Biography of Sheridan Muspratt, ... founder and principal of the College of Chemistry, Liverpool / by William White.

BIOGRAPHY

OF

SHERIDAN MUSPRATT

(HONORARY M.D.)

PH. D., A. M., F. R. S. ED., M. R. I. A., F. C. S.

&c., &c., &c.

FOUNDER AND PRINCIPAL

OF THE

College of Chemistry, Liverpool.

Author of "Dictionary of Chemistry;"
"Dr. Muspratt's Plattner on the Blowpipe,"
Memoirs of Berzelius, Liebig, Dumas, Mitscherlich, Rosé, &c. &c.
Published in the "Lancet," "Medical Times," &c.

"No part of history is more instructive and delightful than the lives of great and worthy men."—BURNETT.

BY

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Formerly Honorary Secretary of the York Farmers' Club,
Hon. Membre de Société d'Encouragement des Arts et d'Industrie.
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PHOTOGRAPHED FROM LIFE BY T. & J. HOLROYD, HARROGATE.

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BACON, the father of experimental philosophy, remarks, "Biography may be said to approach, and even touch, follow, observe, and see the individuals in all places, and in every instance of their lives; offering examples profitable to all men and in all conditions, and furnishing the moralist matter for profound meditation." To this may be added, that no study so abounds in incentives to vigorous and noble actions, and none is so replete with salutary caution. "What man has done, man can do," is a trite and encouraging aphorism, with which the ear has become familiarized from an infantile period. Its truth is daily more and more recognized; but, to accomplish the full fruition of the proverb it is imperative that the deeds and the path leading to the goal should be distinctly indicated; and such is the province of biography.

The acts, sentiments and characters of individuals distinguished by moral, social, and intellectual superiority, have a peculiar charm over the young and ingenuous. National or local curiosity is aroused by narratives of illustrious persons; at the same time there is created an irrepressible desire to trace, step by step, the means by which distinction was attained, together with the adverse causes that retarded progress and threatened total failure. Thus, on the one hand, is offered a powerful allective to perseverance, whilst, on the other, the semaphore points with unmistakable emphasis to the quicksands which have engulphed many noble projects, and made shipwreck of numerous cheering aspirations.

It may be conceded that amidst the memoirs which have hitherto excited the most profound interest, especially with the juvenile portion of the community, those of warriors are the most popular. Martial deeds and hair-breadth escapes produce an immediate and lasting impression; they assimilate vividly with youthful notions of heroism and ardour, kindle the latent spark

of emulation, and savour strongly of that spirit of chivalry indoctrinated by early perusal of the almost miraculous prowess of the ancients, and the glorious achievements of our ancestors, when the tenure of property and rank was maintained by the persuasive eloquence of the sword and the battle-axe; when right was absorbed in the more genial argument of might, and society acknowledged :—

"the simple plan,
That they should take who have the power,
And they should keep who can."

Even in these days, with steam's devious control, producing fabrics delicate as the gossamer web, or exerting a colossal strength; electricity annihilating time and space, and realizing the "immortal bard's" prediction, of putting "a girdle round the earth in forty minutes," and constituting the very "highway of thought;" and light rendered subservient to the mirror's talismanic power, and with a faithfulness which the highest grade of art cannot reach, nor the mightiest efforts of genius accomplish, delineating upon a textile substance a perfect fac-simile of the desiderated object; even in these days of advanced science and art, our diurnal literature teems with the exploits of the warlike section of the body politic. Passages of arms are constantly paraded before the reading public, whilst rumour, with its clarion tongue, proclaims the issue of mortal combat amongst the nations of the world.

Second only to the stirring episodes of *guerre à mort*, is the interest excited in the perusal of the achievements of the rhetoric displayed in the senate, where, amidst astute wisdom and gladiatorial eloquence, the force of superiority obtains to so manifest a degree that the laurels are frequently assigned by simultaneous assent, and men bow incontinently to the oratorial shrine; and again periodical literature records victories and reverses contingent upon the towering altitude acquired by talent and perseverance, and adds a page to the biography of the ambitious statesman.

In the order of continuity are the chronicles of those who, in the pulpit or at the bar, have, by superior attainments, risen from humble estate to the most exalted positions open to the subject. For illustrations let us pause to enrol the names of Wolsey and Tillotson—Lyndhurst and Truro. Each of these, by the exercise of surpassing talents, acquired an eminence to which the wildest dreams of his early life, however enthusiastic and visionary the dreamer, would not encourage the aspiration.

The perusal of the lives of distinguished characters is, in the highest degree, pleasurable and encouraging, as illustrative of the reward so frequently accompanying vigorous and well-directed energies in a country abounding in free institutions, and where the simply adventitious circumstance of birth and family connection, though still too frequently exerting undue influence upon the destinies of aspirants, are not the sole shibboleth to ascendancy.

One essential, however, should not be disregarded—the ground for display of native talent must be selected with judgment. A false step in this direction will paralyze future efforts. An inveterate impediment of speech, developed in childhood, and matured in adolescence, marks its victim as unfitted for the bar, the pulpit, the stage, the forum. Awkwardness in gait and physical deformity close the avenue to distinction in the more turbulent profession of arms. An invincible distaste for numerical calculations, stamp the future unsuccessful financier and merchant. An impetuous, unobservant disposition, ever ready to jump at conclusions, or to draw inferences from untenable premises, indicates unfitness for philosophical enquiry, as certainly as a mind full of scepticism, a taste for microscopic investigation, a greed for accumulating and generalizing facts, and filling the mental store-house with well-digested results of accurately conducted experiments, indicate the natural philosopher.

In these days knowledge stimulates to further experiment, and art, springing from science, creates new wants; these, acting upon inventive genius, furnish the means of supply; power and effect counter-balance each other. Science and art are beginning to assume their due proportions amongst human pursuits, and with their growth and appreciation, the province of their representative biographer expands. Men who eschew an active part in the exciting events that engross the sympathies of the more ardent and common-place observers, but adorn a contemporaneous age, and confer inestimable benefits upon posterity by their genius and unobtrusive labors, have advanced their right to divide attention with warriors and statesmen, ecclesiastics and lawyers, and though mankind still cling to the traditions of warlike strife and senatorial ambition, which abound in thrilling episodes, they appreciate also, the conclusions of science, the productions of art, and the influences of literature, and in approximating at its true value, the assistance borrowed from practical technology, and admiring the inductive reasoning whence it springs, they acknowledge,

with Bacon, that "the end of all science is to enrich human life with *useful* inventions and arts," and, with Antoninus Pius and Scipio, two of ancient Rome's most eminent commanders, are prepared to exclaim, "I prefer the life and preservation of one citizen to the death of a hundred enemies."

Whilst they speculate upon the studies which have matured the scholar, the incident inspiring the poet, the event which stimulated the historian, the scene that evoked the skill of the artist, they cogitate upon the phenomenon which directed the mind and aroused the reflective faculty and manipulating skill of the chemist.

A prolific source of meditation is that which embraces the origin, progress, habits, and peculiarities of those whom the force of genius has raised above the plane of intellectual equality. But neither the nature of the information, nor the extent of the detail requisite to satisfy so laudable a curiosity, can be estimated by any common standard, since it is not in our nature to contemplate an object of admiration, save with reference to our own predilections, prejudices, and preconceptions.

Of those whose labors produce the most startling results, the chemist occupies the foremost rank. He takes cognizance of matter in its infinite variety of form and composition. To him the animal, vegetable, and mineral kingdoms alike furnish objects of research. In the seclusion of his study, and constantly inhaling the obnoxious fumes of his laboratory, he has to rely upon the results of his quiet but painful labors for all he acquires of fame and distinction. From the earliest application of his reagents, to the consummation of his experiments, he is compelled to observe retirement and secrecy. To himself scarcely dares he mentally aspirate his hopes and anticipations. The ground is frequently not only untrodden, but treacherous. For days, weeks, months, aye, even for years, the brain is kept in the highest state of tension. One false step, a premature deduction, will destroy the labors of a cycle. The portion of inert matter operated upon need not exceed a few grains—the results may revolutionize the theories of centuries, and even affect the destinies of nations, and change or completely annihilate dynasties.

These sentiments are adduced from a desire to render full justice to the subject of the ensuing memoir, one of those rare individuals who, uninfluenced by pressure of necessity, or the ordinary claims of professional income, have exercised an almost inordinate zeal in the prosecution of a favorite study, and from pure *con-amore*, and, it may be, a laudable ambition to excel, have accomplished

results whose importance in a commercial, social, and *hygiène* point of view, cannot be estimated by ordinary rules. It may be premised that one of the glaring anomalies attached to the mental and physical exertions of some of the most distinguished scholars is the relative stimulus and depression contingent upon compulsory labor, and that induced by sheer taste. Each, in its turn, displays its potency, but in the aggregate, no doubt, the former happily prevails. The illustrations of distinction in the ranks of arts, science, and literature, when pursued by crumenal independence are exceptional, and their occurrence merits consideration. They commend themselves specially as examples whose publication cannot occur too early. Even in the life-time of the laborer a notice of his work is calculated to produce beneficial influences. It acts as an incentive to perseverance, and affords a gratifying *honorarium* of his self-imposed task. In the professional career of

SHERIDAN MUSPRATT

is exhibited an apt illustration of the felicitous pursuit of science under the too frequently enervating influence of ample pecuniary resources, accompanied by those fatal allurements to *laisser faire* which the command of wealth is calculated to produce.

The chemist, who is now in his 49th year, having been born in Dublin on the 8th of March, 1821, is the eldest of ten children of the eminent chemical manufacturer, James Muspratt, Esquire, of Seaforth Hall, near Liverpool, founder and head of the firm to whom, at the French *Exposition* of 1867, was awarded the Emperor's gold medal for excellence in chemical manufactures. Of Mr. Muspratt it may be briefly stated that the extraordinary success which has characterized his professional engagements, is the sequence of indomitable industry and perseverance, rare intelligence, expanded mercantile capability, and unimpeachable integrity; aided, no doubt, to a considerable extent, by the exercise of the congenial tastes and acquirements of his gifted son, who has immortalised the name; and whose life may be regarded as an epoch of intellectual progress.

It is highly probable that attracted by the wondrous and beautiful phenomena of the laws of combination, constantly recurring in his father's well-appointed works, and incited by an instinctive yearning for chemical enquiry, the embryo philosopher would freely indulge his earliest predilections for the science of which in after years he has become the energetic and luminous exponent. It is, at all events, certain that the practical know-

ledge displayed at a period of life when the great majority of youth regard time employed in the stern requirements of study, a painful and uncalled for sacrifice of the more congenial disposition and opportunities for amusement, could only have been acquired by an intense and exclusive application, and that sound analogical reasoning which guided his deductions could have only emanated from a zeal and assiduity rarely developed at so early an age. Thus we fiud young MUSPRATT at the almost incredibly premature age of 17, publishing, under the heading of "Experiments on Bleaching Powder," an abstruse paper which totally demolished the prevailing opinions of the nature of that compound. Subsequent researches have not only confirmed the correctness of his theory, but have induced him to accede to the request of parties interested, by re-publishing that valuable memoir.

Had this early treatise been his only one, it would have constituted the writer an adept. How trifling does it now appear in the midst of the numerous and critical efforts of his genius! The bare recital of his performances, even as a noviciate, will exhibit an unprecedented display of talent and industry, confirm his character as an indefatigable explorer into the arcana of Nature, and establish him as an able expositor of the marvels of philosophy.*

With startling rapidity appeared paper after paper upon the most abstruse subjects, the whole bearing so much the impress of correctness as not only to disarm criticism, but to secure insertion in the leading scientific journals of England and America, and to obtain their translation into foreign languages, besides calling forth flattering encomiums from the most distinguished representatives of science at home and abroad.

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* The following list of essays with which the subject of our memoir enriched scientific literature at a precocious age, affords ample evidence of deep research, and a facility of communicating to others the vast accumulative resources of a reflective mind:—"Lectures on Organic Chemistry:" "Lectures on Soda, Coal Gas, and Sulphuric Acid:" "Papers on the Sulphites; Selenites; Carbonates of Alumina; Toluidine; Nitraniline; Aniline; the action of Potassa on Indigo and Lycopodium; Hyposulphathylic, Hyposulphimethylic, Bisulphethylic, and Bisulphimethylic Acids, produced by the action of Nitric Acid upon the Sulphocyanides of Ethyle and Mythyle; the identity of Bisulphethylic with Hyposulphethylic Acid, and of Bisulphamethylic and Hyposulphamethylic Acid; Carmufellic Acid:" "the Mineral Waters of Baden Baden:" "Combination of Arsenious Acid and Albumen:" "the Compound resulting from the Union of dry Chloride of Cyanogen and Ammoniacal Gas:" "Sulphuric Acid:" "Caryophylline:" "Biographies of Mitscherlich, Dumas, Berzelius, Liebig:" "Chemistry of Vegetation:" "Qualitative Analysis for Laboratory Practice:" "the Influence of Chemistry on the Animal, Vegetal, and Mineral Kingdoms:" "Plattner on the Blowpipe," &c. &c.

It may be recorded of his Lectures upon Soda, Coal Gas, and Sulphuric Acid, which manifest extraordinary erudition, that, upon the occasion of their delivery, the chair of the Royal College of Chemistry, London, was graced by the exemplary Patron of Science, the late Prince Consort; who, up to the time of his ever-lamented decease, showed his appreciation of the learned Lecturer's talents by repeated acts of gracious acknowledgment, and it may be surmised that, perhaps, no man in the United Kingdom has greater reason to deplore the premature demise of this inestimable and exalted personage than Professor MUSPRATT. No wonder, therefore, he always refers to his Royal Highness' removal as one of the heaviest trials that could have befallen him.

To resume the narrative whose strict order of dates is thus somewhat invaded. Whatever the source whence flowed the earliest disposition to unravel the mysteries of a science he has subsequently enriched, a taste for its study was developed whilst pursuing the curicle of elementary knowledge, and thus he is found at school dividing his time between the *Gradus ad Parnassum*, and the occasional opportunities afforded by chemical lectures, a system of teaching which he has since, it must be said, somewhat unjustly, denounced as "stale, flat, and unprofitable," and to which his own subsequent success has given the refutation. However, this is not the moment to provoke controversy, therefore let it be accepted as enunciated *ex cathedrâ*.

Leaving school at the premature age of thirteen, a period when the vast majority of youths are really commencing to lay the foundations of the future men, he may be considered to have embarked into active practical life. An irrepressible appetite for a knowledge of the outer world was now liberally gratified. As a mere boy we find him in the equipment of a traveller, availing himself of every opportunity of expanding an intellect naturally fertile, and storing a mind open to imbibe and classify philosophical truths. Bent upon mental improvement, he accomplished a tour through France and a great portion of Germany, then accredited the main centres of scientific knowledge. Change of scene and the exhilirating influence of locomotion presented no counterpoise to the ardor of the youthful philosopher; for immediately upon his return home, true to his earliest traditions, he directed his course to Glasgow, and there entered his name upon the books of the chemical school of the University of that city, whose chair was so ably filled by that skilful manipulator, and talented physicist, Professor Graham. Upon the

subsequent removal of that excellent teacher to the theatre of the London University, our neophyte shortly followed him, and remained under his tuition until, in his eighteenth year, he accepted an engagement with the noted firm of Peel Thompson of Manchester. It was whilst actively employed in the onerous and responsible duties of chemical manager at this extensive establishment he gave to the world the first of a voluminous series of chemical memoirs—the paper on Chloride of Lime, popularly known as "Bleaching Powder"—a production which may be regarded as laying the foundation of his future distinction. As the emanation of so youthful an aspirant to scientific fame, independent of its indisputable claim to originality and intrinsic merit, this *brochure*, as we have seen, attracted considerable attention.

At this period occurred an episode in his career which, however disappointing to the hopes of the parent, tended more than any other incident to concentrate the mind of the son upon the object of his intense enthusiasm, and verified, to a certain degree, the somewhat hypothetical axiom of the poet :—

> "One science only will one genius fit,
> So vast is art, so narrow human wit."

A commercial partnership was negociated with a firm in the United States, whither the young chemist wended his way. At the sacrifice of several thousand pounds, and the expense of much mental anxiety, it was discovered that the refined operations of the laboratory, and the plodding requirements of trade are incompatible. "All was lost but honor." Acting upon the hint presented by such dearly bought experience, and availing himself of the opportunity of his visit to the country, he now occupied a long interval in accomplishing a tour of several of the States, receiving as an acknowledgment of his assiduity and success as an experimentalist, and exponent of chemistry, highly flattering attentions from many of the leading *savans*, and especially from Dr. Hare, of the University of Philadelphia, at that time the accredited chief of the chemical profession of America. It has been forcibly remarked of young Muspratt at this particular juncture, that, "from his travels in Germany, France, Italy, and America, his mind had not only gathered strength, but proved that its early bias was a true one. Had it not been so, the various phases of life and occupation he had seen, would have converted him probably, with his advantages of fortune, into a mere gentleman of taste." At this time the absolute sovereignty

of Liebig the "great German Professor," had conferred upon the laboratory of Giessen a world-wide reputation. The enunciations of the master-mind were everywhere accepted with profound respect, and pupils were attracted to the Giessen magnet from every quarter of the civilized world.

It is therefore no way surprising to find so ardent a disciple as MUSPRATT eager to sit at the feet of so distinguished a preceptor, or the world-renowned shrine receiving the homage of so fervent a devotee. Here, accompanied by his constant satellites, enthusiasm, zeal, and self-reliance, and endowed with a surprising aptitude for original investigation, the subjugation of complex matter to expert manipulation, and the potency for analogical reasoning—the bases of his great and well-merited fame—we recognize the student in name as the master in fact. From these significant indications of genius, he became the cynosure of a large circle of kindred spirits with which, at that time, Germany abounded. Berzelius, Rosé, Kopp, Will, Hofmann, Fresenius, and Ettling vied with each other in their demonstrative admiration of "Ireland's Chemist," whilst, in declining to accept the customary fees, Liebig afforded the most convincing appreciation of his talents. Between master and scholar was cemented a mutual esteem, founded upon a reciprocity of tastes and pursuits; this, time ripened into perfect friendship, and the "favorite pupil" became afterwards the faithful biographer.*

Two years inexorable application at Giessen sufficed to inspire confidence in his accumulative strength, and emboldened him again to enter the lists as a disputant. The subject of his thesis was still more abstruse, and gained him two distinctive marks of honor, one that of Doctor of Philosophy, a title *never before conferred upon so young a man*, the other the characteristic *sobriquet* of SULPHITE.† His successful endeavors to demonstrate the relation between the Sulphites and Carbonates afford evidence of a highly-cultivated and well-attuned mind, and for so juvenile an experimentalist, exhibited a remarkable boldness of conception, considering that the theory was thus for the first time advanced. Upon this occasion the Doctor was flattered by the following notice of his discovery from the pen of the great Swedish chemist, Berzelius :—"The investigation of sulphurous acid and

* Biography of Liebig, by Sheridan Muspratt, *Medical Times*, 1844, Vol. 9.

† On presenting his letter of introduction to Professor Rosé of Berlin, that distinguished analyst assured him that "SULPHITE MUSPRATT" needed no introduction."

its salts by MUSPRATT, is one of the most elegant and elaborate we possess, and moreover is one which beautifully sets forth the analogy and isomorphism between the sulphites and carbonates—a discovery hitherto *overlooked* by all previous investigators." The particulars of this highly interesting research were recorded in Liebig and Wöhler's "Annalen," and thence copied into all the leading scientific journals, and received enthusiastic plaudits wherever promulgated.

Now fairly launched into public life, he challenged criticism by a rapid succession of memoirs, and enriched the pages of the principal periodicals appropriated to science, as those of Germany, England, France, and America amply testify. Entertaining such profound respect for the renowned laborers in his own selected field of operation, we can readily appreciate the spirit which induced him, about this time, to undertake the duties of biographer. In this voluntary task he confirmed the poet's dictum :—

> "Of all those arts in which the wise excel,
> Nature's chief master-piece is writing well,"

by presenting to the world admirable delineations, with portraits, of Mitscherlich,* Dumas,† Berzelius,‡ and Liebig, all these successively appearing in the *Lancet* and the *Medical Times*.

Contingent upon the remarkable discovery of the homology of sulphurous and carbonic acid salts, were issued at brief intervals, notices of a variety of other hitherto undeveloped combinations, the whole indicative of consummate analytical skill and untiring assiduity. In the year 1843, whilst yet a student at Giessen, he was elected a Fellow of the Chemical Society; and received his diploma as a Member of the Royal Irish Academy. This, it must be recorded, was without a single "black bean in the urn," a circumstance, he was assured by his friend, Sir Robert Kane, unprecedented in the annals of that learned society. Shortly after these events he was elected, also unanimously, a Fellow of the Royal Society of Edinburgh.

In the year 1844, was read, in the unavoidable absence of the author, before the British Association, at their meeting in York, an exhaustive essay by him upon the action of potassa upon indigo and lycopodium. Whilst in 1849 he produced an elaborate and valuable paper upon the action of Baryta, Strontia, &c. before the Blowpipe, having taken up this subject where some years before, it had been left by Sir Humphrey Davy.‡

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* *Lancet*, 1850, p. 660. † *Lancet*, 1851, p. 248. ‡ *Lancet*, 1851, p. 492.

‡ The readers of Paris's "Life of Sir Humphery Davy" will realize the cir-

The following year appeared his celebrated paper upon Carmufellic acid, a new substance found in cloves, the merits of which were so striking and characteristic as to secure its insertion in the "Proceedings of the Royal Society of Edinburgh, 1850–1," and in the Philosophical Magazine for October, 1851. At this time he displayed a degree of knowledge and energy rarely equalled in the registry of science or literature, and which must have required the *mens sana in corpore sano* for their development. Whilst pursuing his studies in Germany, Dr. MUSPRATT availed himself of a golden opportunity to render an inestimable service to the English analyst. Up to this period we possessed no comprehensive work upon the use of the Blowpipe. The German chemist, Plattner, in making this subject a speciality, had published an excellent hand-book, but it was confined to his native tongue. To become extensively available in this country it needed translation by one possessing the rare combination of an intimate knowledge of the language in which it originated, the scientific terms necessarily employed, a thoroughly practical acquaintance with the subject treated upon, and a facility in popularizing an abstruse topic. The task was eminently difficult, but with Dr. MUSPRATT difficulties appear only in the guise of incentives to successful action—to undertake is to accomplish. So plenary was the result, so considerable and important the augmentations, that the title of the work received an inseparable modification, highly complimentary to the translator and co-author, and now, as "Dr. MUSPRATT'S Plattner on the Blowpipe," it is accounted the most sterling and reliable authority upon the subject.

Hitherto, it should be borne in mind, this narrative is that only

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cumstance of the baneful effect upon the physical organism of the philosopher in his endeavors to determine the true character of this intractable salt, and which gave birth to the following displays of poetic witticism:—

"Says Davy to Baryt, 'I've a strong inclination
To try to effect your deoxidation;'
But Baryt replies, 'Have a care of your mirth,
Lest I should retaliate, and change you to Earth.'"

or, as subsequently rendered by another wag:—

"Says Davy to Baryt, 'I feel strong temptation
To effect by my art your deoxidation;
And the money I've got in my pocket I'll bet all
I prove you a true, though disguised, lad of metal.'
Says Baryt to Davy, 'A truce to your mirth;
If you turn me to metal, I'll turn you to earth;
So moisten your clay, don't improve Science daily,
Nor treat me as you've treated poor Soda and Kali.'"*

* Query Potassa?—Printer's Devil.

of a young man. Crowded with events which would adorn the active and successful travails of a protracted existence, it is, with trifling exceptions, of one who was only on the verge of maturity. The first of the recorded labors was the production of a youth of 17; the latest that of a young man of 30. To what concatenation of circumstances, then, can we ascribe these prodigies except to the exercise of a vigorous intellect, indomitable industry, unflinching perseverance, an invincible desire to accomplish an honorable and durable renown, combined with a herculean *physique*. Describing Dr. MUSPRATT'S developments, Bally, the celebrated phrenologist, states that he possesses "one of the largest brains in proportion to his size, which constitutes a strong mind; rather slow to action, but when set to work, going through it with great energy —indomitable perseverance—love of fame or approbation in a high degree—above everybody in the profession—the moral faculties good." The incidents of his family connection have shewn that the ordinary incentives to industry and perseverance had no existence. No external pressure of necessity prevailed. Labor with him was not an imperative obligation, nor need he have sacrificed the amenities of society, the pleasures of the table, or the inspiriting pursuits of the chase, for the obnoxious exhalations of the laboratory, the seclusion of the study, the mental labors of the most refined observation, or the painful risk of unfriendly criticism.

Heralded by a reputation more than European, one loudly proclaimed in one hemisphere and re-echoed from the other, Dr. MUSPRATT now determined upon a tentative proof of the value of the knowledge acquired, and the experience gained, by the establishment of a College of Chemistry in Liverpool. In resolving upon this course he naturally selected as his model, the celebrated and kindred establishment at Giessen, where his early efforts had been crowned with such signal triumph. By thus settling down in this vast emporium of commerce, he displayed a further evidence of his devotedness to an abstract principle, and gave an earnest of concentrating a considerable portion of his wondrous energy into the service of genuine usefulness. Though eminently qualified to assume the chemical leadership in the "Great Metropolis," the focus of honor and display, he was content to sacrifice much personal feeling to the desire of conferring a benefit on the place of his adoption, and amongst those with whom his lot had hitherto been cast, an act of self-abnegation which merits substantial reward at the hands of his fellow-

townsmen. It might be imagined so great disinterestedness displayed by one who had acquired such a reputation as he had won, would have secured some marked acknowledgment at the hands of all scientific bodies, and that however stringent and prohibitory the existing regulations of any primary association, these would be instantly relaxed in favor of one who had extended his country's fame to the utmost confines of civilization, and on behalf of an establishment which, though individual property, was founded and conducted under the auspices of the most brilliant constellation in the chemical macrocosm. Applications to the University of London, and to the College of Surgeons of England for the recognition of Dr. MUSPRATT'S certificate of proficiency to pupils matriculating under him, were unhesitatingly conceded, but a similar appeal, backed by the requisition of the leading practitioners of Liverpool, and endorsed by testimonials from distinguished chemists at home and abroad, received from the Society of Apothecaries, a reply, which though couched in the most flattering terms, constituted a peremptory refusal. This decision elicited from the *Lancet* the following eulogistic rejoinder in favor of the eminent founder of the "Liverpool College." "Of Dr. MUSPRATT'S merits as a scientific chemist, we need not write one word; his reputation is not confined to our own schools or our own country. By dint of great exertion he has founded at Liverpool, a College of Chemistry similar to the Royal College of Chemistry at London, in which the duties of lecturing, and of the laboratory are conducted with extraordinary zeal and success. Of course, in a school of this kind, the chemical education, whether of medical or other students, is conducted with greater facilities and guarantees of success than in the chemical departments of most medical schools, however distinguished. Naturally enough Dr. MUSPRATT sought the recognition of his lectures by the medical examining boards, as no mean aid to the pecuniary success of his college."

This arbitrary conduct on the part of the Company eliminated protests also from other sections of the "fourth estate." In the following pungent stricture, facetious, satirical, but uniformly ethical "Punch" cauterized the pharisaical corporation:—"The Apothecaries' Company has a vast opinion of chemistry; although its members, for the most part, have distinguished themselves rather as druggists than chemists. It has decreed that chemical lectures shall form part of the education of every candidate for its licence;

attendance on the instructions of any competent lecturer, one might suppose, would satisfy this requirement.

"Not so. Their worships of Apothecaries' Hall still refuse to recognize the lectures of any provincial professor, although his chemical reputation, which is vouched for by chemists of the greatest eminence throughout Europe, including Brande, Berzelius, and Liebig, may be said to be at least European. And why cannot Apothecaries' Hall acknowledge the teaching of gentlemen recognized by the London University and the Colleges of Physicians and Surgeons? bodies surely as well qualified to judge in the case as the medicine vendors who keep the shop at the upper end of Union Street. But the men of senna have made a by-law, which denies recognition to any chemical lecturer unless he lectures in connection with a regular medical school, as if any competent lecturer could lecture otherwise—as though there were any science of chemistry but one, which is connected with every medical school, and the Apothecaries did not know that, and had worked so long at the pestle and mortar as to have brayed themselves into downright asses! But then, their Worships allege that their reputation is one of long standing, and that, therefore, they cannot rescind it; a part of conservative logic that, in this instance, a punster might describe as *sennatorial*. In the meantime they have rescinded this sage regulation in favor of the Royal Institution . . . . ."

It remains to be stated that these and other caustic flagellations achieved a *coup de grâce*. Dr. MUSPRATT'S *College became a recognized institution.*

Pursuing now the even tenor of his ways, he has conducted his college with the aid of competent assistants, the principal of whom—Mr. Martin Murphy, F.C.S., and who may be regarded as the Doctor's *alter ego* in laboratory matters—is a gentleman of varied and considerable chemical attainments, and enlarged experience, enjoying, for upwards of twenty years, the rare opportunity of the counsel and direction of his illustrious chief. The college, like its founder, has acquired an honorable distinction, and continues to hold its own against all comers. Its certified students are filling positions of great responsibility in various walks of life where chemical attainments of the highest order are indispensable; or as manufacturers and professors, reflecting the eminence of their notable prelector.

We now approach another stirring epoch in the active career

of the subject of this memoir. Hitherto the evidences of Dr. MUSPRATT'S literary powers consisted chiefly of fragmentary records of his own discoveries, and the inferences therefrom deduced. Original research, laboratory practice, and the onerous duties of his thriving College—vocations more than sufficient to occupy the exclusive attention of an ordinary individual—proved insufficient to test the mental and physical capabilities of one endowed with almost supernatural energy, and a profundity of intellectual resources. In 1854, Mr. Mackenzie, the eminent publisher of Glasgow, Edinburgh and London, a gentleman whose commercial enterprize and discriminating skill have, upon various occasions, suggested the issue of works of sterling merit, under the supervision of men of acknowledged ability, projected a "Dictionary of Chemistry" upon a scale which would supply a vacuum long experienced, especially amongst those manufacturers whose processes depended, in a great measure, upon the application of chemical laws. This, to be of universal value, must needs be comprehensive, to be available to the ordinary workman it must be written in the most intelligible style. The keen perception of the bibliopolist was instantly directed to the learned Liverpool Professor.

The decision has not falsified the judgment of the publisher, nor the sanguine expectations of those for whom the work was contemplated. On the contrary, under the title of "CHEMISTRY, *theoretical, practical, and analytical*," the author has produced a cyclopædia of the chemical arts, which, exhaustive of the numerous subjects under consideration, has conferred additional lustre upon an imperishable name. Independent of an immense circulation in those countries where Anglo-Saxon is the mother tongue, Dr. MUSPRATT'S Dictionary, in a translated form, has become the text-book to the arts and sciences over France and Germany, and figures as the favorite authority amongst analogous publications of foreign states, whilst it is acknowledged as the only perfect *vade mecum* extant. As a practical guide, its merits have secured the concurrent approval of most of the celebrities, and elicited their admiration in unqualified terms. Space would fail in the attempt to enumerate these scientific memorials. The following may be accepted as a summary :—

Dr. Normandy, himself a practical chemist, and an author of high reputation, records his opinion :—"Although the chemical and manufacturing world were already in possession of various cyclopædias and dictionaries, still, Dr. MUSPRATT'S is

by far the most complete and elaborate which has ever appeared in any country. It is a perfect monument of patient observation, of extensive and minute knowledge of the arts and manufactures."

The late astute philosopher and able expositor of chemical science, Professor Brande, remarks:—"It will supersede all similar publications in this country, and it will tend to greatly improve and instruct the rising generation of manufacturing chemists."

In ratifying the universal sentiment of admiration of the editorial powers of Dr. MUSPRATT, as irradiated from his Dictionary, the illustrious Faraday—the prince of modern philosophers—and one of the very last men to be suspected of unmerited panegyrism—thus combines his eulogy upon the learned author's scientific attainments with commendations of his great literary production:—"DR. MUSPRATT'S *researches in both organic and inorganic chemistry have given him a reputation that is not excelled by any modern chemist;* BUT HIS 'DICTIONARY ON THE ARTS AND MANUFACTURES' WILL RENDER HIS NAME IMMORTAL."

With sound judgment and discriminating good taste, the Dictionary is dedicated to Baron Dumas, of France, and Sir Robert Kane, of Ireland. The style of the following address indicates a superior mind approaching its peers. It is bold and manly, and savors of a consciousness of intellectual equality. At the same time we gather an avowal of obligations under which both the writer and the world of science have been laid by the labors and discoveries of these distinguished philomaths:—"To whom could I, with greater propriety, inscribe this work than to my distinguished friends and colleagues, both of whom have contributed the most valuable assistance to the arts and manufactures of their respective countries as well as to the world in general. Dumas' 'Traité de Chemie appliquée aux Arts,' and Kane's 'Industrial Resources of Ireland,' are treatises which, in their completeness as volumes of reference, are unquestionably mines whence much has already been extracted, and through which great advances must still be made in technology. These works, *per se*, entitle their authors to the most prominent rank. For repeated acts of disinterested kindness and attention, I shall ever hold myself their debtor; and I rejoice in availing myself of the first opportunity which enables me to record my grateful and sincere acknowledgment."

The following graceful reply of Sir Robert Kane merits currency:—"I feel bound to express my sense of the remarkable

skill and clearness with which the scientific principles are described, the manufacturing processes detailed, and the commercial circumstances discussed. I feel very much gratified at receiving so distinguished a mark of your consideration as the dedication to me of the most valuable work on Industrial Science; and I esteem it the more for being associated therein with the Baron Dumas, whose eminence as a philosopher and chemist I so much respect, and whose personal qualities and friendship I so much value," &c.

The answer of Baron Dumas is equally eulogistic:—"I thank you, in the name of Industry and Science, for having placed at their disposal the practical information which your high technical position has enabled you to collect.

"Your great experience promises abundant and precise information. As a Frenchman, I have been highly gratified to see my name in conjunction with that of Sir Robert Kane in the dedication of the work.

"You have wished to show that the sciences and their application to the welfare of humanity do not admit either of the divisions which politics establish sometimes between nations, or of the rivalry between people which arises from a conflict of interests.

"Yours is an honorable and useful mission, throwing light upon the exercise of the arts, perfecting the labor of your manufactures, reducing the prices of everything, and rendering the enjoyments of life more equally accessible to all classes of society."*

* These flattering acknowledgments were the pioneers of others, possessing equal warmth and eloquence, from the leading chemists of the age—British and foreign; the whole flowing in with impulsive spontaniety, and characteristic of a profession whose pursuits are eminently calculated to develope the utmost refinement of mental valor, and to advance a noble, generous, and even chivalrous magnanimity. In no recorded instance have these qualifications been more eminently displayed than in the volitional offerings to this successful achievement of a fellow laborer.

"The most valuable and elaborate work of the kind in our language."—Prof. Penny, Glasgow.

"It displays great genius, and careful and extensive reading."—Prof. Miller, King's College, London.

"Of immense service, both to the scientific chemist and practical manufacturer."—Prof. Andrews, Belfast.

"The most complete chemical work that has ever appeared."—Prof. Calvert, Manchester.

"Its stirling value has been already recognised, and fully acknowledged by the Coryphæ of science."—Prof. Vogel.

"Every article wonderfully comprehensive, and treated in a most masterly manner."—Prof. Hirsch.

"The author is thoroughly conversant with science; and the admirable monographs prove him to be completely master of his subject. Dr. MUSPRATT, from his high position, was the fittest man to produce such a work."—Prof. Wittstein, Germany.

Of the merits of the "Dictionary of Arts and Manufactures" we naturally seek, also, the judgment of men distinguished in the Republic of Letters. Foremost of these we hail the venerated Nestor of the present moiety of the nineteenth century, the redoubtable Lord Brougham, who, in a letter addressed to the author himself, speaks of "*your invaluable dictionary;*" Sheridan Knowles, "the greatest play-writer since Shakspeare," and godfather of the Liverpool Professor, congratulates him—from the evidence of "those best able to form an opinion"—upon having "produced the greatest chemical work of the age;" whilst the versatile and ever-amusing author of "Pickwick," expresses a hope that "some acknowledgment, due to his talents, will emanate from his fellow-townsmen" towards the individual who, by his public spirit, enterprise, literary attainments, and the effulgence of his scientific discoveries, has added materially to the fame of Liverpool.

Equally unqualified were the encomiums of the press. Scientific and literary journals adopted a concurrent strain of high commendation. In the admirably conducted and reliable authority, the "*Mining Journal*," was recapitulated the various sentiments of the *elite* of the profession already quoted. To these the editor thus adds his own valuable opinion:—"About twelve years ago, in noticing Dr. MUSPRATT'S scientific position and his foundation of a College of Chemistry in Liverpool, we wrote as follows: 'And while we have had a Davy in Cornwall, and a Dalton in Manchester, it is probable an equally bright halo will, at a future period, encircle the name of MUSPRATT of Liverpool.' We are delighted to find our predictions have been completely verified,

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"The great chemical work of the age, and the most valuable work on industrial science."—Prof. Dumas, France.

"Truly a *national* work, of which England may justly be proud."—Dr. Herapath, Bristol.

"The best and most elaborate guide book in technical chemistry."—Prof. Morfit, U.S.

"It has given you a name to be quoted for all time."—Prof. Horsford, U.S.

"The great national work of England."—Prof. H. Hofmann.

"I find it most valuable as a book of reference. It is a work I consult always with profit."—Dr. Hassall (The *Lancet* Commission on Adulterations), London.

"I feel bound to express my sense of the remarkable skill and clearness with which the scientific principles are described, the manufacturing processes detailed, and the commercial circumstances discussed."—Sir Robert Kane.

"The most complete treatise we possess on the subject, and invaluable as a book of reference."—Prof. Anderson, Glasgow.

"The most valuable contribution we possess to the literature of the science."—Prof. Williamson, London University.

and that one of our earliest and most valued correspondents is now the leading chemist in Europe, especially as an author, if we may judge by the opinions on his recent laborious work, extending over ten years."

Notable instances have occurred when the subtlety of diplomacy and reference to *vis armis* have equally failed to produce a satisfactory solution of impending difficulties between discordant states. With a more extended diffusion of knowledge, aided by generous rivalry in the arts of peace, and an increasing conviction of mutual reliance upon the practical bearings of their happy consequences, the chances of ultimate contention become more problematical. It is, therefore, refreshing to meet with even isolated acknowledgments of England's progress in arts and science in the columns of foreign journals; and to the subject of the editorial homage the consciousness of having contributed his quota to so desirable an end as an universal brotherhood must have been indescribably gratifying and encouraging. These remarks have their source in the following notice of Dr. MUSPRATT'S great and successful undertaking, which appeared in the "*New York Times*," dated September 29, 1860 :—

"We regard the laborers in this science who extend their researches to what, in common parlance, are termed abstractions as not only pioneers in new discoveries, but as abaters of error and exemplifiers of truths. Abstractions are the connecting links between prediction and reality, and, like the image of the bird upon the waters, the presage of coming presence. To the industrious as well as the scientific world, Professor MUSPRATT is, however, better known as the founder of a College of Chemistry in Liverpool. From this institution is coming, almost continually, valuable information for the operatives in nearly all the arts, to say nothing of its contributions to learning in its strict meaning. His 'Encyclopædia of Chemistry in its Relation to Arts and Manufactures' is a great and acceptable acquisition for scientific men, which may be consulted as a *vade mecum*, and always with profit. True, there are in this, as there must be in works of progressive instruction, many doubts thrown upon received axioms, and some exposures of favorite postulates; but these are commendatory instead of being objectionable features—since time, though it often tolerates, can never sanctify error. Men, in the general, undertake enterprises of labor and expense in the speculative idea of augmenting wealth. This is to be neither condemned nor disparaged, because Providence, in a boundless

wisdom, adapts all undertakings of popular benefit to the instincts and aptitudes of the actors. In the case of Dr. MUSPRATT, who has always been surrounded by the aids, appliances, and consolations of wealth, the motor of his exertions must be of a more spiritual nature, combining an indefatigable desire to do a great general good with a corresponding ambition to gratify his own taste and advance a science suited to his genius, and of which he is one of its greatest ornaments. It is a delightful thing to see the fruits of the trees of our own planting; and they who accomplish it can read, beforehand, of themselves in the unwritten book what posterity will indite when the time comes."

Of Sir Humphrey Davy it is recorded that "had he not been the first chemist, he would have been the first poet of his day." A somewhat similar eulogium may be justly awarded to Dr. MUSPRATT. His "Dictionary of the Arts and Manufactures" displays not only profound chemical knowledge, but a perspicuity of style few purely scientific minds are capable of. His illustrations are apt and voluminous; whilst the variety of subjects treated exhibit him a cyclopædist of the first order. Sometimes his language partakes of a sublimity and an attractiveness which transfix the attention of the admirer of elegant diction, and which invest his descriptions with an undying interest. Who, for instance, with any pretension to literary attainments, can peruse the following dissertation on the pursuit of agriculture without being struck with the congruity of sentiment and poetry of the idiom?—"It is observed that of all the material interests influencing humanity, there is none which so completely and tyrannically fetters the individual as the care for his daily bread; and though this greater feature is evinced by different pursuits in life, yet these, like so many tributary streams and rivulets, are continually meandering till they terminate in the all-absorbing ocean of agriculture, which is the soul of all other branches of industry invented in modern ages; without it none other can stand. It is that art on which a thousand millions of men are dependent for their very life; in the prosecution of which about nine-tenths of the fixed capital of civilized nations are embarked, and upon which more than two hundred millions of human beings expend their diurnal labor; the parent and forerunner of all other arts." Well may a work promulgating such wholesome sentiments as these be recommended to the attentive perusal of our legislators, whose libraries cannot be considered perfect when not possessed of a copy!

"Success forms the criticism of its own excellence." As a commercial speculation "Dr. MUSPRATT'S Chemistry" was highly remunerative to the publisher. It has attained a sale of upwards of *sixty thousand* copies, and a circulation unequalled by any analogous work. It is the book of reference of all manufacturers and artizans whose avocations acknowledge allegiance either in their foundation, improvement, or perfection, to chemical agency. Its learned author, by the appearance of this great national work and independent of other memorials of his intellectual greatness, has established his fame "in records that defy the tongue of time."

Between the discoverer of the metallic bases of the alkalies, and the Liverpool *savant* again there appears not only an identity of originality and research, a force of expression and lucidity of explanation, together with an adaptability of their discoveries to the best mundane interests of mankind, but in their notions of relaxation we discover a remarkable analogy of taste. Both have ardently employed their rare intervals of repose to gratify an inherent desire to pry into the mysteries of Nature as displayed in her spontaneous operations; "*erranti, passimque oculos percuncta ferenti*," and on the resumption of the stern duties of laboratory practice, enriched scientific literature with the results of their *active leisure*. The fruits of Davy's imaginative powers exhibited remarkable poetic genius. MUSPRATT, as an elocutionist, stands almost unrivalled; as a reciter he has never been excelled —a Bellew without his affectation and mannerism. To an inimitable delivery, rendered characteristic to the piece; or, if requisite, as in "Collins' Ode to the Passions," adapted to the rapid delineation of each passion, he displays a pathos so impressive as to provoke his auditory into a feeling that they are spectators of the scenes, and familiar with the *propriæ personæ* of his imagery.

Those who have enjoyed an opportunity of attending his "readings"—invariably given with reference to a benevolent object, or to gratify the wishes of personal friends—extol them as master-pieces of humor and rhetoric. It has been asserted that in him, "a great actor was lost in the great chemist." In a concise critique recently issued it was said:—"the Doctor recited most touchingly and pathetically 'Lord Ullin's Daughter.' The lover, the angry father, the stormy ferry and wrecked boat, were so beautifully described, that the mind instinctively beheld them as if they were presented on canvas. A most intellectual treat was afforded to all present. *We always considered Dr.* MUSPRATT *unrivalled as an elocutionist.*"

For some time past Dr. MUSPRATT has been assiduously investigating the nature and composition of Spa water, with a view of unravelling the mysteries of these latent sources of health-giving provisions of an ever bounteous Providence. Since the appearance of Dr. Granville's interesting work, this subject does not appear to have attracted the requisite amount of attention; whilst from the comparatively crude state of chemistry in those days, there was little to direct the analyst to the subtle agents which the modern adept regards as the *Ultima Thule* of therapeutic influence of the natural provisions.

The discovery of the existence of the active principles in medicinal springs, some of them in almost infinitesimal proportions, demands the utmost refinement of chemical art; the difficulty being still further enhanced by the condition of perfect combination in which they are found. In the present state of science the analysis of a mineral* water constitutes one of the most delicate problems, the solution of which is demanded of the chemist. It is not that the determination, qualitative or quantitative of each element, considered separately, presents insurmountable difficulties; chemical analysis has here made sufficient progress to enable the analyst to arrive at his conclusions with extreme accuracy. Reaching this point the abstruse labor begins. None but the most accomplished manipulator can take a step further in advance. He only can surmount the embarrassments of the position by determining the precise forms of combination assumed by the attenuated elements encountered, assign to each its antithesis, and determine with accuracy upon which the medicinal property of the water depends. How fraught, then, with vital importance this interpellation of Nature! It is impossible to overrate the significance of the answer, which, if favorable, culminates in the discovery of a hydro-therapeutic agent; one that restores health to the sick, imparts vigor to the weak, spirit to the melancholy, energy to the listless, and confers happiness upon all who come within its benign influence. To the arduous task of seeking for some hitherto latent combination in Spa water the Doctor has recently devoted much time and a large share of his distinguished talents.

Of the medicated springs which have recently engaged his special attention, and of which Dr. MUSPRATT has furnished analyses, those of Buxton, Malvern, Scarborough, Ben Rhydding,

* The term "mineral," confined to water of this character, is an almost unavoidable anachronism, inasmuch as water in its purest state is a mineral.

Llandudno, and Harrogate are the most noted in the kingdom. At the last named place the Doctor's researches have met with a most auspicious termination—a national acquisition of the most vital and lasting importance to the sanitary well-being of all whose maladies demand the special and, hitherto, latent properties of the spring, to which his name will hereafter be inseparably and gracefully attached, as an immemorial trophy of his victory over a dormant but peerless treasure, which, but for the application of his incomparable skill, might have continued renownless to the latest period of the world's history. Now, however, owing to the marvellous success by which his earnest endeavors have been crowned, Harrogate is rendered *the most famous watering place in existence*, and will shortly be appreciated throughout the confines of civilization; not perhaps ever possessing the notoriety of some of the German Spas, where debauchery in its most glaring forms stalks forth with unblushing effrontery and confronts open daylight; but from the occurrence of the most fortuitous combination of chlorine and iron, as proved by Dr. MUSPRATT'S investigations, in proportions best adapted for assimilation with the human organism, and whose health restoring properties appear the realization of the fabulous results of the visits of the genii and the waving of the magic caduceus, as set forth in Oriental fable.

Whatever may be the sequence of further explorations in this direction, at the present time "Dr. MUSPRATT'S Chalybeate" is perfectly unique in composition, and unparagoned in efficacy, when employed under skilful direction, especially under the advice of the resident members of the faculty, whose opportunities of noticing the effects of the prescribed draughts and the concomitant of inhaling the air, rendered peculiar by the exhalations from the liberated water and saturated soil, give them immense advantage over practitioners ignorant of these idiosyncracies of soil, air, and water.

The announcement of Dr. MUSPRATT'S startling discovery was regarded as incredible. Incredulity has now succumbed to the *fait accompli*, and thousands of invalids from all parts of the world are performing pilgrimage to this already renowned shrine of Hygiea, and acknowledging the deep and lasting obligation they are under to the consummate skill and invincible ardor which have thrown open the portals of the Pool of Siloam, while, under Providence, they attribute convalescence or perfect restoration to health to the distinguished Liverpool Professor. Amongst others

who have acknowledged their indebtedness to the marvellous healing and restorative properties of the "Dr. MUSPRATT Chalybeate," we find one in whose health every British-born subject feels a lively interest—Miss Burdett Coutts—a name held in the highest veneration, and which has literally become a household word throughout the length and breadth of these sea-girt islands, and has been wafted across the trackless waters which surround them—is said to have derived benefit from the employment of the Proto-chloride Spring; and the "every inch a soldier," Sir Hope Grant, has candidly admitted his obligation to the same source. Other celebrities have avowed benefits derived; whilst the Press, both medical and lay, emphasize its marvellous curative powers. Means have also been provided for the industrial classes—to whom health is the most invaluable boon, inasmuch as upon its possession, in its fullest integrity, depends *all* they can experience of comfort or happiness—to avail themselves freely of this extraordinary dispensation of an all-wise and ever beneficent Providence. The development of this boon to suffering humanity crowns, with an imperishable halo, all the learned Doctor's previous efforts; and fully establishes his claim to some signal distinction at the hands of those to whom are delegated the allocation of the badges of merit. The discovery of the exceptional combination of elements which give the curative value to the "Dr. MUSPRATT Chalybeate," and constitute it a paragon amongst natural medicinal waters, has already produced its effects upon the popularity of the celebrated resort of invalids and valetudinarians. Thousands, in addition to the usual *habitués*, are already attracted to Harrogate to try the lauded effects of its famous spring. Of these many are denizens of far distant climes. Their reports of its wonderful action are already securing a widely diffused circulation. Not only, then, will the site of its existence obtain a wide-spread repute, but an appreciable pecuniary advantage will accrue—an advantage by no means limited to the *locale* of the spring itself. It becomes, therefore, a matter of self-gratulation to have added another source of national prosperity; and thus is established the country's indebtedness to the renowned discoverer.

Titular honors have recently been rather amply apportioned. It appears, therefore, strange that the discoverer of this sanative adjuvant—*the greatest achievement of modern science*—should have remained so long unrewarded. Hitherto, beyond a trivial local compliment—about to be inaugurated—no guerdon or requital

appears to be forthcoming, either as indemnity or incentive. The commonwealth derive incalculable advantage. For incomparably minor benefits, conferred by citizens, the State has frequently admitted its obligation by the concession of titles. The great benefactor of his race is inexplicably overlooked. It may be justly said of Dr. MUSPRATT that "not for himself, but for the world he lives." How admirably does he, at present, realize Virgil's inimitable sarcasm, "*Sic vos non vobis!** To no section of workers in the busy hive—carrying out one of these similes of the Latin poet—do these lines so pertinently apply as to that of which Dr. MUSPRATT is so illustrious a type. Their mental labors are incessant, and demand the exercise of all the powers of the intellect. Analogical reasoning, capacity, conception, percipience, judgment—all are called into active requisition; whilst for manipulation; patience, skill, perseverance, experiment, discrimination, are equally rendered subservient. What, then, are the distinctions merited by a successful application of these mental and physical faculties? These qualities, appreciated as they ought to be in these advanced times of practical application of science, should be distinguished according to the requirements of the candidate. Where pecuniary circumstances are not equivalent to the maintenance of titular dignity, it would amount simply to a mockery to confer such a token of recognition.

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* "SIC VOS NON VOBIS"—So you do not labor for yourselves.

"*Hoc ego versiculos feci, tutit alter honores:—*

1. *Sic vos non vobis nidificatis aves:*
2. *Sic vos non vobis vellera fertis oves:*
3. *Sic vos non vobis mellifactis apes:*
4. *Sic vos non vobis fertis aratra boves.*"

Id est: I wrote these verses, these versicles; but another had the credit of them:—Thus do ye birds build nests not for yourselves: thus do ye sheep wear fleeces not for yourselves: thus do ye bees make honey not for yourselves: thus do ye oxen bear the yoke not for yourselves.

The application of these lines is to those who have suffered by the profit and honor of their labors having been usurped by others.

Their history is curious and instructive. Virgil, the Latin poet, having written and posted up in a conspicuous place a distich, highly flattering to the Emperor Augustus,

"*Nocte pluit tota, redeunt spectu cula mane,*
Divisum imperium cum Jove Cæsar habet,"

but without discovering himself, a poet named Bathyllus pretended to be the author, and was consequently much noticed and rewarded by the prince. Virgil, not brooking the injustice patiently, wrote under the lines the words "*Sic vos non vobis*" four times. No one having been able to complete the lines, of which they are the beginning, except Virgil himself, the imposture of Bathyllus was detected, and Virgil was recognised as the author of the applauded distich, the poetic usurper becoming, in consequence, the sport and ridicule of Rome.

The more affluent of this order, with the influence which wealth judiciously circulated properly commands, would reflect honor upon the distinction, and stimulate the less fortunate to renewed exertions. In political life it is proverbial that, as a general rule, elevation to the Upper House is equivalent to the subsequent loss of active partizanship; in science experience has verified an opposite result. Metropolitan and provincial magnates receive titular rewards for mere political proclivities, or from fortuitous circumstances accompanying a civic feast; a learned professor aids the State by a discovery of the most vital importance, not through accident, but by long and intense study, his claim to reward is deferred or entirely ignored.

"*Amicus humani generis!*" If ever man, by unintermitting mental toil, sacrifice of ordinary relaxation, exercise of the highest professional attainments—and these acquired by a severe and protracted course of preliminary study—application of inductive reasoning, spontaneous acquiescence of the most distinguished contemporaries, and all their train of beneficial results, could establish, with the Howards, the Frys, the Burdett Coutts's, and the Peabodys, a claim to the title of "Friend to the Human Race," that man is SHERIDAN MUSPRATT, *the Davy of the present age*—THE *Anglo-Celtic Chemist, par excellence.*

Franklin's discovery of the identity of lightning and electricity has unquestionably initiated consequences of immense importance; the recognition of proto-chloride of iron in the Harrogate spring is pregnant with results yet more critical in its power of enlarging the span of human existence. To the Electrician, as an American subject, an English title would have been a meretricious compliment. As an Irishman, the Chemist is justly entitled to a national badge. The *accredited** discoverer of the principle of the safety lamp received a baronetcy; hitherto the *absolute* discoverer of a hydro-therapeutic agent, which is calculated to save thousands of lives, has acquired no national distinction.

Academical honors from the most eminent European and Trans-Atlantic foci of learning have been abundantly awarded for services rendered by him to Technology. A further obligation remains to be discharged for the crowning effort of his mighty inspiration and skill—in the extraordinary addition he has made to the national Materia Medica. We may be permitted to aspirate a hope that prior to, or simultaneously with, the inauguration of

* The question of the *real* discoverer is, and will ever remain, a mystery The claimants were Sir H. Davy and the celebrated George Stephenson.

the bust of Dr. MUSPRATT, from the chisel of the eminent Phidias, Adams-Acton, the long deferred token—and one which his social position and professional standing will grace—may be conferred upon "*Ireland's greatest Chemist.*" We need not pause to speculate upon the gratification with which so graceful a *coup d'etat* would be hailed by our enthusiastic and warm-hearted Celtic fellow subjects.

A propos of the beautiful artistic work about to form one of the chief ornaments of the Spa which the indefectible skill of Dr. MUSPRATT has rendered pre-eminently famous, it is worthy of note that the members of the British Medical Association—on the occasion of a recent gathering at Harrogate—were afforded an excellent opportunity of inspecting it. As they were examining the skilful delineations of the artist, the great original stood within a few feet explaining the composition and virtues of the water of his unique and miracle-working spring. All were struck with the life-like fidelity of the bust, and spontaneously yielded assent to the opinion of the master craftsman—Cruikshank—who has pronounced it "the finest portrait bust he ever saw." As an extremely happy conceit the bust surmounts two volumes of Dr. MUSPRATT'S "Dictionary of Chemistry," thus perpetuating the memory of the most famous book of reference and its author's *chef-d'œuvre*, the spring of world-wide renown. Amongst the two hundred members present there was one sentiment in common, viz. that the likeness was most admirable, every feature being reproduced with the faithfulness of the most delicate tracery of a miniature. On all hands the bust was pronounced a work of art superb.

As a man of polished manners and refined taste, Dr. MUSPRATT has few equals. A cheerful associate, a lover of humor, and an ardent friend, he gathers around his hospitable board many of the celebrities of the day—kindred spirits, distinguished by exalted rank in science and *belles lettres*. When surrounded by these genial spirits, he assumes the demeanor of a man of the world, the suavity and polish of the true Irish gentleman, and becomes the wittiest of the witty. Upon these not unfrequent occasions the *jeux d'esprit* are interspersed with anecdotes which the brothers Percy would have rejoiced to perpetuate, and incidents of travel with which the Doctor's experience has made him perfectly familiar. In the sallies of wit, however, he is most scrupulous not to utter a word which would be calculated to wound the susceptibilities of a friend.

Encountering Dr. MUSPRATT in the lists as a controversialist, an antagonist had needs be endowed with a high chivalrous spirit, have an unimpeachable cause, and be accoutred with well approved weapons. The most remarkable instance of the Doctor's prowess in this capacity occurred in 1863, when there appeared in the columns of "*Blackwood*" an article reflecting upon the character of the late Sheridan Knowles—his friend, patron, and godfather. With Dr. MUSPRATT the sacred name of friend bears no uncertain sound; it is no unmeaning symbol; it represents no idealism. An opportunity was thus presented for him to render homage to his early traditions by doing justice to the revered memory of his friend, and it was one he could not allow to escape unimproved. A highly polished and discriminative critic, he could fully appreciate the writings and genius of the great dramatist; whilst a thorough acquaintance with his personal character, based upon long and intimate associations, aided the earnest and academic vindicator in obtaining a signal triumph over his rash and comparatively inexperienced opponent. So absolute and crushing was the victory that, in the plenitude of his power, but in the exercise of a partial judgment, the editor of "*Blackwood*" declined to give insertion to the philippic. The rejected of the northern Journal, however, was "accepted with thanks" by the southern "*Era*,"* and elicited from the late Stirling Coyne the following comments: "I had some difficulty in getting the October number of '*Blackwood*,' wishing to see the chapter *in extenso* before perusing the reply. A more untruthful, unwarranted, and apparently malicious attack I never read. I have shown both to a valued and talented dramatic friend, and he agrees with me in endorsing every word of your dignified but very temperate reply. The critique, if it may be so named, is evidently written by a young man, and rather a daring experiment to promulgate his jejune remarks in face of the opinions of such men as Hazlitt, Charles Lamb, Bulwer Lytton, Talfourd, &c.; and it is remarkable that '*Blackwood*' would open its pages to admit such an attempt to tarnish the character of Ireland's Shakspeare—a man so excellent and so highly gifted. I should like to say much more, but shall conclude with expressing the pleasure I felt that the impertinent article had been so *ably and irrefragibly answered.*"

As a correspondent the Doctor is as perspicuous and instructive as his *handwriting is execrable and difficult to decypher.* It verifies the celebrated wit's description of his own. "My writing," says

* *The Era*, November 8, 1863.

Sydney Smith, "is as if a swarm of ants, escaping from an ink-bottle, had walked over a sheet of paper without wiping their legs."

But great men are permitted vagaries; and these, most generally, culminate in moribund caligraphy.

To a mind peculiarly scientific—one wedded, as he has become, to the counterpart of his existence—nature has added the more valued properties of an estimable disposition. He is truly affectionate and indulgent to his family; and to all who are brought in contact with him, in the various relations of life, friendly and considerate. His untiring efforts to advance the progress of his pupils, towards whom his manners are uniformly tolerant and urbane, produce a lasting regret when the term of their pupilage expires.

As an evidence of his good taste it should be mentioned that Dr. MUSPRATT is an enthusiast in the matter of collecting personal photographs, many of these being highly valued mementos of friends separated in pursuit of ordinary engagements; and of some, alas! who have obeyed the inevitable summons to that "bourne" whence "no traveller returns." His album contains several hundred portraits of personal friends, all autographed and endorsed; statesmen, scientific and literary characters, and artists of note; and is pronounced the most complete and valuable repertory of the kind extant. He possesses, also, a multitude of autographs, comprising letters from the leading men throughout the world, an ingathering perfectly unique in its way. Amongst the contributors to this valuable store was the late Lord Brougham, whose friendship the Doctor reckons as one of the most prizable reminiscences of his life. The inscription, &c. are entered in a copy of the noble lord's speeches, presented by himself. The Right Hon. John Bright has also presented his speeches, handsomely bound, to Dr. MUSPRATT. Lord Dufferin, the gifted Chancellor of the Duchy of Lancaster, has recently evinced his appreciation of the Professor's superior attainments and high character, by exchanging *cartes de visite* with him, a compliment highly valued by the Doctor.

In preferring the claim of Dr. MUSPRATT to some early acknowledgment of his talents and service to the State, it may be cited that "no communication or gift can exhaust genius." Men in general undertake enterprizes of labor and expense with the speculative idea of augmenting wealth. This, as we have seen, is not the disposing cause with the Liverpool Professor. With

him the more spiritual influences are the motive power, viz., the gratification of his own inherent taste, the advancement of science, and a laudable ambition to acquire an imperishable name,

"The spur which the dull soul doth raise
To spurn delights and live laborious days."

or, in other words, "fame, that last infirmity of noble minds."

Thus far his efforts have been attended with unqualified success. The sincere prayer of his friends and admirers is, that he may be long spared to add fresh laurels to those so honorably gathered. In the course of this autumn an additional leaf will be added to the chaplet by the inauguration of the bust just completed.

One word of apology—if such may be considered requisite—for the appearance of this *brochure*. "Applause is the spur of noble minds." It is salutary to know beforehand the world's opinion of one's own labors, to see the flowers of one's own culture, to forestall the sentiments of posterity. Biographies are usually those of the defunct. The exceptions to the rule are of those who have conferred upon society some very notable social or political benefit; or who, like Dr. MUSPRATT, are pre-eminently distinguished by gigantic and successful efforts in furthering the progress of science, literature, and the fine arts. In such cases, so far from a record in the lifetime being inconsistent or premature, it is simply a grateful recognition of genius, a contemporaneous homage to merit, which upon a generous mind acts as an incentive to continued perseverance in a course which has met with the avowed approbation of coetanians, a forecast of posthumous commendations. The discovery of the Chloride of Iron Spring has already rendered Dr. MUSPRATT a great public benefactor, and in itself is amply sufficient to justify the anticipation of those encomiums which removal from the theatre of his active and beneficial exertions would abundantly testify.

2, CROWN COURT,
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