace science, art, and letters. Dante, Chaucer, Ben Jonson, Sidney, Bunyan, Ignatius Loyola, Descartes, Cervantes, Lope de Vega, Camoens, Niepce, Lamark, and many more, were originally soldiers. Their training in obedience, patience, valor, and duty helped them onward in the labors of their life, through which they eventually became famous. As Cervantes said, "The lance never blunts the pen." Some went into literature, some into poetry and others into science.

The man of science, like the man of letters, forgets himself in his pursuit. To him it is close watching, observation, enjoyment. The favorite maxim of Count Lacepede was, "Vivre, c'est veiller." Yet his aristocratic birth and

military education did not seem likely to fire him with scientific ardor. The perusal of Buffon's *Histoire Naturelle,* which he read again and again until he almost knew it by heart, attracted his attention to natural history. From this study he diverged into music; then into botany, chemistry, and natural philosophy. He was indeed a many-sided man, and on every side full of intense vitality. He composed an opera for the stage, which was well received. He experimented on electricity, and published a memoir on the subject, as well as on general physics. After the Revolution, he took an active part in public affairs, and was successively President of Paris, Commandant of the National Guard, and Deputy Extraordinary for Agen in the National Assembly, of which he was elected President in 1791. He narrowly escaped with his life during the Reign of Terror; and on emerging from his concealment he was appointed Professor of Zoology at the Jardin des Plantes, where he spent the rest of his life in the diligent pursuit of science. He published a large number of valuable works, the results of close observation and study; and although he rarely allowed himself more than two hours' sleep at a time, he survived to nearly the age of seventy.

Among the most laborious and successful investigators of the laws of the animal economy were Haller and Hunter. Haller's devotion to science was almost fanatical. Although exceedingly delicate from his childhood, and afflicted with rickets, he studied incessantly. The wonder is, that with his weak health and his hard mental work, he should have lived to nearly seventy. He began publishing the results of his inquiries when only about twenty years old, and in the course of the following fifty years he published upwards of two hundred treatises, principally in illustration of the laws of sensation and irritability, which he may almost be said to have discovered.

John Hunter had many difficulties to encounter, princi-

pally arising from his neglected education; yet he was equally laborious and successful. He is entitled to take rank with the very greatest names in science; his museum alone—which contains upwards of 10,000 preparations illustrative of human and comparative anatomy, physiology, pathology, and natural history—being one of the most splendid monuments ever raised to the power of sustained industry and persevering investigation.

M. Louis Pasteur is another instance of extraordinary scientific perseverance. At seventeen he was an usher in the Lyceum of Besançon. His round of duties was monotonous. He did not teach the boys himself, but saw that they learned their lessons, besides keeping order in their dormitory. On Sunday he accompanied them to mass, and on Thursdays he took them out to walk. How did he contrive to become a scientific man? Simply by making use of opportunities. He was permitted to attend the professors' lectures in the higher classes; and the lectures on natural philosophy attracted his attention. Yet he was obliged to limit his scientific studies to the hours of recreation and the holidays. But it so happened that a pupil at the Lyceum had a very fine microscope, which he permitted Pasteur to examine and use. On Thursdays, when he went out with the pupils, the microscope was taken to the ramparts to examine the insects. This little incident determined his future history. He became an enthusiast in microscopic work. All the rest came to him by degrees, with persevering application and study. He put the angel of death under the microscope, and discovered the laws by which animals and human beings might be guarded from her fatal influence. He investigated the causes of the silk and vine disease, and is now engaged in tracking typhoid fever to its lair, and searching into the nature of hydrophobia.

Most of these men of science have been self-denying.

They have not worked for fortune so much as for scientific progress. Spinoza refused the pension offered him by Louis XIV. on condition of dedicating a work to his Majesty. Spinoza preferred to retain his independence and maintain himself by his own labors,—though his occupation was only that of polishing glasses for the opticians. Spinoza was so immersed in his books and studies, that sometimes he did not leave his room for days together. Robert Hooke seldom retired to rest until two or three o'clock in the morning, and occasionally pursued his studies during the entire night. Pater, the Hungarian mathematician, slept only two hours in summer, and four in winter, devoting the greater part of his waking hours to study. Bayle worked at his desk fourteen hours a day for forty years.

Astronomers have been indefatigable workers. Galileo and Copernicus were diligent night-watchers to the end of their long lives. Tycho Brahe scarcely ever left his observatory at Hvën during a period of twenty-one years. Hevelius continued watching the moon and the stars until seventy-six. Flamsteed, a poor country clergyman struggling with disease, undertook the formidable task of correcting the extensive errors which existed in the astronomical tables of his day, and of cataloguing the fixed stars —a work which occupied him, with his other labors, until his seventy-third year. Indeed Flamsteed may be said to be the founder of practical astronomy in England. Bradley, a man of great sagacity, pronounced by Newton to be "the best astronomer in Europe," continued carefully to observe the heavenly bodies at Greenwich until his seventieth year—his valuable observations, during a period of twenty years, filling no less than thirteen folio volumes. Maskelyne, who assisted Bradley in preparing his tables of refractions continued his observations until he was close upon fourscore years of age.

From these instances, it would appear that night-watching is not so injurious to health as is usually supposed; and that the patient and unexciting, though laborious, life of astronomers is by no means unfavorable to longevity. Thus, William Herschel and his sister Caroline Lucretia exhibited unwearied activity in astronomical observation and calculation down to the close of their long lives; for the one departed at eighty-four years old, and the other at ninety-eight. That the study is absorbing and engrossing may be understood from the case of Delambre, of whom it is related that during the terrible cannonade of Paris by the Allies in 1814, he calmly pursued his astronomical observations, though his house was almost in the centre of the struggle. He was at work all that day for a period of sixteen hours, from eight in the morning until late at night, displaying a degree of self-possession, devotion to study, and indifference to personal danger, which has rarely if ever been equalled.

The last seventeen years of Euler's life were darkened by blindness, which, however, served only to sweeten his temper and brighten his intellect. Euler's working life extended to over fifty-seven years. His first treatise on the management of ships at sea was written at nineteen, and received with approbation by the French Academy of Sciences. He continued to write and publish memoirs on mechanics, on arithmetic, on astronomy, on the theory of music, and on almost every known branch of theoretical and practical mathematics, until his seventy-sixth year. He lost the sight of one eye at twenty-eight, and of the other at fifty-nine. Notwithstanding his total blindness, he continued his labors; for his powers of memory marvellously increased, even in his old age. In his sixty-fourth year he would have been burned to death during the conflagration of his house but for the courage of one of his countrymen, who took him up and bore him away in

his arms. He lived for twelve more years, working to the end; and then, while playing with his grandchild, he expired suddenly without pain. The number of separate mathematical works which Euler left behind him is almost incredible. It has been calculated that for every fortnight during forty-seven years of his working life, he produced a separate effort of mathematical investigation, digested, arranged, and amplified by corollaries and scholia. Perhaps there is no similar instance of laboriousness in the history of scientific study.

Alexander Von Humboldt was a man of almost inexhaustible fertility. He was prodigious in his labors, and enormous in his acquirements. His daily business occupations were so engrossing that he was under the necessity of pursuing his scientific labors during the night or in the early morning, when most other people were asleep. Thirty years before his death, he rose regularly at four during the summer months, and although at an advanced age nature asserted her rights, and he lay until eight, he continued to consume the midnight oil until almost the close of his life at ninety. Humboldt's knowledge was of a universal character, comprehending more especially all branches of science relating to physical nature. In one of his solemn sentences he prescribed as the three requisites for intelligent travel, —serenity of mind, love for some class of scientific labor, and a pure feeling for the enjoyment which nature in her freedom is ever ready to impart. Indeed, his own life and labors were an illustration of the efficacy of his prescription.

Humboldt, in his youth, underwent a course of study in mining and metallurgy; after which he filled for some time the office of mining superintendent at Bayreuth. He then occupied his spare time in writing scientific articles on various subjects for the German periodicals, besides preparing an important botanical work on the Flora of

Friedburg. About the same time he wrote and published his *Investigations on the Muscles and Nerve Fibres*, as well as his Treatise on Subterranean Kinds of Gas. Feeling within himself "a burning desire to travel in distant lands as yet unexplored by Europeans," he resigned his mining appointment, and, in company with Bonpland, set out for South America. There the two naturalists travelled about for five years through extensive tracts of country that had never until then been scientifically observed and described. On Humboldt's return to Europe he settled at Paris, where he occupied twelve years in digesting and systematizing the knowledge of facts which he had so laboriously collected. The result was the preparation and publication of several works of large dimensions. He afterwards travelled through Italy, England, Russia, and Siberia, publishing the results of his observations in several valuable works. Finally, when in his seventy-sixth year, he commenced his *Cosmos*, in which he embodied, as it were in poetic unity, the essence of the accumulated knowledge of his entire life.

William Von Humboldt, the elder brother of the traveller, was even more esteemed in Germany than Alexander. He was a statesman and philologist; and equally laborious in his various pursuits. For forty years he enjoyed the reputation of being one of the greatest philosophers and linguists in Europe. "Work," he said, "according to my feeling, is as much of a necessity to a man as eating and sleeping. Even those who do nothing which to a sensible man can be called work, still imagine that they are doing something. The world possesses not a man who is an idler in his own eyes." To a correspondent he said: "That is a very beautiful expression in your last letter, in which you say that you regard life as a casket in which we can lay up all the spiritual treasures that we possess. It is indeed a remarkably happy idea. In fact, man can make of

his life what he will, and give as much value to it for himself and others as he has power given him."

Some work for occupation, some for pleasure, some for fortune, some for fame, and some because they cannot help it. Work and occupation are absolutely necessary to their existence. When they become famous, it is unlooked for —often unwelcome. There are many who excel by sheer force of industry; by economizing every momeut, and turning it to some useful account. Pliny the Elder, when in the country, never relaxed from reading or being read to, except when in the bath. Most of the great chemists, naturalists, and natural philosophers, have been careful economists of time, constantly observing and recording.

John Dalton was a man of this character. Like Newton he would not allow that he had discovered anything, except through the power of continuous and patient industry which he had brought to bear upon the subject. When complimented on his discoveries at an anniversary meeting of the Medical School at Manchester, he observed: "With regard to myself, I shall only say, seeing so many gentlemen present who are pursuing their studies, that if I have succeeded better than many who surround me, in the different walks of life, it has been chiefly, nay, I may say almost solely from unwearied assiduity. It is not so much from any superior genius that one man possesses over another, but more from attention to study and perseverance in the objects before them, that some men rise to greater eminence than others. This it is, in my opinion, that makes one man succeed better than another. That is all shall say concerning myself."

Dalton was constantly observing and comparing. Even after suffering from an attack of paralysis at seventy-one, when sufficiently recovered he continued his observations as indefatigably as ever. In the last night of his life he made the usual entry in the book in which

he recorded his meteorological observations, of which he had made more than two hundred thousand during half a century.

Although Dalton was by no means a man of mediocrity, and although his modesty led him to underestimate the value of his labors, still it is unquestionable that men of mediocre powers are occasionally able to accomplish results almost approaching the marvellous, merely by dint of well-applied and long-continued industry. Some of the men who have most powerfully influenced the world, have not been men of genius so much as men of great force of purpose and infinite capacity for work. Amongst such men may be mentioned Martin Luther, Calvin, Ignatius Loyola, St. Francis Xavier,* John Knox, and John Wesley.

Luther was a man of extraordinary power, energy, and perseverance. His life may be said to embody the history of the Reformation in Europe. He was at once linguist, logician, preacher, and politician. All the great move ments of his time centred in him. He first translated the New Testament, and then he translated the Old. He flooded the press, then in the infancy of its power, with tracts, treatises, and dissertations, in defence of the liberty, of inquiry and examination,—the first great right, he held, of the human understanding. But his capacity of labor was not suddenly born, for industry had been the habit of his life. Speaking of himself at Wittenberg while still a monk, he said: "I had need to have two secretaries to keep up my correspondence; I am conventual concionator, table preacher, director of studies; I am vicar, or in other words eleven priors in one; conservator of the ponds at Litzkau, pleader and assessor at Torgau, Pauline reader and collector of psalms; and add to all these the assaults of the

* For Ignatius Loyola and St. Francis Xavier see *Self-Help*, pp. 238, 322, 373; and *Duty*, 198, 325.