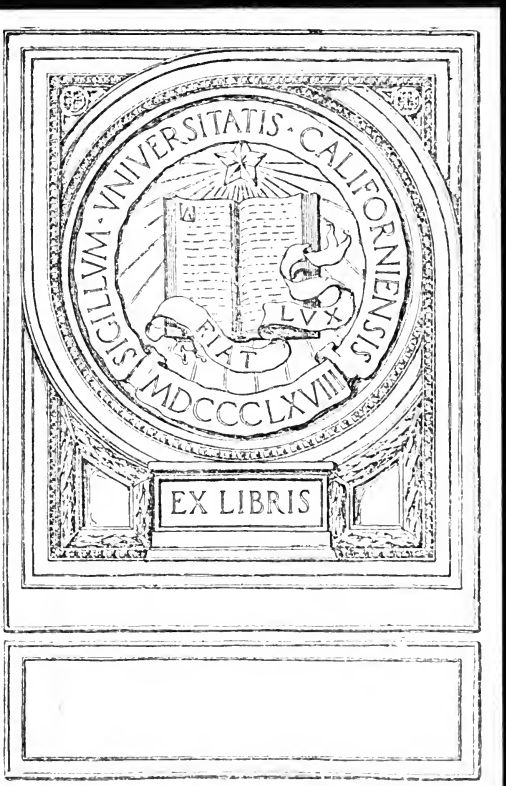
GEORGE BIRKBECK

THE PIONEER OF POPULAR EDUCATION

J. G. GODARD.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GEORGE BIRKBECK.

George Birkbeck M.D

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GEORGE BIRKBECK,

THE PIONEER
OF
POPULAR EDUCATION.

A Memoir and a Review.

BY

JOHN GEORGE GODARD.

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PREFACE.

ALTHOUGH the popular education movement is one of the most important outgrowths of a most progressive era, probably little is known at the present time concerning him who was its pioneer.

No biographer has, I believe, narrated the career of the founder of Mechanics' Institutions. Repeated reference to his work is made in the publications of his own time; encyclopædias accord him an honoured place amongst the names of Britain's worthies; essayists on education bestow upon him their meed of praise; but a volume devoted to him alone does not appear to have been ever written: by the modern world he is appreciated to a very limited degree—a new generation has arisen which knows him not.

And yet merit and materials for a biography are not wanting, and many who have found a Boswell to chronicle their thoughts and deeds accomplished less than did George Birkbeck. In earliest manhood, in advancing years, the education of the hitherto neglected classes was

made his earnest and anxious care; and the noble title he has justly earned is that of the people's friend. To his bright conception and assiduous labours—much more even than to the philanthropic exertions of Andrew Bell and Joseph Lancaster, the promoters of National Schools—can without doubt be largely traced the stupendous change the present century has witnessed in the mental condition of the toiling multitude.

In truth, the movement which Dr. Birkbeck inaugurated has spread so rapidly and far, and has evoked the co-operation of so many able and gifted workers, at the time already known to fame, that there is a possibility of his being obscured by the very light he diffused throughout the land—a danger that his national services should be forgotten, and the honours due to him awarded to others. His name moreover has become associated with various enterprises of a commercial character, organised after his death; and in these his special mission has to a large extent been merged in the public mind. A combination of circumstances has, in the absence of any chronicle of his life, save such fragmentary sketches as have appeared in years gone by, caused the interest in him to gradually diminish until it is chiefly local.

To show then that George Birkbeck is worthy

of a more extended fame, to exhibit him as a benefactor to his country and the world, and to indicate when and under what circumstances knowledge was first offered to the working classes, and the manner in which its influence has spread, is the object of the present memoir.

Twelve years' participation in the benefits of the Birkbeck Literary and Scientific Institution —the most important organisation of its kind— has afforded me opportunities for acquiring some amount of practical knowledge of the subject. For the main facts of the narrative, the principal authorities are alluded to in the text. To obtain, however, the requisite information it has been necessary to peruse or consult about three hundred volumes, many of them by this time musty and decayed; and to have appended references, therefore, to every statement made would have been more embarrassing than serviceable. Upon some points research has failed, at this distance of time, to throw any light whatever; but these, fortunately, are not very material.

For some of the details of Dr. Birkbeck's private life and incidents in the career of the Institution after his death, I am indebted to his son and successor in the presidentship, Mr. W. Lloyd Birkbeck, M.A., who has kindly perused

the memoir in manuscript and proof, and favoured me with suggestions on numerous points. Mr. George M. Norris, the present indefatigable manager, has also been good enough to supply me with statistical information concerning the period of his tenure of office, and to render aid in other ways. Many of the interesting historical and other facts relating to the Doctor's birthplace have been communicated by Mr. Thomas Brayshaw of Settle, and the portrait is from a mezzotint belonging to that gentleman. His services, most courteously rendered, as also the very valuable assistance of my friends, Mr. Sidney Webb and Mr. J. Seymour Bartlett, I gladly take the present opportunity of acknowledging.

I venture to add that, whatever be the defects of the work, it will at least be found to contain many interesting and important particulars, not at present generally known, concerning a remarkable man and a remarkable movement; and the hope therefore may be expressed that it will serve to awaken or resuscitate an interest in him who is at once its subject and inspirer.

J. G. G.

BRIXTON,
January, 1884.

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CHAPTER I.

ANCESTRY, BIRTH, AND EARLY LIFE.

1776—1799.

IN the West Riding of Yorkshire, near the border of the county, and prominent amongst the districts of the celebrated deanery of Craven, stands the picturesque market-town and chapelry of SETTLE—the birthplace of George Birkbeck.

It is a pleasant spot in the peaceful valley of the Ribble, and the surroundings and associations are of a romantic character. The river, which rises twelve miles away to the north, flows by the side of the town, and separates it from the township of Giggleswick, in the parish of which name Settle itself is embraced. Immediately behind, to the height of some three

hundred feet, towers a limestone precipice known as Castleberg, the pinnacle of which, according to a local legend, once served as the gnomon of a gigantic sun-dial, indicating the time to the world below by its shadow on some rocks which had been placed at intervals by the ingenious native horologists. The summit is reached by means of a winding path, and commands an extensive and striking view. Across the river, skirting the main road for upwards of a mile, stretches a noble range of escarpments known as Giggleswick Scars, which are in places decked with ivy, and from the clefts of which grows the indigenous yew. At their base, close to the road and a short distance from the town, is a far-famed well, long ago described by Drayton in verse as "sometime a nymph," its peculiarity being that it ebbs and flows many times a day in a capricious and uncertain manner, so that Whitaker has alluded to it in his History of Craven as a spring of extremely irregular habits. Two miles to the east are the rugged and imposing Attemire rocks; the mountain scenery generally is very fine; and from Rye-loaf, 1794 feet high, an extensive tract of

country is seen and a birds-eye view of the town obtained. There are some very pretty cascades in the neighbourhood, and the river itself has several picturesque falls, notably one known as Stainforth Force. Moreover the district, abounding as it does in limestone rocks and caves, possesses peculiar attractions for the antiquary and geologist. The well known Victoria Cave, in particular, has yielded some important pre-historic specimens, including bones of the primogenial elephant and bear, the hyena, rhinoceros, bison, stag, goat, badger, horse, fox, and dog, and also Romano-Celtic ornaments, coins and pottery.

Settle is a quaint and venerable little town, with a history extending back to a period prior to the Conquest. Its name is traced back to the Saxon word Setl, a seat or station (of a tribe). The place was probably in the successive occupation of the Britons and Romans; but the oldest written reference to it is contained in Domesday Book. It has had several market-charters, the first having been granted by Henry III. in 1249, with the name of Simon de Montfort appearing as witness. Many indications of age are visible in the

town, and some houses more than two hundred years old yet remain standing. Associations with antiquity have also been preserved in the numerous important modern edifices, which are in the early English and Elizabethan styles.

The opening a few years ago, by the Midland Railway, of the new line to Scotland viâ Settle has brought the town into general notice of late; but it has long ranked as a comparatively wealthy and important place, although exhibiting little growth in the matter of population and numbering at the present time only about two thousand persons. It has for many years been associated with trade and manufacture, leather and hides being formerly its staple commodities. These, however, have now long been superseded by the cotton industry, and there are at the present time several large factories at work, as also a tannery and a paper-mill. The town can boast of having established, as long ago as 1770, what was probably the first circulating library in the provinces, and of possessing as the result a very fine collection of first editions; whilst its twin township of Giggleswick is widely celebrated for its Grammar School,

which was founded as far back as 1512, and endowed by Edward VI. forty years later. And, finally, it can lay claim to having nurtured at least three remarkable men. Thomas Proctor, the sculptor, was one of its offspring; Archdeacon Paley received his education at the Grammar School; and its interest for us centres in the fact that it was the native place of the founder of Mechanics' Institutions.

The Birkbecks are an old established family of distinction. They derive their name from the little river Birkbeck (*i.e. birch-stream*), an affluent of the Lune, rising in the mountains of Westmoreland, from which the "Birkbeck Fells," in the same district, also receive their designation.

The first known occurrence of the name is in 1318, when William de Birkbeck received from the Parliament of Edward II. a pardon for treasons and felonies committed before a certain date, he being an adherent of Thomas, Earl of Lancaster. In 1515 arms were granted to Thomas Birkbeck of Carlisle, for his defence of that city against the Scotch; and are described, in heraldic language, as "Argent, a fess chequey Or and Sable, between three lions' heads, erased

Gules." Some forty years later, Hornby Hall in the parish of Brougham, was granted to Edward Birkbeck by the Earl of Cumberland, and long remained the family-seat. The following century the name again becomes prominent in connection with Simon Birkbeck, an eminent divine, who wrote an able treatise in defence of Protestantism. About the year 1700 William Birkbeck, the ancestor of George, migrated to Settle and became a convert to the doctrines of George Fox; for which change of religious opinions he is said to have been disinherited. He opened a general shop, and developed an extensive trade as a wool-stapler, extending his transactions to the receipt of money on deposit, the making of loans, and the sale of bills upon London. In this way was gradually established the banking business which is still carried on by members of the family, in conjunction with other gentlemen, under the present style of The Craven Bank. Only recently the Society for Psychical Research have published a curious detailed narrative of an alleged supernatural appearance, in 1739, of Mrs. William Birkbeck to her young children in Settle, she having been taken ill when returning from Scotland, and being then

on her death-bed at Cockermouth. In 1745 a member of the family was instrumental in procuring the arrest for high treason of Dr. John Burton, the Jacobite, by whom in acknowledgment of this service he was subsequently characterized as a Quaker abounding "more with the evil spirit and malice than meekness and truth." Other members of the family, living in 1760, are incidentally referred to in the biography of Dr. Lettsom (a celebrated physician and writer, who was intimate with them in his younger days); and it is remarked concerning them that they had from a state of comparative indigence risen to great opulence, but had never abused or disgraced their riches by pride, extravagance, or want of charity. Early in the present century one of their descendants, Morris Birkbeck, emigrated to America, and purchased sixteen thousand acres of land in Illinois, where he founded the town of New Albion, and became known as the Emperor of the Prairies. He published three volumes of travels, and opposed the introduction of slavery into his adopted home when the State was organized in 1818; and an eminent career was untimely terminated by his

death in 1825 from drowning, as he was swimming his horse across the Wabash on returning from a visit to Robert Owen. A later descendant, Mr. John Birkbeck, has distinguished himself by his daring explorations of the caves and chasms of the Craven district, especially of Helln Pot, a terrible abyss, as may be gathered from its designation; and there is also, named after him, a Birkbeck Gallery in the Victoria Cave. The family is at the present time represented at Settle by this gentleman, who is one of the principal landowners, and by his son (equally well known as an intrepid Alpine adventurer), both of whom are justices of the peace. The Rev. William Birkbeck (George Birkbeck's great-nephew) is the owner of land at Stackhouse, a pretty little adjacent village, and until recently also owned the family house in Settle, now the Ashfield Hotel. Mr. Edward Birkbeck, M.P. for East Norfolk, and the leading promoter of the International Fisheries Exhibition of 1883, is a descendant from the same stock.

GEORGE BIRKBECK was born on the 10th January, 1776. His father was William Birkbeck

of Settle, eminent as a banker and merchant, and his mother the daughter of Mr. George Braithwaite of Kendal. There were five children of their marriage, four boys (two of whom died in infancy) and one girl. The parents were highly respected in the town, where the social position and moral qualities of the banker secured him considerable influence; and they gave to their offspring a high-class education, and early instilled into their minds the unostentatious religious principles of the Society of Friends. They appear, however, to have had no other characteristics calling for note; and, as we shall hereafter see, it was not for the possession of rare intellectual power, gifted and erudite though he was, that George Birkbeck has rendered his name illustrious. Of the two surviving sons he was the younger. His brother William succeeded to an interest in the banking business, became a magistrate, and took a large share in the management of the Leeds and Liverpool Canal, and also an active part on the Whig side in the county elections. He greatly befriended the poor, assisted in the extension of education; and was widely lamented at his death which occurred in 1838.

Like many others destined to eminence, young Birkbeck displayed signs of genius at an early age, evincing a decided partiality for mechanical and scientific pursuits. In childhood he was fond of visiting the different workshops and attempting to use the craftsmen's tools. He especially exhibited great interest in a large cotton-mill, which was worked by the waters of the Ribble without disfiguring the beautiful river; and with precocious intelligence he endeavoured to follow the complicated machinery and to understand the manufacturing processes. Undoubtedly the scenes amidst which his early years were passed gave a bent to his character. He was too young when he left Settle for them to exercise a paramount influence, but it may not be regarded as altogether fanciful to trace in part to the busy manufactories and solemnizing natural surroundings of his early home, that taste for practical science and that calmness and modesty of demeanour which were conspicuous throughout his later career.

At the age of eight he formally commenced to study, being sent to school at Newton in Lancashire, where in addition to the usual ele-

mentary knowledge he acquired the rudiments of Greek and Latin. He remained here until he was fourteen, when he became the pupil of Mr. Dawson of Sedbergh, who, although originally only a shepherd, had by perseverance made a high reputation as a mathematician. With this gentleman he applied himself to the study of the "Principia" of Newton; and at the same time under the guidance of Mr. Foster, of Hebblethwaite Hall, a scholastic relative with whom he resided, set to work to acquire a thorough mastery of the classics.

In these subjects he made such rapid progress that it was soon necessary to decide for what profession he should be trained. He had no taste for commercial pursuits, and often expressed his want of sympathy with those who made their object in life to amass a large fortune. After consultation with able friends, he elected to study medicine, and was placed in the first instance with Dr. Garnett, who had also been a pupil of Mr. Dawson. To his new labours he devoted himself with the ardour and assiduity he had already shown; and this early application was soon to be recompensed.

After remaining some time with Dr. Garnett,

he continued his pharmaceutical studies under the direction of Mr. Logan of Leeds. He also became an expert in stenography, an accomplishment far more difficult of attainment in those days than at the present time, when the art has been brought to a high state of perfection and simplicity. At eighteen he removed to Edinburgh, where he joined the Royal Medical Society and studied for a year. He then went to London and became the pupil of Dr. Baillie, practising dissection with a view to increase his knowledge of anatomy, and also attending lectures by Dr. Fordyce on physic, and Dr. Pearson on chemistry.

In 1796 he returned to Edinburgh and laid the foundation of future fame. He became a student at the University, then at the height of its reputation, and attended and took down in shorthand the lectures of Dugald Stewart and other celebrated professors. Possibly it was from the Edinburgh rhetoricians that he derived his taste for the well-rounded periods which distinguished his speeches. He joined the Society of Natural History, and was honoured by filling the chairs both of that and of the Medical Society. Natural philosophy, his favourite sub-

ject, then engaged his attention, and becoming clinical clerk to Dr. Rutherford, a distinguished professor, opportunities were afforded him of adding to his scientific knowledge.

Laurels were in store for him thus early in life. The Medical Society called him for the second time to the presidential seat, although it was an unusual event for the same individual to be appointed twice; and he graduated as Doctor of Medicine at the termination of his fourth session in 1799, his inaugural dissertation being "*Tentamen physiologico-chemicum de sanguine.*"

He formed friendships too, in addition to those of his medical tutors and friends, whilst at the modern Athens, honourable helpful and enduring; friendships which give us a view of his character and exhibit to us the tastes he had acquired. Professor Bain, in his life of the elder Mill, states that he doubts if there were ever at one time gathered together at one spot such a host of young men of ability as were at Edinburgh College in the last ten years of the last century; and it is a satisfaction to be able to add the name of George Birkbeck to the brilliant list which the professor gives. "Tell me," says

an old proverb, "the company you keep, and I will tell you what you are." The associates our youthful student chose were men who have made their mark in the world; men distinguished for noble qualities and justly famed for intellectual power. To mention only a few names; here he enjoyed the society of (the future Sir) Walter Scott; here he made his first acquaintance with the gifted and indefatigable Francis Jeffrey; here he was charmed by the conversation of the vivacious and witty Sydney Smith; here he commenced a life-long friendship with his great co-worker, Henry Brougham.

But his stay at Edinburgh was comparatively short. After completing his studies and receiving his rewards, he found an active and an honourable post, and in the less attractive Glasgow city made his *début* into public life. And by a curious coincidence, he who was soon to prove a practical philanthropist was bidden to an Institution the very existence of which was due to philanthrophy. One indeed could almost fancy that he was led by a directing hand to that congenial sphere of labour, where all the surroundings seemed in harmony with the spirit by which he was moved.

Mr. John Anderson, professor of physics, who had died but a few years prior to this, had bequeathed his museum of philosophical apparatus, books and other property, to establish an Institution for the scientific instruction of both sexes ; and it was to the Institution which had been thus founded that Dr. Birkbeck was appointed professor when at the age of twenty-three. By the will of the founder, the new organisation was to be denominated ANDERSON'S UNIVERSITY, to be managed by eighty-one trustees, and to comprehend four colleges, namely, of arts, medicine, law and theology ; the general object being "the good of mankind and the improvement of science." The Institution—for the title of University was not accorded to it until many years afterwards—was incorporated and formed into a body-politic by charter ; and Dr. Garnett was elected professor of natural philosophy. He relinquished the post a few years afterwards on obtaining a similar appointment at the Royal Institution in London (which he only lived to hold for two years) ; and then it was that, through his assistance, coupled with that of the many friends whom Birkbeck had made

during his stay at Edinburgh, the latter was appointed to the vacant post.

The result justified the choice, and influence had not been used to promote the unworthy. Young as he was, he proved thoroughly qualified for the post; his lectures on natural and experimental philosophy and chemistry were described as admirable, and his career at Glasgow was bright and exemplary.

CHAPTER II.

EARLY EDUCATIONAL LABOURS.

1799—1823.

IT is now that we first see the Doctor as the friend and instructor of the working classes —a good genius they had seldom met with before, and of whom they sorely stood in need.

Probably few persons living in the present day have attempted to realize the condition of the masses up to a period of our history as comparatively recent as the commencement of the present century. Education is now, literally and truly, placed within the reach of all. Schools for the formation of the young mind have been scattered throughout the country; colleges for the training of youth are to be met with in every town; institutions for the enlightenment of the operatives have been established in all the industrial centres; scholarships for the advancement of the gifted have been generously and freely granted. Public men have devoted their time, talents and money to the move-

ment ; Government has substantially encouraged the work ; professors have practically assisted with their brains. Rich rewards have been offered as incentives to study ; legislators have discussed the subject and sent their fiat forth ; universities have opened wide their doors. There is to-day none in the realm who need be excluded from the blessings which knowledge has to bestow ; and few who may not, if they will, claim her greatest and most precious treasures.

But all this has been the outcome of the last eighty years. Not until the dawn of the nineteenth century was the fact discovered, or first recognized, that the working man had an average share of mental capacity ; and that opportunities for its development being given, his intellectual status might be greatly raised. Peculiarly bright stars had undoubtedly arisen from time to time, and dazzled even the entire world ; but within their own immediate orbit myriads had continued to exist secluded from every ray of light.

The advantages of learning, in truth, were during long ages confined to the comparatively few and favoured. Precise information

upon the subject it is impossible to obtain, for statistical science was almost unknown. But we have sufficient data from which to arrive at approximately accurate conclusions. With the exception of some slight provision for poor students by means of endowments, the only instruction available to the bulk of the people were the Sunday-schools, established by Robert Raikes of honoured memory, the scope of which was necessarily very limited; and the parochial charity-schools, which were of the most inferior character. Not only academic and university instruction, but also elementary tuition, were luxuries in which few but the wealthy could indulge. Two-thirds of the population grew up without even a rudimentary education, and could not write their own names. Reading, for the majority, would have been little short of a superfluous acquirement, for books were beyond the reach of their purse. A heavy paper duty, imposed in 1711, went a long way to counteract the benefits conferred by printing; and a tax on newspapers of fourpence per copy effectually prevented them obtaining a wide circulation. Of science, as a matter of course, the humbler classes were totally ignorant; and the

arts which they pursued as a means of livelihood were practised in a manner that reduced the workman almost to an automaton; whilst impolitic and vicious laws forbade him to leave the country or enter into trade combinations.

In brief, to the "vulgar herd" the vineyard of knowledge was as far removed as the distant shores of some oriental land. And natural obstacles were not sufficient: jealous guards kept rigid watch lest any but the superior caste should enter, and unfriendly hands threw impediments in the way when any lowly traveller passed. Thus, those only who possessed competence, time, perseverance and courage, could ever hope to reach the goal and enjoy the pure and luscious fruit.

Such then was the condition of things when Dr. Birkbeck appeared upon the scene as professor of natural philosophy at the Andersonian Institution.

The lectures he was in the habit of delivering required to be illustrated by means of apparatus. But there was at this time in the whole of the large city only one maker of the necessary instruments—and he apparently was not reliable—

a fact which exemplifies how little had been done towards the general diffusion of science. Ordinary workmen had therefore to be employed, superintended by the lecturer himself. And out of this apparently untoward circumstance arose the scheme which he afterwards developed for the intellectual emancipation of the mechanics of the town. Adverse conditions have in the end frequently proved highly beneficial; and to-day we may be thankful that in the Glasgow city of 1800 science took up her abode at a tinman's shop. For the spark that flew from the workman's anvil kindled a flame of knowledge for the workman himself, which has been burning brightly from that day forth; and to it can be traced, directly or indirectly, the educational benefits which multitudes enjoy.

The professor entered the mechanics' shop, and became at once their foreman and friend. He visited, we are told, "the smith at his forge, the glass-blower at his furnace, the carpenter at his bench, and the turner at his wheel; and by describing to each what he wanted done, and how it was to be done, enabled them to construct for him many a

curious and delicate piece of mechanism, of the principle and purpose of which they knew little or nothing." In particular, it appears that he required a model to be made of a centrifugal pump, the construction of which created amongst the workmen an interest bordering upon excitement. They listened to his instructions, they plied him with questions, they followed his actions and almost devoured his words; until his heart was touched at the thirst for information evinced by these untutored sons of toil, and he determined to minister to their craving intellects and enlarge the scope of the Institution.

He procured admission for the more intelligent of the men to the lectures he was delivering, and was amply repaid by the satisfaction and gratitude they showed. Naturally, however, but few could be accommodated where an audience was already secured, and great disappointment was expressed by those who were not privileged to obtain admission. This led to a decision to attempt greater things; and after due reflection the Doctor resolved to devote a portion of his time entirely to the mechanics, by delivering a course of lectures for their exclusive

benefit. Professor Anderson had himself to some extent endeavoured to popularize education by establishing an "antitoga" or "gownless class," but it was chiefly patronised by manufacturers and higher-class operatives; and although some free tickets were distributed, the fact that one guinea was the stated charge, and that the class met at an hour inconvenient to the majority of men employed during the day, prevented him reaching the bulk of those whom Dr. Birkbeck desired to instruct.

The new plan was submitted to the trustees of the Institution, and as might have been expected it experienced at their hands opposition and condemnation. They smiled paternally at the advocate's eagerness, looked upon him as a youthful enthusiast, and pronounced his scheme visionary and absurd. "If invited, the mechanics would not come; if they came, they would not listen; if they listened, they would not comprehend." Thus spake the "wise in their generation," and speaking vetoed the beneficial project.

But though repulsed for the time the young man was not defeated. He returned to the charge, and rested not until he succeeded in

carrying his point, the trustees apparently even formally thanking him for his "liberal offer."

During his vacation, spent at his Yorkshire home, the professor prepared his prospectus for the next session, and in it the new design received careful and prominent attention.

"I shall deliver," he says, "a series of lectures upon the mechanical properties of solid and fluid bodies, abounding with experiments and conducted with the greatest simplicity of expression and familiarity of illustration, solely for persons engaged in the practical exercise of the mechanic arts; men whose situation in early life has precluded the possibility of acquiring even the smallest portion of scientific knowledge, and whose subsequent pursuits, not always affording more than is necessary for their own support and that of their dependent connections, have not enabled them to *purchase* that information which curiosity, too active for penury wholly to repress, or the prevailing bias of their natural genius, might prompt them to obtain. I am by no means sanguine in my expectation that by a course of instruction such as I have now proposed, one artist will be directed to the discovery of anything which is essential or important in his particular department, how much soever it may be connected in principle with the subject to be discussed. I am too well aware that the best contrivances in every branch of the mechanic arts have resulted, and must still continue to result, from the observation of practical defects, and from the gradual application of

suitable means, dictated by practical maxims, to obviate or remove them. But whilst my slight acquaintance with the subject has afforded this information, I have become convinced that much pleasure would be communicated to the mechanic in the exercise of his art, and that the mental vacancy which follows a cessation from bodily toil would often be agreeably occupied by a few systematic philosophical ideas, upon which at his leisure he might meditate. It must be acknowledged, too, that greater satisfaction in the execution of machinery must be experienced when the uses to which it may be applied and the principles upon which it operates are well understood, than where the manual part alone is known, the artist remaining entirely ignorant of everything besides; indeed I have lately had frequent opportunities of observing with how much additional alacrity a piece of work has been undertaken when the circumstances were such as I have now stated.

"Perhaps to some it may appear that the advantages derivable from these lectures will be inconsiderable, or even that they will be disadvantageous, on account of the extent of the subjects they embrace, and because those to whom they are addressed do not possess the means or enjoy the opportunities calculated for engrafting upon the elementary truths they learn the extensive researches of the illustrious philosophers by whom the boundaries of science have been enlarged. Whatever the arrogance of learning may have advanced in condemnation of superficial knowledge, and however firmly I may be persuaded that the people cannot be profound, I have no hesitation in predicting that vast benefit will accrue to the community by every

successful endeavour to diffuse the substance of great works which cannot be perused by the people at large, thereby making them reach the shop and the hamlet and converting them from unproductive splendour to useful though unobserved activity."

The prospectus was distributed in the chief manufactories, and invitations given to attend the lectures; the Doctor affording further proof of his earnestness and generosity by himself composing and printing with a simple press the tickets of admission. The invitations were eagerly accepted, and in the autumn of 1800 was inaugurated, with an attendance of seventy-five members, what for long after was a notable feature of the Andersonian Institution, namely, THE MECHANICS' CLASS.

Saturday evening was wisely chosen for the lectures, and the first gave such great satisfaction that its fame soon spread. On the succeeding week there was an audience of two hundred workmen; on the third the numbers had swelled to three; and exactly one month after he commenced his course, Dr. Birkbeck was listened to with rapt attention by five hundred working mechanics! Ay, and even now the demand was greater than the supply. The accommodation of the lecture-hall was taxed to its utmost; and

many applicants had still to be refused. Week after week the lectures proceeded; the men were there eager and attentive; letters were received evidencing their intelligent appreciation; and the most sanguine expectations were realized. So highly indeed did they esteem their privilege, that their gratitude assumed a practical form, and at the close of the term they presented their benefactor with a handsome silver snuff-box.

It will be noticed that the information the lecturer imparted was of a character specially suitable to his audience. He wisely thought that to instruct the mechanics in the sciences that pertained to the occupations in which they were engaged would be the best mode of conveying benefit; and that the knowledge which they thus acquired would become to them of real utility. The workman would cease to be a mere machine, toiling on from day to day, accomplishing he knew not what. Now he would understand the laws on which his operations were based; now he would comprehend the reasons for the results he saw attained. And by these means would he perfect himself in his calling,

become qualified for higher branches, and reap advantages in many ways.

Further, the teacher judiciously sought to reach his end by the surest and most direct road. What would have been to his humble pupils merely grandiloquent language and bewildering terms he unhesitatingly cast aside. The truths of science were proclaimed, as far as possible, in unscientific phraseology. He aimed, not at dazzling his hearers by brilliant speeches which they could not understand, but at explaining to them in homely Saxon facts which they could be made to grasp.

This, of course, added to his work; for it is more difficult in many cases to be simple than profound. To discard at once the terms of the laboratory and the familiar diction of the schools is not accomplished without an effort; whilst with fervid youth, rich in imagination and panting to be eloquent, the inclination is often wanting. That the young lecturer, however, succeeded in this is shown by the satisfactory results of his labours, a success far beyond his own expectations, and the more remarkable when it is borne in mind that his audience was not possessed even of that elementary general

knowledge which is lacking in few science students of the present day. His tact and ability in this direction are not unworthy, therefore, of passing notice.

Similar satisfactory results attended the lectures which were delivered during the succeeding sessions. A sense of honest independence led the mechanics to subscribe a shilling each to meet the incidental expenses. This they subsequently increased to half-a-crown; and twenty pounds of the amount thus raised was paid to the operator who assisted, and the remainder given to the Institution. Later on, the trustees—ready, now the movement prospered, to co-operate in and benefit from it—resolved that five shillings should be the charge, but as it seemed probable this would prove too great a tax upon the humble members, the lecturer strongly resisted the attempt, and again prevailed over those in office.

His vacation of 1802 the Doctor partly spent abroad, availing himself of the brief suspension of hostilities following the conclusion of the Peace of Amiens to visit France. He spent some time in Paris, where he saw Napoleon (already

at the age of thirty-three holding the destiny of nations in his hands) surrounded by his generals; and viewed with much interest the public works which were being carried out by the great civil, not less than military, commander.

A sad bereavement now awaited the mechanics. After three years' service in the Andersonian Institution, the professor decided to relinquish his post and remove to another sphere of action.

He quitted Glasgow in 1804, and after delivering courses of lectures on science in Birmingham, Liverpool and Hull, which acquired for him some fame and many additional valuable acquaintances, he finally settled in London, establishing himself first in Finsbury Square and subsequently in Cateaton Street, as a physician. In May 1805 he married Catherine, the youngest daughter of Mr. Sampson Lloyd of "The Farm," near Birmingham, described as an intelligent and accomplished young lady. But his domestic happiness was of short duration. The birth of a son in March 1807 robbed him of his wife, to whom he was deeply attached, and he remained a widower more than ten years.

Active occupation is the best anodyne for

grief; and he endeavoured by an increased devotion to medicine, his first love, to assuage the sharp pang of bereavement. He made steady progress in his profession, and established a sound reputation and a large practice. Soon after his arrival in London, he became one of the presidents of the Physical Society of Guy's Hospital, a post to which he was annually re-elected. In 1808 he was admitted licentiate of the College of Physicians; and shortly afterwards was appointed physician to the General Dispensary in Aldersgate Street, the earliest institution of the kind in London, and one with which he remained identified throughout the greater part of the remainder of his life. He joined the Medical and Chirurgical Society, formed about the same time, and was elected on the council in 1808, and one of the vice-presidents in 1818. The Chemical Society appointed him their president; and on the formation of the Meteorological Society in 1823, he was called by its members to a similar exalted position. The list of his connections with the learned bodies was completed by his joining the Astronomical and Geological Societies.

In July 1817 he married again, his wife being

Anna Margaret, the youngest daughter of Mr. Henry Gardner of Liverpool, an amiable lady whom he predeceased, and by whom he had three sons (one of whom died in infancy) and two daughters.

About the year 1819 he removed to Old Broad Street, where he resided for nearly twenty years. The locality, now abandoned to the mysteries of *la haute finance*, was then associated with the names of many of the advanced thinkers of the time. Close to the Doctor's house, Mrs. Grote was giving those dinners at "Threddle," as she playfully called the bank in Threadneedle-street, at which the economists and radical leaders used to gather. Ricardo and Joseph Hume were frequent visitors, as was also James Mill, who had then entered upon his duties at the India House; whilst the still greater genius of his son found philosophical training within the same walls. To the small but brilliant assembly of young men which about this time began to meet every morning at Grote's house, can be traced the origin of much of the political economy, logic and metaphysics current at the present time. With Grote himself Dr. Birkbeck formed a lasting friendship.

Meanwhile the Doctor's interest in the working classes, and his desire to extend to them the benefits of scientific knowledge, had not in any degree abated; but his large medical practice and professional engagements left little scope for other employment, and this portion of our chronicle therefore can be very brief. He was active, nevertheless, in the cause of education, and was one of the original projectors of the LONDON INSTITUTION established in 1809 in King's Arms Yard, and afterwards in Moorfields, (now Finsbury Circus), for the diffusion of science, literature and the arts. In 1820 he delivered at the Institution an honorary course of fifteen lectures on natural and experimental philosophy to large and enthusiastic audiences, and in the spring of 1823 seven lectures on the atmosphere and its modifications.

The prominence acquired by the achievements of his later life have somewhat obscured these labours of his earlier years. They form, however, a fitting prelude to that magnificent and imperishable work with which his name is especially associated; the rise and progress of which will now engage our attention.

CHAPTER III.

FORMATION OF THE LONDON MECHANICS' INSTITUTION.

1823-1824.

THERE has been some amount of controversy, now long since forgotten, as to the precise origin of Mechanics' Institutions. Little would be gained by reviving this controversy, or entering in detail into the merits of the question concerning which it was waged; but the topic is one so nearly affecting the subject of our memoir that it cannot be altogether passed by. A few words, therefore, may be devoted to the various societies existing prior to the London Mechanics' Institution, with which Dr. Birkbeck is more especially identified, and which, in whatever esteem its predecessors may be held, was the first to excite a wide-spread public interest, or to give any distinct impulse to the popular educational movement.

The earliest organization claimed as a Mechanics' Institute was "The Birmingham

Brotherly Society," originally formed in 1789 by Sunday-school teachers, under the title of "The Sunday Society;" but adopting the former designation seven years later. Its objects were to afford instruction in reading, writing, arithmetic, drawing, geography, natural and civil history and morals; and in addition to these being to some extent attained, a library was formed and some free lectures were delivered, with a view to diffuse a taste for scientific pursuits amongst the artisans. The Society, however, appears to have been of a transient character, and rather limited in its operations, the subscription of half-a-crown per annum scarcely allowing of great efficiency, whilst it was hampered by a rather peculiar rule excluding any member who might habitually neglect public worship.

In August 1817 a small society, known as "The Mechanical Institution" was established in London by an enterprising operative, Mr. Timothy Claxton; he and a few artisans meeting once a week in different places, when lectures were delivered by the members relating to the arts and sciences, upon which discussions ensued. The meetings came to an end in 1820

when the promoter went to Russia ; and until he called attention to the subject many years afterwards, the existence of the society was only known to a few. It was, however, a praiseworthy effort to afford mutual instruction, and it is deserving of note that at a much later date Mr. Claxton published a homely little work entitled "Hints to Mechanics" in which he pays an honest tribute to Dr. Birkbeck as the "father of the modern system of diffusing useful knowledge among our class," and gives a woodcut of the "birthplace of Mechanics' Institutions" being the Glasgow tinman's shop.

A more successful attempt to promote the extension of knowledge was made at Edinburgh in the year 1821 ; when, chiefly through the agency of Mr. Leonard Horner, a system, suggested by and based upon that which Dr. Birkbeck had originated at Glasgow, was introduced under the title of "The Edinburgh School of Arts." It was founded with the object of imparting to the working classes a knowledge of scientific principles ; but one of its special features was that the mechanics had no voice in the management, the idea being that persons of education were better able to determine what

course of instruction would be most advantageous to those whom it was intended to benefit. More than half of its revenue was derived from subscriptions of the middle and upper classes; and the whole management was vested in fifteen directors, chosen from the subscribing body. The artisans paid fifteen shillings a year for permission to attend the lectures and use the library; but there their privileges and responsibility ended. The Edinburgh School of Arts differed therefore in its form of government from the Mechanics' Institutions by which it was succeeded, and objection was taken on this account to its being ranked amongst them. Probably, however, its own educational work was not the less beneficial, if more prescribed and restricted; but it did not awaken any general enthusiasm or interest.

A somewhat similar School of Arts was formed at Haddington shortly afterwards, but this commanded little attention, and no information concerning it appears to be now extant.

Contenting ourselves with this brief notice of these earlier organizations, we come at length

once more to Glasgow, where an unquestionably genuine and enduring Mechanics' Institution was established in the year 1823, as the direct outcome of Dr. Birkbeck's former labours in that city. Although he had never again made Glasgow his home, his memory was cherished by the people there, and of this he received striking proof more than eighteen years after leaving.

The Mechanics' Class had been continued by his able successor Dr. Ure, at a remuneration which, though inadequate to the services rendered, was sufficient to show that the benefits obtained were considered worth paying for. A library was added in 1808, and a committee of management chosen from members of the Class. The attendance for a considerable period was good, but in time a falling off took place. The managers of the Institution relapsed into comparative indifference to the interests of the humble students, and the lectures were given at wider intervals. The members, however, in the spring of 1823, made a temporarily successful effort to revive the Class; and with long sustained gratitude to their first practical friend, they resolved to enter into a subscription for the

purpose of procuring a portrait of Dr. Birkbeck with which to adorn their place of meeting, and to acknowledge his labours as the "liberal-minded founder of the Mechanics' Class" by presenting him with a suitable address. Four hundred signatures were affixed to this document, of the salient portions of which the following is a copy :—

"We members of the Mechanics' Class, Anderson's Institution, Glasgow, impressed with a deep sense of the benefits resulting from the course of lectures for instructing artisans in the scientific principles of arts and manufactures, beg leave, in this respectful manner, to tender our grateful recollections to you, by whom that plan was first projected, and carried into execution."...

"It was your distinguished lot, sir, to lay open more widely than had been previously contemplated the portals of philosophy, and to invite artisans of every description to enter them, however scanty their means or obscure their condition. For this truly philanthropic deed we present you thus publicly with our most heartfelt thanks; and while from your approving conscience you will derive the purest satisfaction, you will not disdain the homage now offered you, after an interval of nearly twenty years, by the students of that class which you first called into being."

Upon receiving Dr. Birkbeck's acquiescence to the proposal with reference to his portrait—which was accordingly painted—the mechanics

forwarded him a letter through their secretary, an extract from which is introduced as a suitable addendum to the address :—

"Perhaps when your philanthropic mind first suggested the idea of diffusing useful knowledge amongst mechanics, it did not occur to you that your benevolent scheme would be crowned with such eminent success as subsequent events have proved. But the oak springs from the acorn ;—the triumphs of truth over prejudice though slow are nevertheless certain, and if properly directed permanently beneficial to mankind. You formed your scheme of improvement from an intimate acquaintance with human nature ; and it must be gratifying to you to learn that your philosophic foresight has not been disappointed. You judged that the apparent mental lethargy of the operatives towards science arose from no infirmity of their mental powers—and you judged right. You traced it either to a total neglect, or an improper direction of their faculties to objects unworthy of their notice. You undertook the generous task of giving the *first impulse*, and of directing their attention to studies worthy of their pursuit; and the experience of twenty years has proved beyond doubt the beneficial effects resulting from your system of education."

Shortly after these events a disagreement again took place between the members of the Class and the managers of the Andersonian Institution. It is not very clear what were the points in dispute, but the general opinion seems to have been that

the artisans were justified in the course they pursued—which resulted in their leaving the Institution. But they only withdrew to find a more congenial home. They met together and arranged their plan, and in July 1823 the GLASGOW MECHANICS' INSTITUTION was formed ; their early friend and instructor consenting to become its patron.

At the time Dr. Birkbeck was presented with the unexpected testimonial just referred to, he was engaged in the preparation of an essay on the scientific education of the working classes with a view to the introduction into London of some scheme of practical utility. His labours at Glasgow had been most favourably reviewed in the *Encyclopædia Britannica* as long afterwards as 1817, and a letter on the subject appeared in the *Morning Chronicle* in the year 1822. The Doctor had long desired that the metropolitan artisans might receive instruction of a similar character to that which he had imparted to their Glasgow brethren. But circumstances, as he subsequently tells us, had not seemed favourable to the accomplishment of this object, and he had hitherto been deterred from

offering any plan. Now, however, he felt convinced, amongst other reasons from the "unequivocal declarations and proceedings of the mechanics of Glasgow" that the time was ripe for conferring knowledge on the workmen of the great metropolis; and despite the heavy demand made upon his time by his professional practice, we find him entering heart and soul into a scheme for the formation of a LONDON MECHANICS' INSTITUTION.

In August 1823 a weekly periodical had been established under the title of "*The Mechanics' Magazine*," the editors and part proprietors being THOMAS HODGSKIN and JOSEPH ROBERTSON, to whom, the latter especially, repeated reference will have to be made. The object of the magazine was to spread amongst those employed in the different manufactories a knowledge of the history and principles of their arts, and information as to inventions and improvements. Apparently the publication was the first of its kind; and the sale it at once commanded indicated that a spirit of inquiry had begun to prevail amongst the working men, and that suitable means alone were needed to raise them to a higher intellectual position.

In its seventh number this magazine, in an article from the pen of Robertson, after reviewing Dr. Birkbeck's labours at Glasgow and the recent movements of the mechanics there, issued proposals for the formation of a London Institution; and invited correspondence on the matter as a means of testing the probability of success. The Doctor at once appeared upon the scene with a most hearty and encouraging letter, and in the next number Robertson announced that the first gentleman who responded to the invitation was the public-spirited and philanthropic individual, who, to adopt the language of the mechanics of Glasgow, "had the honour of unfolding first of all, with the commencement of the nineteenth century, the temple of science to the artisan." This led to a more lengthened notice of the Class at the Andersonian Institution, in the course of which the writer forcibly inquired: "Who but a man of a great and a generous mind, flinging aside all the prejudices of education and habit, soaring above most of those around him in his views of human capability, could have been the first in the long lapse of ages to step forward and invite the humble artisan 'however scanty his means or obscure his condition' to come and

draw water at the same stream from which a Galileo, a Bacon, and a Newton had drunk immortality."

Further correspondence on the subject ensued; the original proposals for the formation of the Institution were printed on separate sheets and freely distributed, and the press generally took favourable note of the scheme.

Amongst the earliest co-operators in the movement was one of the most conspicuous men of his day—FRANCIS PLACE "the radical tailor of Charing Cross." His name is now almost forgotten, but as it will frequently appear in these pages a description of him from Professor Bain's work before referred to is here transcribed :—

"Reared as an apprentice tailor in the end of last century, he had not much education, and to the last was deficient in culture. He took a part in advanced liberal politics from his earliest years, and bore the stamp of the men that have achieved for us our liberties. His house and shop in Charing Cross became the resort of all liberal politicians. He collected a considerable library which he made available to his friends. Although not either profound in thought, or in any way accomplished or refined, he was an admirable man of business, precise and methodical in all his transactions. He was also very generous

both to the public and to individuals. He kept a full diary of what he saw and did, and preserved the interesting pamphlets, squibs, and newspaper cuttings, connected with all the exciting events. Fifty volumes of MSS. now in the British Museum, are the result; and are essential to the historian of the first third of the present century."

To this may be added that Place, who was undoubtedly an indefatigable worker, appears to have been fully impressed with his own merits and importance, to have been very sensitive to any slight whether real or imaginary, and to have been peculiarly sharp in detecting the weaknesses or faults of others. He was keen and satirical, his language was strong and vigorous, and frequently quaint and witty; and he was one whose friendship was worth having, and whose opposition was by no means desirable. Although taking part in most of the public movements of his age, he appears not to have been prominent as a speaker, but to have contented himself with attending to the important duties of organization.

Hodgskin, one of the editors of the new magazine, had long been on intimate terms with Place, and had consulted with him both as to the starting of the journal and the formation of the

proposed Institution. The latter, who had recently had several conversations with Dr. Ure as to the Glasgow Mechanics' Class, entered heartily into the scheme, revised the original address before it was published in the magazine, and became the chief man of business in connection with the movement. Several interviews took place between him and the two editors, when it was decided he should draw up suggested resolutions, and with the approbation of Dr. Birkbeck a public meeting was convened and notified in the magazine, the newspapers voluntarily copying the announcement.

This meeting was held on November 11th, at one of the then largest rooms in the metropolis, belonging to the Crown and Anchor Tavern; and such was the interest which the subject excited that upwards of two thousand persons were present, chiefly consisting of working men. The editors acted as secretaries for the time being, Place rendered unofficial assistance, and the Doctor occupied the chair and delivered a long and interesting address. After stating that if the important project which had occasioned them to assemble resulted, as had been declared, from the formation of the Glasgow Institution,

which was confessedly derived from the original Mechanics' Class, he might be permitted to consider himself qualified to delineate the rise and progress of that branch of public instruction; he gave an admirable sketch of the history of the Class, alluding to the opposition shown to the plan, dwelling with gratification on its success, paying a high compliment to the intelligence and attention of the mechanics, and rejoicing that they had now provided for themselves means of obtaining scientific knowledge. As these facts have already been referred to, it is unnecessary to quote from this the larger part of the address, the concluding portion of which was as follows :—

"There may, perhaps, be some amongst the large number of mechanics whom I have now the gratification of addressing, who may entertain doubts whether the objects of science may be within their reach, or if within their reach whether they are available for practical purposes. To them I would say, that although the august temple of science has generally been represented to be situated on a rugged mountain, accessible only by thorny paths to the privileged few, yet it is really to be considered as situated on a widely extended plain, approachable with ease in all possible directions, and opening innumerable doors for the admission of its votaries. So far from science being inapplicable to the ordinary purposes of life, I

will assert with Lord Bacon, one of the wisest of men, that 'it comes home to men's business and their bosoms.' To prove to you that the objects of science are to be found scattered around us, I need only remind you that the illustrious Galileo, by observing the oscillations of a lamp suspended from the ceiling, was conducive to the discovery of some of the most important laws of motion; that our immortal Newton, whilst contemplating the descent of an apple from the tree, laid a foundation for the discovery of the law which connects and regulates the motions of the planetary system and pervades the most distant parts of the universe; that Cavallo by means of a soap-bubble, the amusement of our boyhood, was enabled to exhibit the most successful mode of aërial navigation; and that Franklin, who, for his honour and your encouragement, I may remark was himself an operative, by means of a common paper-kite achieved one of the greatest discoveries of the last century, and secured for his name a place 'amongst bards and sages old, immortal sons of praise.' For instances of the applicability of science to the purposes of the mechanic, I may refer to the improvements of the steam-engine by the celebrated Watt, in consequence of his acquaintance with the laws of heat; improvements which have identified him with the splendid achievements of the most extraordinary, if not the proudest, period of British history: I may refer to Bramah, who, by the application of a proposition in hydrostatics commonly known by the name of the hydrostatic paradox and often produced 'to amuse the learned and make the unlearned stare,' has constructed a machine, the hydro-mechanical press, which for convenience and power has never

yet been equalled; and I may likewise refer to the steam-engine invented by the distinguished mechanic, Mr. Perkins, which, although time has not yet established its merits, exhibits in a simple tube an ingenious application of a principle respecting the transmission of heat through fluids, discovered by Count Rumford, and which shows in what manner ingenuity may apply the refinements of science to the purposes of mechanics and of civilised life. These are the results which confirm the declaration of Professor Dugald Stewart, that 'when theoretical knowledge and practical skill are highly combined in one person, the intellectual power of man appears in its full perfection.'

"But I will not detain you longer—knowing that there are around me gentlemen who may address you with much greater effect—than to add that by your proceedings this evening it will be decided whether the firm and powerful voice of science shall pervade all the workshops of the kingdom, or the feeble and uncertain vote of experience shall in them still continue to prevail."

At the termination of the address, which was enthusiastically received by the mechanics, a long letter was read from HENRY BROUGHAM to the Doctor, expressing his sympathy with the object of the meeting and enclosing a cheque for £20. It concluded as follows :—

"As you were the original author of this admirable scheme above twenty years ago, and then carried it on a large scale into execution, allow me to congratulate you on the prospect of its adoption in this great city,

where its benefits and its examples are likely to prove of such inestimable value."

Various speeches were then made; but notwithstanding the Doctor's complimentary allusion to gentlemen who would address the meeting with greater effect, there appears to have been present to sustain him no person of note; if we except Cobbett, who said a few words at the end.

Resolutions were passed of a somewhat elaborate character, dealing with the formation, object and development of the Institution, and fixing the subscription at not more than a guinea a year; a provisional committee was appointed, consisting of seventeen persons, chiefly mechanics, but including Place; and it was arranged that Robertson and Hodgskin should continue secretaries *ad interim*. At the close several hundred of the operatives present gave in their names as members.

The *Times* devoted half a column to a report of the meeting, and the *Morning Chronicle*, the powerful press exponent of advanced liberal thought—then directed by the radical politician, John Black—had a verbatim record extending to nearly five columns. The *Examiner*, a weekly

paper of similar views, also gave a very full and prominent report.

Thus far everything had proceeded smoothly, but the new project was not to be launched without first overcoming difficulties and obstacles; and these arose from a quarter whence they might have been least expected, namely from two of the original promoters, the editors of the *Mechanics' Magazine.* From their later proceedings, these individuals, Robertson in particular, may well be suspected of having had ulterior objects in view in giving prominence to the scheme, probably of making it subservient to the interests of the journal.

A sub-committee was appointed, consisting of Dr. Birkbeck, Mr. Place, and a Mr. Bailey, an ironmonger; and of this the two secretaries were members *ex officio.* Place drew up suggested rules, which were ultimately agreed to by the sub-committee and submitted to the general body, together with a proposal for raising money. Hodgskin, however, to the surprise of the leaders objected to this, and was supported by the majority of the mechanics; and Robertson, who followed, by his language seemed to suggest that

the Doctor and his friends intended to use the Institution for sinister purposes. Place openly accused Robertson of duplicity, and with having influenced the mechanics privately—a charge he did not explicitly deny. It afterwards appeared that his antecedents were not good, and his subsequent ceaseless and systematic attacks justified the strong strictures which Place passes upon him, including an accusation of a "design to break down the Institution to a mere club, which might be under his control," and also—in characteristic language—"of having succeeded in making a fool, if not a rogue, of Mr. Hodgskin." Objections were raised to the rules—which had previously been agreed to in sub-committee—with a view to the adoption of another set, with which Robertson had come provided; but in this design he failed. The meeting was prolonged until two in the morning; was then adjourned to the following evening, when it was continued until one the next morning, and once more adjourned. Ultimately the mechanics, whom Place exonerates from blame on the ground that their minds were poisoned, grew alarmed at the threatened rupture, and the rules originally suggested

were adopted, with some alterations not of primary importance.

A general meeting of the entire body was next convened, and it was decided as a matter of policy that the disputes which had arisen should not be made public, especially as the intended appointment of a paid secretary would relegate Messrs. Robertson and Hodgskin to the position of private members. The meeting was held on the 2nd December, when the Institution was formally constituted, the rules and orders were adopted, and arrangements concluded for the election of officers. This election took place by ballot, and Dr. Birkbeck was appointed president—an appointment he held to the time of his death. He was also named as one of the four trustees, Brougham being another. An official committee was elected, consisting of thirty members, of whom more than two-thirds were working mechanics. Place had intimated that although he would continue to render assistance he could not devote all his evenings to the Institution, and he was therefore not nominated ; nor was either Hodgskin or Robertson.

The committee met from time to time, but two months elapsed before anything practical was

done, owing largely to the evil geniuses of the movement, aided by a few kindred spirits, continuing to create distrust. It was felt by nearly all the friends of the cause that there was no probability of the object they had in view being accomplished without public aid ; and the Doctor had pertinently remarked, at one of the early meetings, that if it had been possible, or if the mechanics had thought it possible, that they could of themselves commence and establish such an Institution, the matter would have been left to them. Under pretence, however, of promoting a spirit of independence amongst the working classes Robertson, with great inconsistency, made this the chief ground for repeated attacks; although he had previously concurred in the opinion of Place that unless money was procured the Institution could not be commenced with any reasonable hope of being established, and had subsequently approved of the resolutions of the public meeting requesting donations, joined in the report which announced that a banking account had been opened to receive contributions, expressed his unqualified gratification at one handsome subscription which had been made, even warmly replying to an unfavourable newspaper comment

upon this gift and upon the Institution not being self-supporting, and finally put himself down jointly with his co-editor for the sum of five guineas.

The committee, however, we are told, disregarded the attacks made upon them, and advanced towards their purpose in spite of the impediments and insinuations which divided the members, being "greatly aided by the steady attention and imperturbable temper of their excellent president."

At length on February 20th 1824, an opening meeting was held at a commodious chapel in Monkwell Street, London Wall, of which the temporary use was obtained on favourable terms; and so ready were the working men to avail themselves of the advantages offered them that nearly thirteen hundred had already been enrolled as members, of whom all but two hundred had paid their subscriptions. Dr. Birkbeck was supported by Brougham, Professor Millington, and other gentlemen.

From the president's inaugural address one is constrained to quote somewhat freely, as it explains his views, unfolds his character, and exhibits his oratorical powers.

"With feelings," he says, "of exultation unutterable, I rise to offer my warmest heartfelt congratulations on this momentous occasion. This hour is witness to hopes, long, ardently and anxiously cherished by me, now rapidly realising in the visible and effective existence of a MECHANICS' INSTITUTION in the emporium of the world.

"Had you, gentlemen, beheld the small number of artisans who in a large and flourishing city were willing to accept the earliest invitations to enter the temple of science, this striking scene would be contemplated with gratitude and delight still more lively and enthusiastic; with gratitude arising from the permission to behold the extended impulsive operation of the growing appetite for knowledge, one of the noblest propensities of man; with delight, from perceiving that the mighty spirit of the age, which has been pervading the whole rational creation, has at length fructified the intellectual mass, and roused it from death-like slumber to animation and activity. The inquiring spirit of the age has loudly demanded that the door of science should be thrown open, and that its mysteries should be revealed to all mankind. This demand has been answered, here as well as elsewhere, without reference to age, occupation, or condition; and, judging from the aspect of this thronged assembly, the result must be most auspicious to the progress of knowledge. 'There is a *time*' the wisest of mortals has declared, 'for all things'; and the ardour with which the present project has been embraced proves, beyond the possibility of question, that this is the time for the universal diffusion of the blessings of knowledge. 'There is a *tide* in the

affairs of men,' one of the most splendid examples of human genius has affirmed, 'which, taken at the flood, leads on to fortune.' The tide of knowledge within a recent period has been rapidly rolling on towards this elevation; and if we do not neglect the golden opportunity, we shall achieve that intellectual fortune, in which consists, alike individually and aggregately, the most substantial riches and the most substantial glory.

"It is not my intention to place before you the vast and various results of this projected union of science and art; or, in other words, of this combination of the discoveries of the philosophic mind with the inventions of mechanic genius. . . . I shall content myself with advancing the position that knowledge, by whomsoever obtained, like virtue which it strikingly resembles, is its own reward; that, therefore, the pleasure flowing from mental exercise, and the satisfaction resulting from the attainment of truth, are sufficient compensations for the labour of study, when unattended by pecuniary or commercial advantage."

After illustrating this position at length by quotations from Robert Hall, the speaker proceeded:—

"One advantage which may perhaps be produced by the introduction of science amongst the operative classes, some recent legislative movements induce me to mention. The wisdom of our present rulers is likely soon to explode certain restrictive measures, by which the want of wisdom or the superabundance of its spurious representative in their long extinct predecessors had fettered the artisan. To

accomplish this purpose it is probable that the most splendid talents of both the great parties in the State will be united; and it can scarcely be doubted that they will succeed in repealing those laws which prohibit the exportation of machinery, the emigration of the artisan, and the combination of workmen for purposes which may be deemed essential to their prosperity. Now, extensive emigration, one probable consequence of such repeals, we must deplore; because with this portion of our population, the strength and wealth of the nation must depart from our shores. If by improving the means of production and increasing the sources of his comfort, we render the artisan better satisfied with the fruits of his labour and more strongly attached to his native land, we shall effectually restrain his disposition to wander by the influence of his free choice, without the operation of statutes to which he reluctantly submits. Unless allured by very strong temptations, the English mechanic will seldom quit the home of his fathers: he clings to the spot which gave him birth with the fondest affection. . . . . .

"Far, however, be it from me to advocate the retention within the circumference of our island of the arts and sciences, which are our best possessions, our brightest ornaments. Over the western world, now in her sublime career of independence calling for their aid, I would have them liberally diffused; thus, indeed, in part atoning for those wrongs which followed in the train of the genius and enterprise of Columbus. Let European arts and European sciences freely cross the western main to enrich the gay savannahs and the vast mountain chains, in regions distinguished alike by

their sublimity and inexhaustible fertility, until all that can be wafted by the winds, or that can be impelled by all-conquering steam, excepting European vices and European warriors, may be found

> Where Andes, giant of the western star,
> Looks from his throne of clouds o'er half the world.

"It ought likewise ever to be remembered that a relationship, and even a close alliance, has been established betwixt this country and all the habitable portions of the globe; enforcing the duty of reciprocal service, and demanding from us a full performance of good offices, whenever and wheresoever we may appear."

The speaker then gently dealt with the fact that his friends and himself had not obtained full credit for the *singleness* of their purpose, and even in a liberal spirit passed a eulogium on the *Mechanics' Magazine* and its editors; and after stating that for himself he could boldly declare that the scientific cultivation of the mind of the mechanic had been and still was *his only object*, continued as follows:—

"All intention of interference with political questions we do therefore disclaim, and not less cheerfully than advantageously do we resign them to that 'patriot eloquence' which can shake the senate, and flash down fire upon our country's foes. If indirectly we shall be supposed to exercise any influence—and education may expand the views of the mechanic—I am persuaded that we shall invigorate the attachment which

must ever exist to every wise and well-constructed system of legislation. . . . . .

"Whilst we also determine to avoid all direct interference with another subject of importance still more vital and profound, we feel confident that by the light which we propose to diffuse we shall strengthen rather than invalidate its sanctions. That system of morality which has for the basis of its social regulations the plain, comprehensive, practical and persuasive injunction to do unto others that which we wish others should do unto us; and that system of religion which assures us that 'this mortality shall put on immortality', which imparts to us a knowledge 'of things above this world, and of their being who dwells in heaven'; and which promises, after the best and happiest employment of this transitory condition, an endless progression in knowledge and felicity, never can be defrauded of their paramount influence upon the heart of man by measures which are calculated to enlarge his intellectual possessions. By looking abroad through nature it is obvious likewise that our conceptions of the stupendous power of its omniscient Author must be improved, enlarged and exalted; and a frequent reverential scrutiny, during the search after final causes, into the designs of creation will gradually and imperceptibly unfold their wisdom and benevolence; thereby unavoidably augmenting our instinctive and acquired feelings of gratitude and veneration towards Omnipotence."

Comment upon this address is unneccessary. The Institution, started under such auspicious circumstances and with so much enthusiasm,

already gave promise of the great good it was destined to achieve. New aims and aspirations had been given to the mechanics of the metropolis, an educational pioneer had appeared, and one literary aspirant even broke forth into verse to sound his praises. The sonnet has not immortalised the anonymous poet, but it will doubtless be read with interest.

"The laurels of the brave, the wise, the great,
Be green upon their brow: may envy ne'er
From those that seek our weal the chaplet tear,
By useful service won. Tho' hapless fate
Closes too soon the patriot's bright career,
He lives in memory;—o'er his grave elate,
Binding oblivion to his Lethean state,
Stands Fame immortal: distant ages hear
The glory of his doings, and rejoice
That once the earth was blest by his sojourn.
Thus, BIRKBECK, guided by the public voice,
The Muse predicts thy name shall not return
To earth forgotten; for thy generous mind
Hath brought fair Science forth to all mankind."

CHAPTER IV.

RAPID GROWTH OF THE POPULAR EDUCATION MOVEMENT.

1824-1825.

THE London Mechanics' Institution had now been successfully established, but a "local habitation" had yet to be found, capable of meeting its extensive requirements. Offices were temporarily hired in Furnival's Inn, Holborn; and the use of the chapel in Monkwell Street was obtained until such time as more suitable and permanent accommodation could be secured.

Steps were taken by the committee for the purpose; and eventually convenient premises were obtained. The wisdom of the choice is largely evidenced in the fact that the Institution is still identified with the building which was then selected; although its capacity has of late years proved insufficient to meet the ever increasing demand. It has kept pace with the times, has been altered and enlarged; but the

same edifice yet remains, and has now been devoted for sixty years to the cause of popular education.

In a retired quiet nook, away from the noise and turmoil of the busy world, and yet almost in the heart of the great metropolis, and overlooking the abode of equity, science found a home for her humble followers. A home too with memorable surroundings, and rich in historic associations. For on this site in early times the Knight Templars established themselves, the land around being owned by this powerful religious order, prior to their removal to the locality now known as the Inner and Middle Temple. Later on Lord Southampton found here a prison, and ere long a grave. And later still Lord William Russell here also took up his abode, and passing the spot on his way to execution tasted of the bitterness of death.

Amid scenes then of chivalric and solemn memories the mechanics of London were henceforth to assemble; and the substantial erection at Southampton Buildings, Chancery Lane, though in a less finished form then than now, became the seat of knowledge for the working man. A lease was granted to the trustees, of a

dwelling-house and land adjoining, for a term of a hundred and forty-six years at an annual rental of £229, with liberty for the lessees to purchase at any time for £3,500 the interest of their lessor, who held from the Earl of Radnor at a rent of £29 per annum.

But in addition to the accommodation thus provided, a hall was necessary for the lectures and meetings. Space had been obtained immediately in the rear of the existing premises, but the Institution, as will have been gathered, had no funds to devote to the erection of the required structure. The members' subscription had been fixed at five shillings per quarter, that the mechanics might not be taxed beyond their means; and members' sons and apprentices above twelve years of age were to be allowed to attend the lectures and classes at half that fee. The income which would thus be obtained would, it was calculated, be sufficient to meet the current expenses; but it was evident there would be little, if any, surplus available for capitalization. An appeal to the public had, as already mentioned, therefore been resolved upon; some few donations were obtained, and the following

circular letter was now addressed by the president to the nobility and others :—

"London Mechanics' Institution,
"15, Furnival's Inn, Holborn,
"My Lord, "April, 1824.

"Whilst every branch of science is contributing its powerful influence in promoting the welfare of society, the working mechanic is peculiarly situated, being compelled either to obtain alone and by expensive means the knowledge of those scientific principles on which his art is founded, or to remain in ignorance which is always paralyzing his best efforts, and producing habits of carelessness or despondency.

"To remedy this evil, and to promote that species of knowledge so favourable to the best interests of a commercial nation, this Institution has been established under a system of rules and regulations, an abstract of which I have the honour to enclose.

"I have the highest satisfaction in announcing that although it has not yet been in existence four months, it already contains 1,200 names in its list of members, through whose exertions it has accumulated a very respectable philosophical apparatus, a collection of minerals, and a library which is daily increasing in extent and value. Already courses of lectures on scientific subjects have been commenced at a chapel in Monkwell Street, Falcon Square, which has been obtained as a temporary lecture-room until the Institution can obtain suitable premises, in which it is alone delayed by its present necessarily limited finances.

"To accomplish this, and to give proper effect to

such an undertaking, every enlightened individual is earnestly requested to give his cordial assistance, by such contributions of money, books, models, specimens, etc., as may to him appear best calculated for effecting so desirable an object.

"Should this Institution be deemed by you worthy of assistance and support, any intimation to that effect will meet with grateful attention and acknowledgment.

"I have the honour to remain, My Lord,
"Your Lordship's most obdt. hble. servt.,
"GEORGE BIRKBECK, President."

This circular enclosed a report setting out, in addition to the abstract of the rules and orders referred to, a list of sums already received. As previously stated, Brougham had given £20; Birkbeck gave a similar amount; and amongst other donations were £20 from Earl Spencer, £10 each from Wilberforce, Bickersteth and Dr. Gilchrist; £5 5*s*. from Dr. Lushington, and £5 each from James Mill, Ricardo, Grote, Cobbett and Place. The proprietor of the *Morning Chronicle* had at an early stage given 100 guineas; and a few other large subscriptions were now obtained, Bentham and J. C. Hobhouse contributing £100 each, and Sir Francis Burdett the munificent sum of £1,000, in addition to a previous £100. These latter

donations were mainly obtained by the exertions of Place, through whose persistency many other sums were also secured, and whom Mrs. Grote describes as devoting his whole time to the infant Institution.

Altogether something less than £2,000 was raised; but this was little more than a third of the sum required, and much disappointment was experienced at the indifference exhibited by the wealthy classes generally. Place significantly remarks that the Institution was looked upon favourably by most people excepting the high aristocracy and the clergy. LORD BYRON, however, gave in his adhesion to the movement, in the following somewhat peculiar terms :—

"It affords me pleasure to think what a mass of natural intellect this will call into action; if the plan succeed, and I firmly hope it may, the ancient aristocracy of England will be secure for ages to come. The most useful and numerous body of the people in the nation will then judge for themselves; and, when properly informed, will judge correctly."

The Government afforded no aid; and its members were apathetic with the exception of HUSKISSON, who fearlessly raised his influential voice in favour of the new educational measure, but attaching some qualification to his approval.

The following is an extract from one of his speeches, dealing with the subject :—

"I have no difficulty in stating that I consider Institutions of this nature as likely to be attended with beneficial results, both to artisans and to the public, if properly regulated and directed to those objects to which such Institutions ought, in my opinion, to be limited—I mean to the teaching of such branches of science as will be of use to the mechanics and artisans in the exercise of their respective trades."

Despite the general approbation, however, the fact that sufficient money was not forthcoming proved a serious obstacle ; and it seemed likely that the proposed building would have to be abandoned, when the president unexpectedly came forward and offered to advance the amount required, about £3,700, at four per cent. interest, with no other security than that which he already held as trustee of the Institution—a generous offer which was gratefully accepted.

On the 2nd December 1824, being the anniversary of the formation, the foundation stone of the edifice was laid by the Doctor. The usual formalities were observed ; and the laws of the Institution, the report of its first meeting, a vellum roll with the names of the officers, and a portrait of the president were placed in a bottle

and deposited in a cavity in the stone. Dr. Birkbeck made a short address upon the occasion, which was subsequently printed in colours by one of the members, together with the inscription on the stone, "in commemoration of the important era in the progress of scientific knowledge which commenced with the establishment of the Institution, and of the impressive ceremony by which its first anniversary was distinguished." The inscription records the event and bears the names of the various officers, and the address is as follows :—

"Now have we founded an edifice for the diffusion and advancement of human knowledge. Now have we begun to erect a temple, wherein man shall extend his acquaintance with the universe of mind, and shall acquire the means of enlarging his dominion over the universe of matter. In this spot hereafter the charms of literature shall be displayed, and the powers of science shall be unfolded to the most humble inquirers; for to the 'feast of reason' which will be here prepared the invitation shall be as unbounded as the region of intellect.

"For an undertaking so vast in its design, and so magnificent in its objects (nothing short, indeed, of the moral and intellectual amelioration and aggrandizement of the human race) the blessing of heaven, I humbly trust, will not be implored in vain. If in this Institution we seek to obey the mandate which has

gone forth, that knowledge shall be increased; if we act in obedience to the injunction, that in all our gettings we should get understanding; if we succeed in proving that for the existence of the mental wilderness, the continuance of which we all deeply deplore, we ought 'to blame the culture, not the soil'; if by rendering man more percipient of the order, harmony, and benevolence which pervade the universe, we more effectually 'assert eternal Providence, and justify the ways of God to men'; and if thus we shall be the happy means of rendering it palpable that the immortal essence within us, when freed from the deformity of ignorance and vice, has been created in the express image of God—then may we confidently hope that Omniscience will favourably behold our rising structure, and that in its future progress Omnipotence, without whose assistance all human endeavours are vain, will confer upon us a portion of His powers.

"Whilst I remind you that the illustrious Bacon long ago maintained that 'knowledge is power', I may apprise you that it has since his time been established that knowledge is wealth, is comfort, is security, is enjoyment, is happiness. It has been found so completely to mingle with human affairs, that it renders social life more endearing, has given morality more uprightness, and politically has produced more consistent obedience; it takes from adversity some of its bitterness, and enlarges the sphere as well as augments the sweetness of every laudable gratification; and lastly—unquestionably one of its brightest influences—it becomes at once an avenue and a guide to that temple which is not made with hands, eternal in the heavens."

Meanwhile the opposition to the executive had been not only continued, but made public in the pages of the *Mechanics' Magazine;* and the Institution was likewise attacked in other quarters. One of the early reviewers of the movement declares that "never did a body encounter more obstacles, or have to contend with more calumny"; and Place remarks that "the Institution was saved by nothing but the most disinterested devotion of a few excellent men, whose sole object was to serve the working people."

Robertson had for some time been the only editor of the magazine, and he seized upon every pretext for sneering. It chanced that some lectures Dr. Birkbeck was to give were announced as "gratuitous", whereas a course given by him elsewhere had been referred to as "honorary"; and upon this the inquiry was made as to whether there was "any mechanic of so mean spirit as not to perceive and feel the distinction." Even the assistance which the Doctor had rendered in advancing the money for the building of the lecture-hall, without which it could not have been erected, was made the subject of a special attack, as will be seen from the subjoined envenomed paragraph :—

"Dr. Birkbeck, it appears, is to advance whatever money may be wanted, at four per cent. interest. No person who knows anything of the ways of the world can be at a loss to perceive to what consequences this must lead. If Dr. Birkbeck had no design of imposing himself in an attitude of undue influence on the Society, why is not the loan made an open one—why does Dr. B. monopolize the opportunity of obliging the Society—more especially when money on good security can be procured for so much a less rate of interest than the Doctor is pleased to exact? We conceive this to be the most objectionable of all the objectionable measures by which the management of this Institution has been distinguished. It is placing the Institution under the foot of one man; it is destroying utterly its freedom of action; it is making a private speculation of what was meant to rest on the broadest basis of public co-operation and utility."

The charge was sufficiently answered by the facts; but Place pertinently remarks that Dr. Birkbeck must be judged by his actions and not by the motives imputed to him by malignant men; adding that never had he on any occasion shown the least desire to pervert the Institution from any one of the purposes to which it was originally intended it should be applied, but that, on the contrary, he had on all occasions with matchless zeal, and at great expense of time and money, done all he could to carry those intentions into full and complete effect.

The Doctor's own unruffled temper and benignant spirit may be gathered from the fact that, notwithstanding these attacks, he, with an excess of justice and with doubtful prudence, proposed the health of the editors of the magazine at the anniversary dinner for the part they had taken in the formation; stating that their labours were able, and that although unfortunately they were latterly estranged, the Institution was deeply indebted to them. This conciliatory policy, however, proved of no avail.

But the opposition was not confined to the *Mechanics' Magazine.* Already had other journals criticized the new scheme adversely, and a violent attack was made on the Institution in the *St. James's Chronicle* for May 1825. It is reproduced as another specimen of the nature of the antagonism which had to be encountered.

"A scheme more completely adapted for the destruction of this empire could not have been invented by the author of evil himself than that which the depraved ambition of some men, the vanity of others, and the supineness of a third and more important class, has so nearly perfected. It is nothing to the purpose to tell us that Mr. Brougham, or Dr. Birkbeck, or Mr. Huskisson cannot design the ruin of the country. Protesting against being understood to acquiesce in this assumption of the lawyer's or

doctor's integrity, or the minister's wisdom, we say that whatever their motives may be, every step which they take in setting up the labourers as a separate or independent class, is a step taken, and a long one too, towards that fatal result. Sylla, Cataline, and Cæsar, had all different objects, but they pursued their objects by the same means, the severing of the lower classes from their superiors, and this means, as usual, tended to the same result. Mr. Brougham wishes, perhaps, for merely political purposes, to count a noisy mob on his side; Dr. Birkbeck's motive may be purely professional; Mr. Huskisson's no more than innocently pedantic; they are all three, however, scattering the seeds of evil, the extent of which the wisest amongst them cannot anticipate."

Nor were these attacks from without the only obstacles with which the Institution had to contend. The honorary secretaries, when unable to carry their measures, destroyed the official books; their paid successor proved incompetent or negligent, and had to be dismissed; and the accounts were found to be in the most imperfect and disorderly condition. After much labour on the part of some of the officers, the state of the finances was ascertained, but several sums collected by Robertson and Hodgskin were, according to Place, not accounted for; the subscription book of the publishers of the magazine was also missing,

and the committee were constrained to compromise the matter by accepting in discharge the amount admitted to have been received.

Despite, however, of opposition and difficulty, the work of the Institution was satisfactorily proceeded with.

In the course of a few months the lecture-theatre was completed, providing sitting accommodation for a thousand persons; and on the 8th July 1825 there was a grand opening ceremony. The chair was occupied by the DUKE OF SUSSEX, that royal patron of education, who had already manifested the warmest interest in the Institution; and a bevy of ladies and distinguished personages imparted grace and dignity to the scene, whilst every available nook was occupied. The president was in an exultant mood, and delivered a powerful address, in the course of which he traced the development of mind and the progress of knowledge in the past, referring to the efforts made in almost every period to arrest or circumscribe it, and illustrating by incidents in the career of ancient and modern nations; contrasted the theory that the masses should be kept in ignorance

and subjection with the more enlightened views then beginning to prevail, paying homage to the men of distinction and influence who had assisted in bringing about the change; and enlarged upon the benefits accruing from the growth of mechanical science, concluding, amidst reiterated cheers, with a glowing forecast of the condition of the nations when the treasures of knowledge should be liberally disseminated. The great length of the address necessitates its exclusion from these pages, and selections would do it little justice; but the reader has already had a sufficient indication of the general nature and style of the Doctor's speeches, and will during the remainder of the narrative be content with scant quotations from his numerous public utterances.

Brougham also addressed the meeting with great effect, dwelling on the progress which had been made, and combating the arguments of opponents. Amid some laughter, he dealt with the objection that by educating the working-classes they would be enabled to tread on the heels of their superiors, and drew a forcible contrast between those who make a "pleasure of science" and those who make a "science of

pleasure." To the labours of the Doctor he paid the following testimony :—

"The recollection of his eminent services must be indelibly impressed upon the minds of all of us, and the strongest feelings of gratitude and respect must be excited by the remembrance of the powerful exertions he has hitherto made, and the gratifying consciousness that he is now among us, renewing those exertions for the benefit of his fellow-men. Of Dr. Birkbeck, and of the gratitude that we all owe him, and the vast obligations under which he has laid, not only ourselves who are assembled here as his friends and fellow-labourers, but the whole country likewise, through which he is striving to spread the utility of his labours, it is only necessary to say what was said of another great man in a former century—Sir Christopher Wren—'If you seek for his monument, look here around, and you will find it.' Our gratitude is due to our president; first because he is the author of Mechanics' Institutions, of general Schools of Art, or by whatever name they may be designated; next, because he has founded, and carried into effect this great plan in London, with the assistance and co-operation of those persons who, taking the hint from what he had already done in Scotland, had united for the purpose of circulating and adopting the same system in England; and lastly, because when it was founded, not finding it attended with suitable honours in the place lately engaged for the lectures, he became impatient of the slow and tedious progress of public subscriptions, and himself laid down the necessary funds out of which this convenient and beautiful theatre has been raised."

The Duke of Sussex then made a few remarks of a congratulatory and encouraging character, and at the close of the meeting the distinguished visitors and ladies partook of refreshments which were provided at the expense of the president, who being of opinion that nothing in the shape of an entertainment ought to be charged to the funds of the Institution, would not allow a precedent to be formed even under such exceptional circumstances as then existed.

The new establishment was now fairly in working order. A circulating library had been formed, and by this time contained nearly fifteen hundred volumes, of which about a third had been given and the remainder purchased. By the end of the year the number had increased to about two thousand. A commodious reading-room was also opened and well supplied with current literature. A valuable set of philosophical apparatus had been purchased at a cost of two hundred and fifty guineas, some machines on a large scale for illustrating the science of mechanics constructed, various models maps and diagrams procured, geological specimens obtained and classified; and altogether a highly creditable

museum was the result. A chemical laboratory was also fitted up, and arrangements were made for instruction by experiment and practical illustration. Classes were formed one by one, and elementary schools established.

But the most useful and attractive feature consisted in the oft-recurring lectures. This mode of teaching had a pleasant charm for the mechanics, and through its channel knowledge freely flowed. Facts were presented in an interesting light; laws were demonstrated by curious illustrations; instruction was conveyed in a genial form. The attention was attracted, the mind engaged, and the student fascinated by the truths unveiled.

And so Dr. Birkbeck successfully pursued the same course he had adopted at Glasgow. Periodically he appeared amongst his scholars, science ever being his handmaid. Amongst the topics upon which he descanted within a comparatively brief period, some of them occupying several lectures, were acoustics, optics, electricity, galvanism, the theory of the winds, and the general principles of science—a list which will give some idea of the diversified nature of the subjects taught, and the compre-

hensive survey taken by the teacher. Nor did his services fail to command the appreciation accorded to his former labours. Very early in the Institution's history were the members anxious to present their president with a token of their gratitude, and with difficulty could they be restrained from making gifts whilst still in debt.

Able teachers were also found to share in the work of the Institution. The first course of lectures had been delivered by Professor Millington, at the Chapel in Monkwell Street, on the elementary principles of mechanical philosophy. Two nights a week were now regularly devoted to this mode of instruction, and it was not long before the range of the scientific world was extensively, if not minutely, traversed. In addition to the subjects already mentioned, mathematics, chemistry, heat, steam, the blowpipe, astronomy, geology, mechanics, hydraulics, pneumatics, and hydrostatics were dealt with in their various branches. Other spheres were likewise entered, and arithmetic, French, stenography, botany, mnemonics and phrenology had each their numerous devotees.

A weekly journal also appeared especially

to assist the Institution's work. The *Mechanics' Magazine*, in itself a valuable periodical, had justly forfeited the confidence of many of the members, and there was felt to be an opening for a somewhat similar but friendly publication. Accordingly in November 1824, the first number of the *London Mechanics' Register* was published. In its pages the proceedings of the Institution were fully reported, and the various lectures reproduced, with drawings of the illustrations employed, and thus the information given was strengthened and preserved for future reference. The first volume contained a portrait and short memoir of Dr. Birkbeck, and was dedicated to him. Unfortunately the constituency of the magazine, being chiefly though not entirely local, was scarcely large enough to make it a permanent pecuniary success: after four volumes had been issued the price was raised from threepence to sixpence, and on the completion of two more volumes the publication was discontinued. It rendered good service, nevertheless, during the early critical period of the work, and was the means to some extent of giving it a wider publicity, and of assisting in the extension of knowledge.

We have now taken a glance at the progress made by the London Mechanics' Institution in a brief period of two years, during which it had continually to encounter bitter and unscrupulous opposition. But great as was the success here attained, the growth of the popular education movement during this time, and the labours of Dr. Birkbeck in connection with it, will be very inadequately apprehended without a more extended survey.

For it is one of the most noteworthy characteristics of the new organisation that it speedily became the progenitor of numerous other Institutions in all parts of the United Kingdom. In strict point of time, it is true, the honour of being first in the field can be claimed by the Glasgow mechanics. Their action, however, as we have seen, was the outcome of Dr. Birkbeck's labours; and the scheme did not attract public attention, or give rise to general practical results, until London had led the way. For these reasons, and from the fact that the metropolitan Institution at once assumed gigantic proportions, and became the inspirer and exemplar of all that followed, it has generally been regarded, not unjustly, as the parent of those athenæums

which carry on the educational work long before inaugurated by its worthy president.

In 1824 Institutions were established in several of the large provincial towns, and by the end of the following year they were to be found scattered impartially throughout the United Kingdom. The movement spread north as far as Alnwick, Newcastle, Hexham, Durham, Sunderland, and Kendal; south, to Lewes, Brighton, Reading, Portsmouth, the Isle of Wight, Devonport, and Plymouth; in the east it embraced Hull, Louth, Norwich, Ipswich, and Bury St. Edmunds; in the west, Lancaster, Bolton, Liverpool, Manchester, Ashton, Stockport, Shrewsbury, Bristol, Bath, and Bridgewater; and in the Yorkshire and midland districts it enlisted Keighley, Bradford, Leeds, Wakefield, Dewsbury, Halifax, Huddersfield, Sheffield, Derby, Birmingham, and the Potteries. It crossed the Irish channel, and found favour in Dublin, Armagh and Cork; and it extended its influence in Scotland by taking in Inverness, Aberdeen, Dundee, Dunbar, Hawick and Ayr. The Institutions, we are told, "sprung up as if by magic," "the whole country seemed moved by one principle, and in a short time temples of

science were reared in every corner of the land."

The Institution founded at Leeds deserves passing notice as having been mainly promoted by that now veteran educational labourer, SIR (then MR.) EDWARD BAINES, the proprietor of the *Leeds Mercury*, whose national services were recognized about three years ago by the honour of knighthood being conferred upon him at the ripe age of eighty, on the occasion of the presentation to him of a testimonial of £3,000 raised by public subscription, which was devoted by him to educational purposes principally in the form of scholarships. In his speech on the occasion he remarked that it was a crisis in his life when, having heard of the strange novelty of teaching science to mere mechanics, he went to hear Dr. Birkbeck in an old chapel near Falcon Square, London, and found him, with his old friend and fellow-student, Henry Brougham, by his side, lecturing and experimenting before five or six hundred "unwashed artificers." Mr. Baines left the lecture full of enthusiasm for the new scheme, and laboured successfully in the good cause, the Institution at Leeds being the first outcome of his efforts.

In the metropolitan suburban district alone six further Institutions were established, in the formation of most of which Dr. Birkbeck took an active part. At Spitalfields he addressed two meetings convened in March 1825, and after dealing with the general question, sketched the history of the silk manufactures, referring to weavers who had become celebrated, and explaining the economic principles relating to the use of machinery. Of the Institution then founded he became patron. In August he presided at a meeting when the Hackney Literary and Mechanics' Institution was formed, his speech on the occasion being "delivered with much animation and emphasis, and loudly applauded throughout." At Deptford he gave an elaborate and efficient address to the mechanics, on the establishment of an Institution there in October; the following month he moved the resolution in favour of the establishment of the Rotherhithe and Bermondsey Institution; and in December he rendered a similar service in connection with the Hammersmith, Kensington, and Chiswick Institution.

The Doctor was also in frequent correspondence with the promoters of the movement

in the country, and assisted in this way in the formation of the Institutions at Liverpool, Portsmouth, and Bridgewater. He was further prevailed upon to attend in person at the opening meeting of the Brighton Institution, when he gave an eloquent and practical address. At the formation of the Hull Institution, reference was made to the lectures delivered by him in that town more than twenty years previously; and with the Glasgow mechanics, as already indicated, he continued to be identified as patron of their Institution.

Brougham assisted in the good work by the publication of a pamphlet entitled "Practical Observations upon the Education of the People, addressed to the Working Classes and their Employers." It was dedicated to Dr. Birkbeck, and was stated to be published chiefly in deference to his opinion. As a matter of course, it contained a review of his labours, whilst stating that to him "the people of this island owe a debt of gratitude, the extent of which it would not be easy, perhaps in the present age not possible, to describe."

Two other educational societies, of a somewhat higher grade, also emanated from the estab-

lishment at Southampton Buildings; namely the City of London Literary and Scientific Institution, formed in March 1825; and the Western Literary and Scientific Institution, established in November of the same year. Their object was the "diffusion of useful knowledge amongst persons engaged in commercial and professional pursuits" by means of libraries, reading-rooms, classes, and lectures on literary scientific and philosophical subjects. Of the latter Institution the poet Campbell became president, Dr. Birkbeck and Place taking an active part in the formation. The subscription was fixed at £2 per annum.

But although the new educational measures were extensively adopted, they were not always received with favour, being destined to frequently experience opposition both from press and platform. The difficulties which the parent Institution encountered were to some extent shared by many of its offspring, and as the system spread, it drew forth the increased hostility of certain schools of thought.

At the meeting for the establishment of the Rotherhithe Institution disorderly opposition

was manifested, and an amendment proposed in a speech wherein it was alleged that the mechanic would be unfitted for his occupations, and that ambition, excitement and insubordination were always the consequences of a train of scholastic education. At Armagh the Institutions were denounced on the ground that they were likely to produce an "agrarian law of intellect"—whatever that might be—and were fraught with danger to the state; whilst a clergyman, whose zeal seems equal to his ignorance, expressed his fears that the mechanics would not have time to say their prayers if they became scientific. Another reverend gentleman was so alarmed at the idea of the common people acquiring a knowledge of science that he was moved to publish a philippic against the establishment of the Institutions, in which the usual hollow arguments were brought forward. The *John Bull* newspaper, inflamed by party rancour, made a similar attack of a violent nature, apparently with the view of venting its spleen against that "squalid hypocrite, Squire Brougham." Lord Grosvenor—the father of the present liberal-minded Duke of Westminster—in a conversation with Place, recorded by the latter, expressed his

apprehension that the education of the people would make them discontented with the government, and considered the upper classes must take care of themselves; and another sage individual, writing presumably in the interests of those his lordship considered so far beneath him, remarked that the diffusion of knowledge amongst the mechanics would make a glut of good workmen, and the artificer would receive less wages instead of more. The clergymen of the Established Church generally exhibited the most uncompromising hostility; and although this was of slight avail in the metropolis, their influence in the smaller provincial towns was to some extent successfully exerted in the cause of ignorance.

The opposition, however, which was offered to the extension of education was in the main merely the usual frantic protest of an inequitable but happily moribund monopoly. It was determined to die hard, but die it must. The fatal blow had been struck; the era of the limited reign of science was passing away; and all the panic cries of "vested interests" were powerless to prolong it. Not only did the movement spread throughout the United Kingdom, in

the manner we have already seen ; but the spirit of the enterprise was caught upon the breeze, and wafted across the seas and oceans. Alike from our French neighbours and our American cousins inquiries came, and by them too were educational Institutions founded.

The history of this, for once peaceful, revolution in FRANCE is especially noteworthy and interesting, on account of its being the direct result of Dr. Birkbeck's educational labours.

In the early part of the century, while he was lecturer at the Andersonian Institution, a professor of the Paris Lyceum spent a few days with him in Glasgow, and was present at one of the meetings of the Mechanics' Class. The sight was so gratifying to the professor that he brought the matter under the notice of Napoleon, with a view to the adoption of similar measures in France ; but political events proved an obstacle to any practical steps being taken. Some fifteen years afterwards, however, a celebrated member of the Institute and of the Academy of Sciences, BARON CHARLES DUPIN, a man who had acquired great practical knowledge in the course of many years spent in workshops and

manufactories, visited Glasgow, where his attention was attracted by the educational work of the Andersonian Institution. A few years later, in 1824, he once more crossed the channel, and found what rapid progress the movement had made. He fully acquainted himself with the details of the scheme; and on his return to his native country, formed a plan for the scientific instruction of the artisans of Paris, delivering in November of the same year a powerful address at the *Conservatoire des Arts et Métiers.* In the course of his remarks he sketched the history of the labours of "the learned Scotch professor", quoting at length his original prospectus, and alluding to him as the individual to whom Great Britain was indebted for the extension of scientific instruction to the working classes. England, he considered, was at a remarkable epoch, which had prepared for her a destiny new and more magnificent than all her prosperity had hitherto obtained. The whole industrial class was awakened to a new existence, and had been snatched from routine and withdrawn from ignorance. His desire was that the French artisans should enjoy the same benefits; and in furtherance of this object he

delivered to large audiences a course of lectures on geometry and mechanics applied to the arts and manufactures.

His efforts were countenanced and aided by the Government and were eminently successful. More than five hundred members of the working-classes attended his lectures, and at the end of a year a system of similar gratuitous instruction had been established in nearly sixty of the large towns, including Marseilles, Bordeaux, Rouen, Nantes, Hâvre, Caen, Dunkerque, Bayonne, Brest, Toulon, Lorient, and Cherbourg; at all of which, by the direction of the authorities at Paris, lectures were given by the resident professors of hydrography.

Dr. Birkbeck, commenting shortly afterwards on this enormous spread of popular education, indicated that Great Britain might appear to have been outstripped in its career of improvement by her active and ingenious neighbours; but at the same time pointed out that not one name in connection with the Government of this country, the splendid name of Huskisson alone excepted, had lent its influence to accelerate the progress of Mechanics' Institutions, whereas in France public functionaries of every description,

local and general, had vied with each other in extending this intellectual impulse.

AMERICA likewise, as has been indicated, adopted similar educational measures. A "Mechanics' Scientific Institution" had already been established in New York; but it was from the example set in England that the movement received a decided impetus.

In June 1824 the committee of the parent Institution were favoured with a letter from Philadelphia, announcing the formation of the Franklin Institute there on similar principles, and desiring information upon various matters, which, of course, was promptly supplied. A year later, Dr. Birkbeck received from Dr. Webster, of the Harvard University, a communication as to the establishment of Institutions in Boston, the letter being as follows :—

"Boston, United States, April 11, 1825.

"SIR,—The great interest you are known to have taken in promoting Institutions for the instruction of mechanics, induces me, a stranger, thus to obtrude myself upon you.

"Convinced that similar Institutions may be of unspeakable benefit to the mechanics of this city, I have for some time been exerting myself to obtain all the

information I can in regard to those in Europe, and have ventured to request of you any information you may feel disposed to afford. Should there be any pamphlet or set of regulations, they would be peculiarly acceptable.

"I have the honour to be, with the greatest respect,
"Your obedient servant,
"To Dr. Birkbeck." "J. W. WEBSTER."

The request contained in the letter was at once complied with. Copies of the rules, of Brougham's pamphlet, and of the first volume of the *Mechanics' Register* were forwarded to Dr. Webster; and in a short time Boston had its Mechanics' Institute.

HOLLAND, also, soon came under the influence of the movement. Speaking shortly after this, the King of the Netherlands remarked that public instruction was becoming more and more adequate to the wants of society, and that in some towns a beginning had been made to give to the working classes scientific instruction, with a view to increase their practical knowledge.

And so we find that the good seed had taken root in foreign as well as British soil, and that the labours of Dr. Birkbeck already gave indications of world-wide results.

But the impetus which was given to education was not confined to the artisan class; and it is highly gratifying to note that another beneficial establishment for imparting knowledge, which was formed about this time, can in its origin be distinctly connected with the foundation of Mechanics' Institutions. This was no less important an organization than the LONDON UNIVERSITY, renamed UNIVERSITY COLLEGE, on receiving a charter in 1836, at the same time that, by another charter, the present University itself was established. The object of the organization was stated as being to bring the means of a complete scientific and literary education home to the doors of the inhabitants of the metropolis, so that they might be enabled to educate their sons at a very moderate expense, and under their own immediate and constant superintendence.

At the meeting which was held in July 1825 for the purpose of taking the matter into consideration, Dr. Birkbeck, who was one of the provisional committee, supported the resolutions; and he was afterwards elected on the permanent council. Brougham also took a most active part in the scheme, and with other speakers based its

necessity on the fact that scientific and literary knowledge was at length being disseminated among the people. "When the progress" he said "of the Mechanics' Institution was considered, and the progress that was made by the lower classes all over the kingdom estimated, it occurred to his friends that unless some advance was made by those who were called the superior classes, they would not much longer continue superior. To find their carpenters, their bricklayers, and their shoemakers, with greater knowledge than they possessed themselves, would be a strange and dangerous solecism."

And thus it came to pass that whilst the artisans and others in the humble walks of life were being lifted from their ignorant condition, facilities were afforded to the middle and upper classes of society of attaining the higher branches of knowledge.

There remain for brief reference a few other measures with which Dr. Birkbeck was associated during the period covered by the present chapter.

His connection with the London Institution in Moorfields from the time of its formation, and

some of the addresses which he delivered there, have already been referred to ; and it need only be added at this portion of the narrative, that in May 1824 he gave to the members a course of four lectures on magnetism and electro-magnetism.

Early in 1825 he was elected one of the vice-presidents of the Surrey Literary Institution, which assembled at Camberwell, and of which he became one of the active supporters. It was a proprietary association, established to provide a subscription library of philosophical, historical and classical works, and a reading-room supplied with newspapers and periodicals, lectures also forming one of the features.

In March of the same year he became president of the Medical and Chirurgical Society of London, having previously served as vice-president, and having for many years been a member of the council.

In May he presided at the first general meeting of the London Friendly Institution of Mechanics and Artisans, which had been established on life insurance principles to enable the labouring classes to provide themselves with medical attendance and a weekly allowance in illness,

and to secure the payment of a sum of money at death.

The same month he spoke at considerable length at a meeting of the Society for Superseding the Necessity of Employing Climbing Boys, and exerted his influence to obtain the introduction of mechanical appliances for sweeping chimneys, and thus to rescue the unfortunate children from the barbarous drudgery and cruelty which had so long been imposed upon them.

That he was at all times greatly interested in scientific discoveries and improvements, will be readily believed.

In January 1825 some new rotary sculls, invented by John Swan, for facilitating the locomotion of barges excited his attention, and he addressed a long letter on the subject to the *Mechanics' Register*.

In May of the same year he gave publicity to an improved mariner's compass, combining the advantages of the dipping-needle with those of the ordinary compass, and was the means of making its merits widely known. He also corresponded with the inventor, William Pope, and added his testimony to the merits of the invention.

In August he devoted considerable attention to the investigation of a new method of applying steam to the purposes of combustion, by which the evolution of heat was increased, and gave some prominence to the subject. The discovery, made by Richard Evans, proceeded from the desire to meet a growing demand for coffee roasted by a new process, which the Doctor had also some eighteen months before inspected and approved, and which under his advice had been patented.

In September he brought under public notice a patent taken out by Henry Burnett for improvements in machinery by a new rotatory or endless lever action, applicable alike to the steam-engine and the most delicate mechanism. Amongst other results, it enabled clocks to be made which required winding only once a year; and one of these clocks was exhibited and explained by the Doctor in a lecture which he delivered to the mechanics.

Shortly afterwards he called attention to a new life-belt for use at sea, which he had seen tested whilst staying at Brighton. It was invented by a Mr. Scheffer, and the (then) novelty consisted in the preserver being filled simply

with air, whereby it was rendered more buoyant than the cork belts hitherto alone in vogue, whilst it possessed the advantage of perfect portability.

A detailed account of these various schemes and appliances would be uninteresting at this distance of time; and in any case would be foreign to the purpose of this memoir. Sufficient notice of them has been given to show that Dr. Birkbeck was ever on the alert to promote the advancement of science, and assist in objects for enhancing the welfare of his fellow creatures.

CHAPTER V.

BY EVIL REPORT AND GOOD REPORT.

1826—1830.

THE early history of Mechanics' Institutions has been dwelt upon at considerable length, both because they inaugurated an important era in the popular education movement, and because the narrative affords a key to Dr. Birkbeck's life-work.

The further development of this movement, however, and the remainder of the career of its pioneer, need not be so fully detailed; and indeed, if so treated, would be somewhat wearying, since but little novelty can be imparted to it. Henceforth his public work chiefly consisted in sustaining and extending the means of usefulness he had called into being, and the means themselves, whilst becoming more widely adopted, presented but few additional characteristics. The history, therefore, can now take more rapid strides, and be chronicled in a more general form; the object being to exhibit simply

the salient and noteworthy features of the intellectual campaign, not omitting to notice the hinderances and checks it received, and the manner in which it was assisted by our zealous and indefatigable philanthropist.

During the next few years the routine of the parent Institution appears to have undergone but little change. The classes and lectures were continued, additions to and variations in the programme being made from time to time. Professor Millington, who was always a faithful and welcome friend, delivered some valuable courses on mechanics, pneumatics, hydrostatics, hydraulics and the application of mechanical science; and amongst the new subjects of a scientific character may be mentioned geology, mineralogy, metallurgy, combustion, elasticity, the laws of motion of falling bodies, the general properties of matter, the chemical properties of the atmosphere, aerostation, and mensuration. In the more general department, lectures were given on the classification of human knowledge, the structure of invertebrate animals, the stability of floating bodies, the strength and stress of building materials, stereometry, pumps, archi-

tecture, meteorites, the history of the world, the antiquities of Greece, Rome, and Britain respectively, Latin, jurisprudence, friendly societies, savings banks, the mind, imagination, prejudices, and eloquence.

The president's activity continued undiminished, and he made known to the members the wonders of the steam-engine, explained the process of weaving and the principles of the power-loom, described the process of paper-making, descanted upon such felicitous themes as mummies and the ancient and modern method of preserving animal substances, imparted information as to the construction of chimneys, and, in particular, delivered three highly interesting and instructive courses upon some modern mechanical inventions, the application of animal power, and the structure and functions of the human body, the last being copiously illustrated and listened to throughout by crowded audiences. Indeed, such intense appreciation did they call forth that the concluding lecture evoked the following commentary from the reporter :—

"It is almost superfluous to add that the worthy lecturer, as he withdrew from the theatre, was greeted by the enthusiastic cheers of the thronged assembly;

and that the members seemed to vie with each other in their expressions of applause and of gratitude to their esteemed president for the high treat which he had afforded them by his lucid illustration of a science, hitherto supposed to possess no attractions for the class of society constituting the great majority of the audience. During the whole of the lectures which have been delivered, the eagerness of the members to acquire a knowledge of the beautiful mechanism of the human body has appeared rather to increase than diminish; and perhaps no course of lectures ever afforded more general satisfaction, or more amply realised the warmest anticipations of those to whom they were addressed."

An unfortunate accident in 1827, the result of gross carelessness or negligence, cost the Institution some £300. The roof of the new theatre was found to be in a sinking condition, owing to the girders having been inefficiently trussed, and to the abutment-pieces proving inadequate. It was not very clear with whom the blame lay, save that the building committee of thirty-six persons, who had been chosen from the mechanics, were generally responsible; thus illustrating the homely proverb that "too many cooks spoil the broth," rather than the more refined and ancient one that "in the multitude of counsellors there is safety."

This proved a severe tax upon the Institution, which was endeavouring to diminish its large debt; and with that view had recently raised the amount of the subscription from five to six shillings per quarter and imposed an entrance fee of half-a-crown.

The policy of this step may be doubted. At any rate, it—especially the entrance fee—had the effect, as might have been anticipated, of diminishing the number of the members; or perhaps it should be stated that it contributed to that result, for the period was one of great distress and stagnation. In 1826 the average had been 1,470, the following year it fell to 1,200, and the next to 1,100; and at one time, during the height of the distress, it became as low as 950. It is really matter for surprise, however, that when the novelty had worn off it should have gone no lower; and as it rose again to over 1,100 no anxiety was experienced.

The members were naturally anxious that their pecuniary debt to the Doctor should be more rapidly liquidated, but it was obvious that this must be a work of time; and he himself assured them that he could safely confide in their honour, and that if he knew he should not live to see the

amount repaid, he should never feel any discontent or anxiety. He likewise stated that he had never contemplated holding the office of president in perpetuity, and hoped the members would consider themselves fully acquitted of any obligation to him, and at perfect liberty to exercise their own judgment—a freedom of which they availed themselves by unanimously re-electing him every year.

Another unfortunate episode occurred. With a laudable desire to make the Institution as self-supporting as possible, the committee, who seemed doomed to attacks both from without and within, incurred some amount of odium by letting the theatre for Sunday meetings which were characterised as "radical and infidel" in their character. It had been one of the fundamental principles of the Institution that while its advantages were open to all, without distinction of religious or political creeds, with a view to preserve this catholicity discussion respecting such creeds should be strictly forbidden; and the Duke of Sussex had on one occasion warned the mechanics against debating political or theological subjects. The action of the committee was no infringement of this rule, but

doubtless it would have been wise to avoid laying the organization open to the charge, however unfounded, of being instrumental in promoting party views; especially as some of the members appear to have been desirous of imparting to the Institution a political character. This attempt was happily frustrated; but much mischief seems to have been caused by allowing the "Cobbettites," the "Owenites," the "Huntites," and the disciples of Carlile and Taylor to assemble on the Sunday. A stormy discussion ensued, the obnoxious sects were stigmatised as "Church and state tinkers"; and in the result a motion was carried by a large majority recommending the discontinuance of the practice of letting the hall for the purposes in question. The committee had evidently been actuated by the best of motives, but there seems little reason to doubt that injury was done to the Institution.

It was not to be supposed that the attacks which had been made by some of the press organs in the early days of the Institution, when everything was progressing satisfactorily, should be discontinued now that there was a fair

pretext for criticism. The episode of the roof called forth, amidst other adverse notices, the following squib from the *John Bull*:—

"BRICKBAT AND HIS WHISTLE.—A whistle is a fine plaything; but, as Dr. Franklin long ago taught us, we may pay too dearly for it. We fear this is the case with Dr. Brickbat. Intoxicated with the praises of Brougham, and of a radical royal Duke, he advanced no less than £3,000 of his money to assist to build a lecture-room for the mechanics; but such has been the skill and honesty with which it has been laid out, that about £2,500, at least, is a dead loss; and a crazy-roofed edifice has been the result. Dr. Brickbat's principal would scarcely fetch £500 at an auction, on such a security; and so poor is the Institution that they are unable to pay his interest. It may be very flattering to him to exhibit himself there to greasy mechanics; but, as Franklin says, it is paying too dear for his whistle."

It was a pity for the credit of the paper that this attempt at smart writing should contain nothing but a tissue of falsehoods. There might have been some force in it, if it had happened to be true, but as almost every line contained a gross inaccuracy or exaggeration, it probably caused more amusement than consternation. Whether the "greasy mechanics" pelted the editor with "brickbats", as one might almost feel he deserved, has not been recorded.

A somewhat more witty but equally extravagant satire appeared shortly afterwards in the same paper. It resorted to the well known device of giving a little drama; scene, the house of the Duke of Bedford; time, 1926. The Lady Elizabeth was occupied in making the beds, the females whom, were it not contrary to law, the Duke would call "housemaids" having gone on a sketching tour. The breakfast things had not been removed, as the Lady Maria who had gone to the "assistants' drawing-room" to give the necessary instructions, had been requested to remain to sing to the said assistants. "The young person who was good enough to look after the horses" was having a dispute with the "lady who assisted in dressing the dinner" as to whether it was necessary to say "check to the queen" when the queen was in danger. Duggins —presumably the footman—had been elected for Westminster, and had gone down to the House (there was but one) having told the "gentleman who cleaned the plate" that he could not be back to attend at dinner, however consonant with his wishes, because he had promised to wait for the division. Lord John Russell appears, hot and tired, with a large parcel under

his arm which he has just brought from his tailor's, and announces that the coachman has gone to the Society of Arts to hear a lecture on astronomy. General consternation ensues, and the *denouement* comes in the shape of a revolt in the stables, and the determination of the family to quit the country.

The diversified public sentiment which prevailed is well described in an article that appeared in a Liverpool paper, from which an extract is appended.

"Whilst the general diffusion of knowledge is regarded by one party as the only means of effecting any real and permanent improvement in the condition of mankind, it is denounced by the other as a most mischievous machine, fitted for the destruction of morality and religion and for the subversion of all the settled relations of society. A third party takes a more moderate view; and, neither anticipating the benefits promised by the former, nor fearing the dangers apprehended by the latter, considers knowledge a useless if not a troublesome appendage to one whose livelihood depends on manual labour; and moreover affects to feel a concern for the inconvenience which the possession of it will entail upon him."

The *Mechanics' Magazine*, or rather its editor, Mr. Robertson, continued as a matter of course to favour the Institution with advice and censure.

The preface to its fifth volume contained a bitter complaint by its publishers, Messrs. Knight and Lacey, who had been recently made bankrupts, that they were practically ruined through Robertson's instrumentality, and in particular by his rancorous and unreasonable disposition, which had led him to quarrel with Dr. Birkbeck and other intelligent public-spirited gentlemen who took an interest in the London Mechanics' Institution, and by which the hope they had cherished of mutual co-operation in the cause of science had been destroyed. They further complained that he had issued pamphlets with a view to injure them and had attempted at the meetings to influence their creditors against them, but stated this had only succeeded in calling forth honest indignation and in accelerating their obtaining their certificate. Place, however, does not exonerate the publishers themselves from blame.

The magazine was carried on for a short time, presumably for the benefit of the creditors; and Robertson appears likewise to have continued it, with the result that there was a double issue during a portion of one of the volumes. Ultimately it came under his entire control;

and although his attacks on the Institution were disregarded, he continued them year after year upon the slightest pretext, every opportunity being seized for indulging in a sneer or a rebuke.

The *gravamen* of the charge seems to have been that it had become the custom, when referring to Dr. Birkbeck at the anniversary gatherings and elsewhere, to allude to him as the founder of the Institution—an honour which Mr. Robertson was disposed to arrogate to himself. The point was scarcely worth a moment's discussion, nor can the services of the two men be placed in the slightest comparison. The history of the formation has been given; and it is no doubt true that the original proposal issued from the pen of Robertson. That proposal, however, was the outcome of the action of the Glasgow mechanics, which action was traceable distinctly to the early labours of the Doctor; whilst the latter by immediately coming forward to assist in the scheme he had for some time been contemplating, by presiding at the preliminary meetings, by subsequently becoming president of the Institution, and last but not least by advancing the necessary funds for the erection of the building, had certainly

become so identified with the movement that few would have gainsaid the claim which was made for him by others—not by himself—of being considered the founder of the Mechanics' Institution. Place, indeed, if anybody, had a right equal to if not greater than Robertson to occupy the position taken up by the latter; but as his services were of an unostentatious character no one seems to have thought of regarding him as the founder. It is, perhaps, not without some little jealousy he remarks, that whilst no opportunity was lost by Robertson and Hodgskin to claim the merit of having originated and mainly assisted to establish the Institution, there could have been no Institution if nothing had been done but what they did, and that in fact they did nothing but mischief.

Robertson, however, was by no means disposed that his readers should forget the part he originally played; and as often as any reference to Dr. Birkbeck was made, the well-worn tale was dished up, spiced with vituperation. Criticisms were also continued on the system of gratuitous lectures, which to some extent prevailed, and a long correspondence was inserted on the subject. A complaint was further made as to there being

two boys on the committee, although it turned out on inquiry that they were boys of the larger growth ; and the boasted success of the organization was eloquently described as " all fudge."

However, the Institution having happily survived the early antagonism of its foes and renegade friends, was not likely to succumb to their later onslaughts ; although undoubtedly, from the circumstances which have already been mentioned, it underwent a period of somewhat diminishing prestige.

Dr. Birkbeck, who possessed an exceedingly placable temper, appears throughout, save on one occasion, to have taken no notice of the repeated attacks ; and probably their bitterness and venom were greatly due to the fact that he continued to treat them with silent contempt. Presiding at the sixth anniversary meeting, he said the friends of the diffusion of knowledge would hail with exultation and delight the prosperous existence of the Institution, which had passed through six years of perils and evil-prophesyings, and had inflexibly adhered throughout its triumphant career to the great educational purposes for which it was at its

commencement unreservedly announced to be founded; and that the only imputation of departure from it had grown out of the letting of its theatre as a measure of finance to a society obnoxious to many persons by its title, its object and its affairs. Robertson's comments upon this were that the exultation of Dr. Birkbeck was to be easily accounted for and easily excused. It was the make-belief shift of a man in a state of desperation. His reputation, in as far as it was connected with the cause of popular instruction, and a sum of between £3,000 and £4,000 which he had lent to the Institution, were both at stake. And later on the magazine kindly suggested that "it would have been far better if Dr. Birkbeck had continued to doze on in pill-prescribing obscurity, and never meddle more with Mechanics' Institutions."

These continued attacks were counterbalanced by the steadfast assistance of Dr. Birkbeck's early co-adjutors. The Duke of Sussex remained steadfast to the cause, and presided at some of the anniversary assemblies. Brougham proved a constant friend; and the *Register of Arts and Sciences*, a weekly magazine, gave frequent

reports of the lectures and proceedings. Prizes were offered for the encouragement of the students, the Rev. Mr. Fellowes in particular establishing two annually of £10 each, one for the best essay and the other for the best invention. The results were highly satisfactory, and one of the essays on the subject of the lever called forth the warmest eulogiums of the Doctor, and was deemed worthy of publication—first in the pages of the magazine just referred to, and afterwards as a separate pamphlet. A workshop, fitted with lathes and tools of every description, was opened for the use of the members who were practically inclined, and proved a valuable acquisition.

In 1830 a resolution was passed enabling females to avail themselves of the benefits of the Institution—a progressive measure which called forth the sneers of a contributor to the *Mechanics' Magazine*, who suggested that it was now necessary to have a class for getting up linen and chronicling small beer. Happily the principle that sex should be no barrier to education is now so fully recognised, that the taunt seems indicative of the lowest depth of ignorance; but it is gratifying to note that

Dr. Birkbeck's Institution was almost the first to appreciate and act upon the principle.

The provincial Institutions continued to multiply and to carry on the good work throughout the country. It was not of course to be expected that they should increase so rapidly as in their early days. Novelty had largely given the impetus; and there was not the same scope for its continuance. Nor is it surprising some of the organisations should in time have fallen into decay, when familiarity had robbed them of part of their attractions. It needs not, however, to say to those living in the present day that the movement on the whole was characterised by progress, and that education once in the hands of the people was never again to be taken from them.

In the metropolis new Institutions were founded at Poplar and Southwark, Dr. Birkbeck as a matter of course being in request to assist in their formation. At the former the audience proved so large that an adjournment had to be made to the bowling-green, and the Institution was established under novel circumstances. At Southwark the meeting was stormy ; an amend-

ment was moved in the usual bigoted style, and the motion opposed on the ground that it was intended to give "the common people" accomplishments which ought to be exclusively possessed by persons of high rank, and that as the result the mechanics' constitution would be debilitated, the aristocracy would have to sweep the streets, society would be uprooted, the Government overturned, and anarchy established! A dreadful forecast, which we must be thankful has never been realized.

At Deptford a new lecture-room was opened, the Doctor being present and addressing a crowded meeting. He pointed out the numerous advantages, both general and individual, which had arisen from the establishment of the Institutions, and stated he had lately visited many of them in different parts of the country and found they were going on successfully, and were strictly confining their proceedings to the purposes for which they were founded, namely the diffusion of knowledge amongst their members.

In 1830 the first Mechanics' Institution was established in Wales, near Merthyr-Tydvil; but it was some time before much progress was made in that part of the kingdom.

The measure for promoting higher-class education, to which reference has already been made, was speedily brought to a successful issue. On the 30th April 1827 the foundation stone of the present University College was laid in Gower Street by the Duke of Sussex, the names of the members of the first council, including "Georgius Birkbeck", being engraved on brass and deposited in the stone. The University was formally opened on the 2nd October of the following year.

Another scarcely less important and in many respects similar scheme was, chiefly in a spirit of rivalry, also successfully floated. The London University had been largely promoted by liberal politicians; and one of its features was a purely secular curriculum. This aroused the conservative and clerical party; the University was described as a "God-excluding seminary", and a meeting was held in June 1828 for the formation of KING'S COLLEGE and a charter obtained the following year. It declares that instruction in the doctrines and duties of Christianity, as taught by the United Church of England and Ireland, shall be for ever combined with other branches of useful education; and that no person,

not a member of this Church, shall be competent to act as governor, or (with certain few exceptions) be eligible for the council or any office. The imposing building in the Strand, adjoining Somerset House, was shortly afterwards erected, and the educational work commenced.

Other measures were taken to advance the popular cause. The new movement had created a demand for books, which were still very dear. To meet this demand, THE SOCIETY FOR THE DIFFUSION OF USEFUL KNOWLEDGE was established in 1826, under the presidency of Lord Brougham, and instructive literature was soon in the hands of the people.

The Society's works at first appeared in sixpenny fortnightly numbers, and elementary treatises were issued on various branches of knowledge; the president prefacing them by a "Discourse on the objects, advantages and pleasures of Science." Charles Knight superintended the publications; and in 1829 he produced his "Library of Entertaining Knowledge", to which George Lillie Craik contributed. John Murray also aided in providing intellectual food for the people.

But we must return to Dr. Birkbeck himself. Neither his professional engagements nor his labours at the Institution were allowed to satisfy his untiring energy; and although the latter obtained the lion's share of his leisure, he contrived to take part in other educational measures and in literary pursuits.

Unfortunately, though a physician, he was by no means free from those ills to which flesh is heir. In 1826 he had a long and severe indisposition, which prevented him attending to his ordinary duties and called forth the sympathy of the mechanics. He seems to have been a victim to the fashionable but distressing malady of dyspepsia, arising in his case from inflammation of the liver. The disease was aggravated by injudicious treatment, his professional advisers —for, in accordance with the somewhat general practice of the medical faculty, he seems to have abstained from prescribing for himself— attributing the illness, not to hepatitis but to a torpid condition; and not until this erroneous treatment had been persisted in for some time was the true nature of the case discovered, and recourse had to remedies which were eventually the means of restoring him to health.

In October 1826 he paid a visit to Cambridge and its venerable University, and was delighted at surveying the relics of Sir Isaac Newton. While there he enjoyed the society of Sedgwick, Whewell, Thirlwall and other distinguished members of Trinity College, by whom he was cordially welcomed.

In the year 1827 further substantial proof was given by the president of his interest in the Institution and the work of education by his translating and adapting for use in England a recently published work of his friend Baron Dupin, entitled "Mathematics practically applied to the useful and fine arts."

The book consisted of the course of lectures, already referred to, which the Baron had delivered at the *Conservatoire des Arts et Métiers*, and was published by the Doctor for use in the English Institutions, in view of nothing of the kind having arisen to meet the new want. The original publication had formed the basis of the instruction given in the numerous towns of France; and it was thought the translation might prove of equal service in England. The views of the Doctor will be best gathered by

an extract from the preface, in which, alluding to the lectures, he says :—

"That they will require some adaptation to the leading pursuits of the particular places into which they may be introduced, by extending the discussion to topics of considerable local interest, and curtailing those which may have but slight connection with the operations of the inhabitants, need not be questioned. That they may, however, with the greatest advantage, be made the text-books of the courses delivered in this country, as well as in France, I have no hesitation in asserting; and no one, I think, can doubt after perusing the following lessons, that if they were illustrated and occasionally expanded with distinctness and intelligence, although nothing whatever should be done in the way of adaptation or improvement, many important benefits must result to the attentive and competent students.

"Where a professor, who is capable of preparing for himself an elementary treatise, may undertake courses of geometry and mechanics with a view to their practical application, it is not my wish, or, I venture confidently to believe, the wish of the eloquent and patriotic author of this work, that he should be compelled to servilely copy it, or indeed to do more than select from it and make it his model, so far as his approbation of its contents may render it desirable. . . .

"Whilst this species of public instruction continues likely to extend through Great Britain, some minds of adequate qualifications and powers may at length be influenced to attempt an equally clear and still more complete exposition of geometry to the arts than is

to be found in the following pages. That this has yet been effected by any British author, no well-informed or competent mathematician will venture to assert. . . . . In a nation, however, abounding with successful cultivators of mathematical knowledge, and with the most refined cultivators of the arts, both useful and elegant—in which indeed many of them have originated, and all of them have been improved—appropriate scientific talents united with sufficient practical skill may appear, and if my wishes be answered soon will appear, to surpass and therefore to supersede this work, which with every feeling of satisfaction and confidence, I now offer to the acceptance, to the criticism, and to the competition of my countrymen."

The book was extended to three hundred pages crown octavo, was divided into fifteen chapters or lessons, illustrated with fourteen double sheets of elaborate plates, and seems to have formed a very full and intelligible exposition of the subjects with which it dealt. Its career of usefulness in England was probably not very long; for the growing demands doubtless led to the Doctor's wish being speedily fulfilled by an English author presenting for English students a text-book which should satisfy the want; but it is gratifying to note that France shared with England, through the medium of Dr. Birkbeck, some portion of

the benefit she had derived from the adoption of his educational measures, and that a spirit of good will and reciprocity was thereby promoted.

The same year, 1827, Dr. Birkbeck embarked in another literary enterprise, which however was of short duration. He commenced, in conjunction with Messrs. Henry and James Adcock, two civil engineers, what was intended to be a serial production, entitled "The Steam-Engine theoretically and practically displayed." It was a demy quarto publication, with clear bold letter-press and elaborate and splendidly executed steel engravings, designed to show the most recent forms and applications of the steam-engine, and to supply the deficiencies and correct the inaccuracies of previous productions. Its price however, six shillings per number, although necessitated by the nature of the work, proved too high for it to command an adequate sale, and it was discontinued after the second number.

In June of this year the Doctor presided at a meeting convened for the purpose of considering the state of the patent laws, and after commenting on the expense to inventors of obtaining proper protection for their labours and the

oppressive nature of the law, he moved that the existing regulations for granting letters patent for mechanical inventions and chemical discoveries were ineffectual and oppressive—a motion which was unanimously carried. Some years, however, elapsed before any change was effected in the law; and, when made, the alteration was not in the nature of a very brilliant reform.

About this period of his career the mechanics' illustrious friend appears to have been so far recognised as public property as to have his portrait engraved. It was taken from a painting by Mr. Samuel Lane, and was executed by Mr. Henry Dawe in mezzotinto, the result being deemed highly creditable to both artists. The picture previously painted for the Glasgow Mechanics' Institution had been esteemed a good portrait, but the present one was spoken of as being in point of likeness highly superior and strikingly life-like, so much so that it was stated to be the "Doctor all over; his head, his features, his expression, his very manner and attitude."*

* The portrait in the present volume is a reproduction of this engraving.

Dr. Birkbeck's connection with the London Institution, Finsbury Circus, has already been referred to, and will call for further comment later on. It need only here be said, in bringing the narrative up to 1830, that he delivered to the members in that year a lecture on some inventions for preserving life and property from fire and for resisting heat—a subject in which he had taken great interest.

CHAPTER VI.

THE MARCH OF INTELLECT.

1830-1841.

THE narrative portion of our memoir is drawing to a close, and it merely remains in the present chapter briefly to chronicle the rest of the events of Dr. Birkbeck's life and work, ere an attempt is made to gauge his character and to present such reflections as the subject may legitimately call forth.

A discreditable episode in the early career of the then London University first of all calls for notice, on account of the name of the Doctor frequently appearing in connection with it—in a manner, be it premised, highly honourable to himself.

Mr. G. S. Pattison, who had at one time been professor of anatomy, physiology and surgery in the Anderson Institution, Glasgow, was induced, shortly after the formation of the University, to resign a similar professorship he then held

in Maryland, United States, from which he derived with his professional practice upwards of £2,000 per annum, to occupy the chair of anatomy at the new institution. He had not, however, long entered upon his duties before he appears to have been somewhat arbitrarily deprived of a part of the emoluments of his office, by the appointment of an independent "administrator" of the dissecting-room who received the fees attaching thereto. The professor naturally raised some objection, and this led to the new administrator regarding him with hostility and taking steps to injure his credit. His authority was diminished; some of the students openly defied him, and were supported by the warden—who evidently had a personal animus against Mr. Pattison,—a few of them were grossly insulting, and in the end a riot took place.

The professor brought the matter under the notice of the council; and, to the surprise of nearly everybody, they solved the problem by dismissing him from his post, stating at the same time, *pour encourager les autres*, that they had investigated the charges against him and found them groundless, and that "nothing

came to their knowledge to impeach his general character or his professional skill and knowledge." The resolution seems as ludicrous as it was unjust; and, as may be imagined, the governing body did not escape censure. One of the other professors immediately resigned, another followed suit; and the *Morning Chronicle* took up the matter with great earnestness. But the council had gone too far to withdraw; their resolution remained unrescinded, and Professor Pattison once more crossed the Atlantic, to find in the new world that just and generous treatment he had failed to receive in the old.

Before doing so, however, he published in a pamphlet form a narrative of the entire case, which was prefaced by a letter from Dr. Birkbeck. The latter had throughout proved the staunch friend of the professor, had advocated his cause at meeting after meeting, actuated by a strong sense of its justice, not less than by a natural desire to support a professional brother; and now he gallantly came forward once more to give the weight of his name and unblemished reputation to the professor's *apologia.*

The Doctor's various speeches on the sub-

ject would be uninteresting, since, without a more detailed statement of the facts than it has been thought necessary to give, his contentions could not be fully appreciated ; but his letter, which follows, will sufficiently indicate his opinion as to the merits of the case.

"50, Broad Street, August 10th, 1831.

"MY DEAR SIR,—I have perused with painful interest your statement of the extraordinary events which have occurred since you were appointed professor of anatomy in the University of London. I know that it has always been your anxious wish to detail with perfect accuracy the transactions connected with this appointment, and I therefore regret that the council have not granted you access to all the documents which you require for that purpose. I can assure you, however, that, recurring to a memory too strongly impressed by the occurrences to allow them easily to escape, the facts belonging to your case, with which I have been conversant, are always substantially and generally minutely correct, and your statements altogether remarkably free from exaggeration.

"What may be the result of your appeal to the public, I cannot determine : it will, however, I believe be very different from that which I have had the misfortune to witness amongst men making large pretensions to the possession and exercise of just and liberal sentiments. To three parties allowed to fall into confusion and hostility—insubordinate students, a governing council and an insulted professor—these individuals have been unable to apply any means of correction, excepting the expulsion of the party whose only discoverable

share in the mischief has been enduring unmerited opposition. It is surely possible that another view of what is just, and what is necessary for the preservation of the London University, may be entertained by rational and unprejudiced judges.

"I remain, with sincere regard,

"My dear Sir, ever faithfully yours,

"GEORGE BIRKBECK.

"G. S. Pattison, Esq."

A subsequent attempt was made to obtain for the professor some compensation for the loss which had been so arbitrarily inflicted upon him, and a special meeting was convened for that purpose in October 1831. But although the proposed grant was only £200, no readiness was exhibited to make it; and the matter was adjourned to the annual meeting of the following February. It was then again discussed and again postponed, and eventually the proposal appears to have fallen through.

It is a matter for deep regret that the council of the worthy and justly celebrated College should have acted in the manner indicated; but it is scarcely necessary to remark that no stigma rests upon the College itself for the eccentricities of its early executive. If in its corporate character it never dies, its individual members are mortal; and as those concerned are un-

named and have long since passed away, this incident in the life of Dr. Birkbeck may be revived without inflicting injury upon others.

Coming once more to the London Mechanics' Institution, we notice that a change had to some extent been taking place in the class of students by whom it was patronised, and that this was now becoming decidedly marked. Being close to the sacred precincts of the law, it had attracted to itself several solicitors' clerks and legal copyists ; whilst shopkeepers and their apprentices were also to be found accompanying the mechanics to the lectures and classes. The scope of the Institution was thus gradually widened ; but some of the artisan class, jealous perhaps at such an extension, fell off in their allegiance; and the new friends therefore only maintained, and did not increase, the number of members. For many years there was but little fluctuation in the attendance. The reform agitations, indeed, of 1830-2, caused some slight diminution, and the average for these years was about a thousand ; but it subsequently rose to over eleven hundred, and there long remained almost stationary.

To the partial variation in the constituent elements of the body little objection can be raised. No doubt it was originally formed for the mechanic class alone, and it would have been more satisfactory had the new supporters been a clear addition to the ranks. So long, however, as means were afforded to individuals who would not otherwise have possessed them of obtaining a higher-class education, the Institution remained true to its work, and substantially if not literally fufilled the object for which it was established, whether its members consisted exclusively of artisans or not. Indeed, it was a distinct gain in some respects that its sphere of usefulness should be less prescribed. There are thousands outside the operative world who are occupied throughout the day; and to them such an abode of knowledge furnishes a boon of priceless value, attended in their case not less than in that of mechanics with results most beneficial alike to the community and the individual.

As to the general work of the Institution, sufficient indication of its nature has already been given, and it is unnecessary to continue to record it in detail. One year's history necessarily resembled another to a great extent; and

nothing would be gained by a reiteration of the titles of the subjects taught, or by giving a list of the professors and their themes. The numerous classes maintained their prosperous condition, and new ones were formed from time to time. Wednesday and Friday evenings were still devoted to lectures on the different branches of experimental philosophy, the fine arts, etc.; the president continuing to take his share in the work of instruction. Various prizes were given, and the Doctor encouraged the students by awarding £20 for the best essay on the steam-engine—a subject in which, as will have already been gathered, he took a great amount of interest. Some slight progress was also made in liquidating the debt. The library was gradually increased; the museum still formed an important feature; interesting exhibitions were held, and dramatic readings given; and the social element was developed and the members were united by means of occasional concerts and soirées.

Other incidents of a less pleasant character, which had constantly attended the development of the Institution, continued to characterise its history.

It is somewhat wearying to have again to refer to that quondam friend but now implacable enemy, the *Mechanics' Magazine;* but a few further brief references must be made to its persistent hostility, as illustrative of the amount of opposition the cause experienced. For the magazine, it must not be forgotten, was a very influential organ, and undoubtedly a powerful means of promoting in one direction that educational work which it opposed in another.

Robertson, as may be imagined, did not pass unnoticed that partial constitutional change to which reference has been made. Did Dr. Birkbeck express his gratification at the good which was being accomplished? He was told by his vulgar and obtrusive critic that it would not suit his vanity or his purse to have it known that the Mechanics' Institution was a lamentable failure. Was it said that a steady afflux for a period of ten years of more than a thousand members was an irrefragable proof that the information the Institution was founded to diffuse was efficiently supplied? The reply was that the information was not supplied to mechanics; and that the Institution was a Mechanics' Institution only in name. Did a friendly correspondent venture to

take up the cudgels? He only added fuel to fire, and was answered that the organisation had been utterly "ruined" through the Doctor's instrumentality. There was even revived (somewhat inconsistently with this alleged ruinous state of things) the old sneer at the president having found a good investment for his money, but the rate of interest had now risen in the editorial mind to four and a half per cent. Possibly loanable capital was more in demand at the time, and it was felt that the charge would appear rather lame if based upon a simple four per cent.

Year after year the same venomous spirit was exhibited, and the same hostile criticism continued. Lord Brougham was dragged into the arena, in consequence of his having again referred to Dr. Birkbeck as the founder of the Institution; and a long correspondence took place, which Robertson published. Finally—and here we are happy to part company once for all with the *Mechanics' Magazine* and its editor—annoyed by the small notice taken of his attacks, he descended to the most flagrant untruth, of which an illustration may be given in his allegation that the subjects to which the greatest

degree of attention had been paid since the establishment of the Institution had probably been phrenology and the drama!

After these exhibitions of temper and malevolence, it is refreshing to come across a few lines of a different character from the friendly pen of Place.

Writing in 1833 he intimates that of the Mechanics' Institution, and the important consequences which resulted from its establishment, it would be utterly impossible to give either a correct or precise account at all commensurate with its vast utility. Its good teaching, the right thinking it had produced, the advancement it had promoted in morals and manners, in self-education, and in the improved circumstances of many, was matter for high congratulation. The numerous Institutions of a similar and even dissimilar kind to which it had given rise throughout Great Britain attested its vast importance, and would in time, when they had ramified in every part, help not only to produce the improvement of the working people morally, physically and mentally, but to exalt the nation to a higher degree of prosperity than had

hitherto been attained by this or any other country.

The foundation of the London Mechanics' Institution in truth was sound, its progress sure; and the principle upon which it had been established had taken root throughout the land.

Every district of the metropolitan area was reached; new Mechanics' or Literary and Scientific Institutions being formed at Barnet, Bishopsgate, Brentford, Chelsea, Croydon, Finsbury, Greenwich, Hampstead, Highgate, Islington, Marylebone, Peckham, Poplar, Richmond, Shoreditch, Stratford, Stepney, Tottenham, and Woolwich. The subscription varied in amount according to the neighbourhood and the nature and extent of the instruction, in some cases being as low as six shillings per annum, and in several as high as two guineas. The more general rates, however, were ten shillings and one pound; and in several of the Institutions ladies were admitted at reduced fees. There was of course a great similarity in their scope, a library, reading-room, classes and lectures being the principal features, to which some few added museums. In one or two cases a single lecture could be attended on payment of sixpence or a shilling.

An important Institution was formed at Westminster in April 1837, Dr. Birkbeck occupying the chair at the inaugural meeting, Place taking an active part in the arrangements, and Lord Brougham supporting his friend. The Doctor "in an eloquent speech which was heard throughout with deep attention" sketched the history of the movement, and stated that the new organisation was to be "based on the plan of the London Mechanics' Institution which had proved so eminently successful", and pointed out the "great advantages both physical and moral which had resulted from the establishment of such Institutions." The Right Hon. C. Shaw Lefevre (now Lord Eversley) afterwards became the President.

In the provinces Institutions were established, amongst other places at Wellingborough in 1832; at Rochdale, Hastings and St. Leonards in 1833; at Doncaster and Stockport in 1834, at Beccles, Stourbridge, Guildford and Banbury in 1835; at Gateshead, Chatham, Dover and Devizes in 1836; at Evesham and Maidstone in 1837; at Worthing in 1838; at Darwen, Swansea, Northampton, Corsham and Tunbridge Wells in 1839; and at Dunse, Longton and Huntingdon in 1840.

Liverpool and Manchester, in particular, distinguished themselves. The former erected a new building, probably then the largest of its kind, at a cost of £15,000; the foundation stone being laid in July 1835 by Lord Brougham, who also presided at a dinner given to celebrate the occasion, without which of course such a gigantic undertaking could not have been properly launched. He stated in his speech that the Institutions in twelve years had spread prodigiously over the country; but that twelve years was not to be taken as the time of their origin, and for this they must go back to Dr. Birkbeck's lectures in Glasgow. The new Institution eclipsed its London parent, obtaining before long more than three thousand members, and employing fifty teachers. Liverpool, however, only possessed four Institutions in all, whereas London and its suburbs numbered about thirty.

Manchester, whilst more ambitious, was less successful than Liverpool. An "Athenæum" was opened in March 1836, and a new building completed three years later at a cost of £18,000. The expenditure however had been greater than could be coped with, and the Institution long had a chequered career.

But it was in Manchester that the so-called LYCEUMS originated. They were established in the year 1838 by several of the friends of the Mechanics' Institute, with a view to extend the benefits of education to the poorest classes whom the Institutions failed to reach. The subscriptions in some cases were as low as 1s. 6d. per quarter; and for this sum news-rooms, miscellaneous lectures, elementary classes, and social entertaiments were provided, special attention being given to female instruction. They were eminently successful for a period, the people eagerly availing themselves of "the novelty which was presented to them of cheap newspapers, recreation and mental improvement."

The early opposition of the clergy has already been referred to; but even this in time proved helpful to the cause. The dissenting ministers lent their countenance and aid; and as the beneficial results of the movement became apparent and it was found that hostility was of little avail, some of the ecclesiastics deemed it better to patronize it, and "Church of England Institutions" were formed, where the educational work was carried on, membership of the Church being a prerequisite to admission. This exclu-

sive spirit, however, as might have been predicted, did not aid the new organisations; and the restriction gradually died out.

The schoolmaster was indeed abroad: the popular education movement had become one of the signs of the times. Kindred spirits had caught the enthusiasm of the founder of Mechanics' Institutes, and were assisting in other ways in carrying on the work he had commenced and was sustaining.

The establishment of the Society for the Diffusion of Useful Knowledge has already been mentioned. In May 1832 it was incorporated by charter. Charles Knight, who had superintended its work, had recently published his "Quarterly Journal of Education", and this year he issued his "Penny Magazine", which was shortly followed by his "Penny Cyclopœdia." About the same time the brothers Chambers published their "Edinburgh Journal", and in 1833 their "Information for the People", succeeded in 1835 by their "Educational Course."

Shortly afterwards THE CENTRAL SOCIETY OF EDUCATION was formed under the presidency of Lord Denman, the Chief Justice of the King's

Bench, with Sir Thomas Wyse, M.P.—another active labourer in the good cause—for its chairman of committee. Its objects were to collect, classify and diffuse information concerning the education of all classes, in every department; and with this view to publish articles on the systems already established, either in England or abroad, to discuss the value of various branches and means of acquiring knowledge, and to give accounts of books, maps, models, etc. Active measures were taken for carrying out these objects; and volumes of interesting essays were published from time to time, in which due attention was bestowed upon Mechanics' Institutes and their worthy founder.

Progress was also made in the education of the young, and in fifteen years the proportion of the population receiving elementary instruction was increased from one in seventeen to one in eleven. But it was slow and uphill work, and the number of schools was totally inadequate to the requirements of the nation. Various attempts had been made to induce Parliament to deal with the matter. Early in the century the warm-hearted Samuel Whitbread advocated in

the House of Commons a plan of general education, with no other result than of being regarded as a visionary whose doctrines were of a pernicious character. Later on, Brougham succeeded in obtaining the appointment of a committee to inquire into the educational condition of the lower orders in London, Westminster, and Southwark; but it had no practical outcome. A few years afterwards he introduced a bill for the "Education of the Poor in England and Wales", of such a character, however, as to call forth sectarian feeling and lead to its being withdrawn.

At length the Government was aroused: public opinion compelled the reformed Parliament to take the matter in hand; and in 1834 a grant of £20,000 was made to the National and the British and Foreign School Societies, and continued annually. In 1835 Brougham once more returned to the subject, and moved in the House of Lords a series of elaborate resolutions; and two years later he introduced another bill, which was not proceeded with. In February 1839 the Government constituted a Board of Education, consisting of members of the Privy Council; and in June the House of Commons voted a grant to

the Board for that year of £30,000. Even this slight concession was only obtained with great difficulty, the motion being carried by a majority of but two. The opposition chiefly proceeded from the Church party, who condemned every educational plan that placed the control in other hands than those of the clergy; their hostility in the present instance arising from the fact that part of the grant was to be paid to the unsectarian British and Foreign School Society. This, coupled with the democratic tendency of the measure, led the Lords, on the motion of the Archbishop of Canterbury, to adopt an address to Her Majesty praying for the revocation of the Order by which the Board had been appointed—a retrograde movement which was approved by a two-thirds majority. Happily, however, the Government remained firm; the young Queen listened to the voice of wiser counsellors; and the censure of the Church and the Upper Chamber was unheeded.

As a whole, the tendency was in the right direction; but the amount voted was infinitesimal in comparison with what was required. The day of national education was yet far distant.

During this period Dr. Birkbeck, in addition to continuously labouring at the Institution, had been actively engaged in various ways.

He formed one of the staff of lecturers at the London Institution in Finsbury Circus, and enjoyed a high reputation for presenting scientific subjects in an easy and interesting style. In 1831 he discoursed upon some newly-invented musical instruments ; and the following year his subjects were railroads and steam-carriages—then in their infancy—and the manufacture of cotton by machinery.

The Reform Bill received the Doctor's hearty support ; and indeed, by the educational movement he had inaugurated—though it was strictly of a non-political character—he had undoubtedly materially assisted in rendering possible and promoting a popular form of Government. It was not often, however, that he entered into the political arena, but in the elections for the new Parliament, in December 1832, he seconded the nomination for the City of London of his friend and neighbour already referred to, Mr. George Grote, the banker and future historian. In his speech on the occasion he remarked that it was not possible for him to undertake

any service of a public nature which afforded him a higher gratification than that of supporting a candidate to represent the great city, who was eminently qualified to render beneficial the effects of the noblest triumph in legislation ever achieved by the people of this empire. The victory he believed to be owing to the intelligence and moral energies of the people; and he therefore considered it their duty to elect such persons as were able to make the legislation suitable to the moral and intellectual progress of the age. In his friend's opinions he completely concurred, and particularly in the principle, as applied to all the operations of Government, of promoting the happiness of the greatest number. Mr. Grote, who was deservedly popular, was, as is well known, triumphantly returned at the head of the poll, and fully vindicated the choice of the electors.

In 1834 the Doctor lectured at the London Institution on the principles of the oxy-hydrogen miscroscope; and the same year he devoted considerable attention to a new process, patented by Mr. J. H. Kyan, for preserving timber from dry-rot, and delivered in December, before the Society of Arts, an elaborate lecture upon the

subject, with illustrations. In the course of his remarks he gave an historic sketch of the various methods which had been employed to preserve vegetable matter from decay and the defects which had characterised them, and explained how the new method was more effectual than any which had preceded it, entering at considerable length into the rationale of the process. The details of a fifty years' old invention, which has long been superseded, would be uninteresting now; but it may be stated that Kyan received the most gratifying reports as to the utility of his method for preserving the timber of ships and buildings; and Dr. Birkbeck's lecture was regarded as sufficiently important to be subsequently printed as a shilling pamphlet. It contained an appendix with testimonials as to the process and plates illustrating it, and extended to forty-eight pages.

In 1835 the Doctor assisted the Belgrave Institution and the Eastern Athenæum, by delivering lectures to the members. He also lectured at the London Institution on the subject of improvements in artificial illumination; and in the following year on the manufacture of steel pens, illustrated by Mordan's apparatus;

on the history properties and application of caoutchouc, and on the structure habits and instincts of insects. That he had been a warm and sincere friend of the establishment from its foundation, has already been shown; and after having long served as one of the managers, he now accepted the office of vice-president.

In this same year of 1835, acting once more in conjunction with Brougham and Place, the Doctor took a prominent part in the movement for obtaining the abolition of the NEWSPAPER TAX. This much needed reform had been persistently advocated for a considerable period; and public indignation on the subject was now becoming intense. The tax, originally imposed with a view rather of enabling the Government to prevent seditious publications than of raising revenue, was notoriously evaded in the most open manner. Over a hundred thousand unstamped newspapers circulated weekly, despite of frequent seizures, prosecutions and imprisonments. It was in fact impossible for the Government to suppress them: the spread of knowledge amongst the working classes had created a demand for intelligence, too powerful

for officialism to stifle, that was largely met by these weekly publications, many of which were greatly superior to the stamped productions of the daily press. Most of the latter organs, being firmly established and fearing competition if the monopoly they enjoyed were swept away, were antagonistic or apathetic; but some were found to advocate the cause of the people, whilst the weekly *Examiner* had, to use its own language, laboured for nearly ten years, in season and out of season, for the repeal of the tax, and regularly announced underneath its title that its price of *7d.* was composed of "paper, print, etc., *3d.*; taxes on knowledge, *4d.*"

The objections to the vicious duty were sufficiently obvious; but as with most hoary anomalies and anachronisms, much agitation was necessary ere any change could be effected in the law. Mr. E. Lytton Bulwer (afterwards Lord Lytton), at this time attached to the Whig party, and already famous as the author of "Pelham", had for some time past championed the cause of reform in the House of Commons; and a promise had been obtained in 1833 from Lord Althorp, the Chancellor of the Exchequer, which however he had not found it convenient to fulfil when

towards the end of the following year he became Earl Spencer on the death of his father, and a change of Government took place. The advent to power, in 1835, of the new Melbourne ministry was felt to be an opportunity not to be lost. Some of the influential radicals took the matter up with great earnestness; and Dr. Birkbeck, though not a prominent politician, was, as the great educational pioneer, invited at the instance of Lord Brougham to lead their deliberations. The following letter on the subject from the illustrious peer to his brother reformer will be read with interest:—

"H. of L., Tuesday.

"My dear Friend,—There are some highly respectable persons in the city who are resolved to have a great London meeting on *Newspaper Taxes*. But they feel that you should come forward, and I feel also how important it is that you should. The bearer will save you all trouble, and I will attend the meeting if I can be of use, and, in any way in which I can, help it.

"The country is *up* on the subject. I have seen F. Place on this, who feels all you and I do and has been working like a horse for it.

"Yours ever, "H. B."

The Doctor's ready aquiescence being obtained, a meeting of some of the leading men

was held; when, in view of the previous assurance of Lord Althorp, it was resolved that a deputation should attend the new Chancellor of the Exchequer, Mr. Spring Rice, and endeavour to obtain from him a pledge which should obviate the necessity of calling a public meeting. Accordingly, a long memorial was drawn up, and in May the deputation waited upon the right hon. gentleman. Amongst those who attended on the occasion were Joseph Hume, George Grote, Rowland Hill, Charles Knight and Francis Place; the deputation being introduced by Dr. Birkbeck. He made a long speech, reviewing the history of the tax, showing in a lucid manner the evils to which it had given rise, dealing with the objections commonly urged to its repeal, especially those of a fiscal character, and making a powerful plea for the removal of this artificial barrier to the dissemination of knowledge. No report of the proceedings of the legislature, no account of the manner in which the laws were administered, no information respecting passing events, could be published in a form accessible to the poor man, without a violation of the law. This state of things had called into existence a class of

men who were practically engaged in destroying that respect for legislative authority which the people might otherwise have retained. Of all taxes of this country this particular duty was the most obnoxious and impolitic, since only by the spread of knowledge could men be made useful members of society. It was the first duty of Government to raise the moral and intellectual condition of the people; and a mere consideration of revenue could not justify a system of taxation tending, and perhaps originally designed, to repress the energies of mankind and perpetuate ignorance. He concluded by deprecating the idea of any partial reduction of the tax, as this would still prevent the authorised newspapers reaching the humblest portion of the community. Other leading members of the deputation also spoke; and the Chancellor of the Exchequer, in replying, fully concurred in the objections to the tax, and whilst feeling some difficulty upon the revenue question, appeared anxious to meet the wishes of his visitors, who withdrew after a two hours' audience in the conviction that their mission had been successful.

The same month Lord Brougham presented

to the Upper Chamber a petition from the Court of Common Council, and entered into the question at some length. It was generally believed that the matter would be dealt with in the next budget; and several of the leading newspapers now advocated a partial repeal of the duty. To protest against this policy and emphasize the public cry for total abolition, a meeting was held at the Crown and Anchor Tavern on July 18th, when the large room was crowded. Brougham took the chair, and called upon Dr. Birkbeck to move the first resolution, referring to him as one of the soundest friends of knowledge, one of the greatest patrons of human improvement, and one of the most tried and zealous supporters of their cause. The resolution was to the effect that the prosperity of every community depended on the knowledge diffused amongst its members, that the newspaper press was a great instrument for diffusing knowledge, and that the stamp-duty impaired the efficiency of this instrument and tended to perpetuate the evils of moral and political ignorance. After alluding to his labours for the education of the people as explaining the position he

occupied at the meeting, the Doctor said that it was superfluous to dwell upon a defence of the terms of the comprehensive resolution he proposed, for a resolution containing more truth was never submitted to any meeting. He did not believe that the change which was sought would interfere with any fair and legitimate advantage at present possessed by the organs of the press, but on the contrary was of opinion that their circulation would be marvellously increased. No individual or Government or people could be injured by the extension of knowledge of any kind; truth never did harm whether it were of a political or moral nature. They should firmly demand the removal of the grievance of which they complained; and he trusted soon to see the day when taxes imposed for other than fiscal purposes should be all swept away, and perfect freedom in gratifying the public appetite for information should prevail. The meeting, which was addressed by several other influential men whose names have already been mentioned in connection with the movement, pronounced emphatically in favour of the total repeal of the duty; and a petition was entrusted to the care

of Mr. Grote for presentation to the House of Commons.

Numerous other meetings were held throughout the country, and petitions poured in. Nevertheless, when in August the Chancellor of the Exchequer introduced his budget, to the surprise of everybody and the indignation of not a few, neither the reduction nor the abolition of the duty formed any part of his financial proposals. Bulwer made another attempt to induce the Government to deal with the question, and was supported by Grote and Hume; but all that could be obtained was a conditional pledge that it should receive attention in the next budget. A week later Hume took the lead in another unsuccessful attempt to bring about the desired reform.

It was now evident that nothing would be done during the current session of Parliament; but the public was not in a mood to be continually dallied with, and early in 1836 the party of reform again took action. A further meeting was held, and another deputation headed by Dr. Birkbeck waited upon the Government, being received on this occasion by Lord Melbourne. The Doctor called at-

tention to the fact that the subject was being regarded chiefly from a revenue point of view, and stated that in his opinion it was of such extreme importance as to justify financial considerations giving way to the wishes of the people. The increase in the circulation of the unstamped newspapers had been so great, and the demands of public opinion were so irresistible, that it was impossible the stamp laws should remain in their present state. There was a general impression abroad that at least a reduction of the duty would be made, but nothing short of its entire abolition would enable the authorised newspapers to reach the working classes. A penny stamp-duty, moreover, could not be enforced without more severe measures being taken to put down the present unstamped press ; and whatever might be said as to the manner in which some of these papers was conducted, they were of great use in creating that habit of reading which was the first step in human improvement. The mass of the people sympathised with those who were prosecuted under the existing regulations, and he regretted that laws should remain on the statute-book which had the tendency of bring-

ing all law into disrepute, and of making those who lived in its habitual violation respected by the community. The Premier in reply stated that he felt the arguments advanced were of great weight, and admitted that the financial part of the subject was not the most important. He could not, however, at that early period of the session announce what course the Government would take, but assured the deputation that the various reasons they had adduced should have the serious and anxious consideration they certainly deserved.

The general impression produced upon the public mind was that the tax would be abolished, and the *Examiner* even went the length of congratulating its readers upon the certainty of the removal of the duty. The newspaper dealers took concerted action with a view to obtain a reduction only, and in March passed a resolution upon the subject, which was forwarded to the Chancellor of the Exchequer. The same month another public meeting was held, this time at the Guildhall under the presidency of the Lord Mayor, when Dr. Birkbeck again advocated the repeal, and supported a resolution to the effect that the duty was a

direct tax upon knowledge. Numerous additional petitions were presented, and the question again formally raised in the House; whereupon the Government announced that the duty would be reduced to one penny.

This excited the Doctor and his friends to renewed activity. Once more, attended by his old companions, he waited upon the Chancellor of the Exchequer (Lord Melbourne also being present at the interview), when he stated the deputation felt they should not be doing their duty without making another appeal in favour of a line of policy worthy of the character of a liberal and enlightened administration. The proposal of the Government, if carried out, would have the result of extinguishing or preventing the existence of a multitude of useful publications, especially those accessible to the working classes, almost as effectually as the existing stamp; and he failed to understand why this description of literature should be practically prohibited to industrious and deserving men. The Chancellor of the Exchequer replied to the effect that he should not be able to carry a measure for the total abolition of the tax, but he proposed to lower

the paper-duty, and considered this would be more useful than the abandonment of the penny stamp. The deputation, however, feeling that if the newspaper-tax were reduced its total repeal would be indefinitely postponed, exhibited great pertinacity; and in the end considerable feeling was manifested by some of its members, who spoke very warmly on the subject, one of them advocating the general purchase of unstamped newspapers if the Government would not yield to public opinion.

Nearly a hundred further petitions were presented to the House; but the Chancellor of the Exchequer adhered to his original proposal, and in May brought in his budget, and announced the intended reduction of the stamp to one penny. He stated he also proposed to make an important reduction in the paper-duty—an impost equally indefensible, but one which the advocates of total abolition had been willing should be continued for the present, if their immediate object could have been attained. Further strenuous efforts were made by them, but without success; and even the reduction of the tax was not carried without considerable opposition. The counter-

cry of "cheap soap" was raised by some worthy members, who had not hitherto been particularly solicitous for the welfare of the "great unwashed", but who now ingeniously contended that it was more important the people should be clean than learned. This theory, however, the House would not allow to prevail; and the proposals of the Government were ultimately adopted.

The reform was another stage in the march of intellect, but the predictions of the friends of knowledge proved correct. Nearly twenty years were destined to elapse, and George Birkbeck had long passed away, before the newspaper-tax was abolished, and the country could boast of possessing in every sense of the term the great boon of a "free press."

In the early part of 1837 the Doctor was attacked with a severe catarrh of a highly inflammatory description, which prostrated him for several months before it was overcome. The following letter from Place to the honorary secretary of the Westminster Literary Institution, which was in process of formation at the time, shows the serious nature of the illness. It

will be remembered that the Doctor eventually presided at the meeting when the new venture was floated.

"18th February, 1837.

"DEAR SIR,—I saw Dr. Birkbeck yesterday, and read to him a long letter I had carefully written respecting your project. I wrote the letter intending to leave it if he were from home. He is far from well; he said he had been very ill, was still very weak, and that repose was absolutely necessary. He had been subpœnaed and had attended a trial in the Court of King's Bench, the consequence of which was he was thrown back and had not recovered. He said his powers were leaving him, and he had been compelled to give up several things with much reluctance, and that still he should think the chair of your meeting an honour, but should certainly be unable to undertake the office until the beginning of April. In my letter I said if he could take the chair, I would go at once to Lord Brougham, who would probably be induced to sit by his side; though we both know he would not do so by any other person. He said he certainly would consent to take the chair, were it not that the personal risk was such as to compel him to decline doing so until the weather was more genial and his own strength to a considerable extent restored.

"You must decide for yourselves what you will do, and then I will do whatever I can to aid you.

"Yours truly, "FRANCIS PLACE."

It was shortly after this that Dr. Birkbeck severed his connection with the General Dis-

pensary of Aldersgate Street, with which he had been connected for more than a quarter of a century. The cause was not one very creditable to the institution, as it rose out of the determination of the treasurer and committee to maintain a system of "virtually putting up to sale, as it were, all the most efficient offices of the charity." Such a course sufficiently condemns itself, and was so strongly censured that the whole of the medical establishment, together with the patron and president, the Duke of Sussex, resigned their offices. The Doctor received, in common with those with whom he had acted in concert, the thanks of the Medical Society, with which he had been so long connected, for their practical and emphatic protest against this system; and the occasion was a noteworthy one, inasmuch as it was the last on which he stood upon the platform of this Society.

The same year, 1837, an enterprising engraver, Mr. C. Bunning, junior, took advantage of the Doctor's popularity to issue a steel medallion portrait of that "truly patriotic and highly esteemed gentleman", dedicated amid many flourishes of the pen to Lord Brougham and Vaux, and addressed "to the admirers and

promoters of the diffusion of useful knowledge amongst all classes of society." The engraving occupied but a rather meagre portion of the elaborate card upon which it was mounted; but it was a very creditable production, and gave a pleasing expression to the countenance. Mr. Bunning, however, paid the usual penalty for a dedication, and attributed to Lord Brougham a somewhat greater share in the promotion of Mechanics' Institutes than his Lordship, despite his eminent services to the cause of popular education, could or would have wished to claim.

The last of Dr. Birkbeck's lectures to the London Institution were on the construction and power of modern telescopes and microscopes, delivered in April 1837, and on the measurement of time, delivered in March of the following year. With these appears to have terminated his active connection of about thirty years with the Institution.

An important step was taken in this same year of 1837 to consolidate and extend the usefulness of the Institutions, by the establishment of UNIONS between those within a defined area

The scheme was another important item in the successful educational work of Sir Edward Baines, the suggestion having originally been made by him in the *Leeds Mercury*, and being chiefly carried out by his indefatigable exertions. Delegates from various Institutions met in Leeds in December, when the West Riding Union, embracing about twelve Institutions, and identifying the further progressive step with the Doctor's native county, was formed. The object was to amalgamate their resources for the common good, principally by engaging lecturers who should make the circuit of the different towns, and give regular courses of instruction in such subjects as mechanics, chemistry, political economy, and statistics.

The same year a successful exhibition of works of art, pictures, statues, models of machinery, etc., was held at Manchester, lasting for several weeks, and being visited by upwards of fifty thousand persons, who were highly gratified. On the recommendation of the Yorkshire Union, similar exhibitions were held in 1839 at Sowerby Bridge and at Ripon. Others were held at Derby and Leeds, the one at the latter town realising about £1,600 net.

Two new Unions were also formed in this year, namely those of Lancashire and London. The latter arose out of a work (which extended to upwards of three hundred pages) published by the Society for the Diffusion of Useful Knowledge, in the especial interests of the Institutions, for the purpose of promoting the cause by the establishment of new societies, and by adding to the utility of those already in existence. Special allusion is of course made to the labours of the originator of the scheme, and to the Mechanics' Institution, the writer's testimony being to the effect that it was in a high degree flourishing and had been the parent of most of the organisations of the same class throughout the country. In furtherance of the objects contemplated a circular was issued, inviting delegates from the various London committees to attend a meeting in the Society's rooms, in order to establish a correspondence among the different Institutions for mutual assistance and profit. The invitation was cordially accepted; and, on the motion of Dr. Birkbeck, several practical resolutions were passed, and he added to his educational labours by becoming president of the new association.

Not long afterwards, at the instance of the Government, the Doctor undertook a series of experiments for the purpose of testing the merits of an invention by Mr. Rudkin, intended to furnish a mode of ascertaining the quantity of alcohol obtained by distillation more accurate than the rude existing system of excise supervision. He devoted much time to these experiments, and incurred considerable expenses in making them—an outlay which he was never repaid.

In 1840, in company with his eldest daughter, he paid a visit to Manchester, where his second son was then residing. The opportunity was seized by the operatives of the town and some of their employers to give a public reception to the founder of Mechanics' Institutions; and it was noticed that he experienced great fatigue in addressing the large audience—a weakness which proved the forerunner of a fatal malady.

During all this time the confines of the educational movement abroad had been gradually extended. It had, as will be remembered, early embraced America and France. Since then, it had found its way to RUSSIA; soon after it

reached AUSTRALIA ; and later on CHINA and INDIA were brought under its influence. It was in October 1831 that a Mechanics' Institute was established at St. Petersburg, 132 pupils being educated at the expense of the State, and others being admitted on prescribed terms. In 1833 a "Mechanics' School of Art" was formally organised at Sydney, under the patronage of the Governor. A Society for the Diffusion of Useful Knowledge was established at Canton in 1837; and two years later a Calcutta Mechanics' Institution was formed, lectures being delivered on the physical sciences, manufactures, commerce, agriculture and the arts. VAN DIEMEN'S LAND was also reached ; and we actually have an account of a Mohawk Mechanics' Institute, established at an Indian village about two miles from Brandtford, where instruction was given in handicraft trades ; it being stated that many of the members by making steady progress afforded sufficient evidence of their capacity to be weaned from the dissolute habits of half-reclaimed savages.

The tree of knowledge had been planted in nearly every corner of the globe.

At home, the action taken by the Society for the Diffusion of Useful Knowledge led to efforts being made to unite the different bodies in bonds of friendship and common interest. The secretary visited a great number of them, and submitted the Society's proposals; and as the result six associations were formed, with London, Manchester, Birmingham, Leeds, Bristol, and Lewes for their centres, embracing in all about eighty Institutions.

This led to the publication in 1841 of a further work, containing a record of what had been done, a report on the condition of the various organisations, and numerous suggestions for the advancement of the cause. The total number of Institutions in existence was about two hundred and twenty, of which thirty-six were in the metropolis and suburbs. This of course takes no note of all those societies which had carried on the work for a time, but had failed to continue it from several causes, in particular from the opposition which some of the smaller bodies were unable to withstand, and from the lack of sufficient preparatory schools. A grand total of upwards of thirty thousand members—who, it must be borne in mind, were

carrying the knowledge they acquired into their homes and the world, and gradually making way for new pupils—gives some idea of the good which was being accomplished through the agencies Dr. Birkbeck had called into existence.

The parent Institution maintained its position. The number of students was over eleven hundred, and of these more than eight hundred were mechanics. It had been rendered nearly self-supporting, and the debt had been reduced by about £1,300—no inconsiderable sum, although it still left a balance of £2,500 owing to the president. A hundred lectures were delivered annually, the fees paid to the professors averaging £3 per lecture; and the issue of books during the same period was upwards of twenty thousand. The evening classes for instruction in various branches of knowledge were also in active operation.

CHAPTER VII.

IN MEMORIAM.

1841.

WE have now seen the extent to which the educational movement had spread, when he who had originated, and so actively sustained it, was called away from the scene of his labours.

With substantial records of the work he had accomplished existing in all parts of the land, the pioneer of popular education terminated his earthly career. He had been attacked some eighteen months previously with severe bronchitis, and this was shortly followed by a distressing complaint—enlargement of the prostate gland, accompanied by great local irritation. Notwithstanding that his habits and mode of life had been simple and abstemious almost to an extreme, the disease proved too powerful for human skill to combat, and was attended with the formation of a calculus. He was confined for weeks to his bed, his acute sufferings being

heroically and even cheerfully borne. On one occasion he expressed in a note to the secretary of the Institution his strong wish to attend a meeting, when some special business rendered his presence desirable, adding, however, "but it is not permitted." He lived till within six weeks of the sixty-sixth anniversary of his birth, his usual serenity remaining undisturbed and his intellect unclouded to the last.

The date of the death is worthy of notice. As though the spirit of his work hovered over his couch, and decreed that even the solemnity of the soul's transition should be identified with his pure and noble earthly mission, it was on the eve of the anniversary of the Institution that the members lost their esteemed president. On the *2nd December* 1823 the London Mechanics' Institution was formed; on the *1st December* 1841 its illustrious founder ceased to breathe. Almost his last thoughts were of the mechanics. But a few hours before his death he dictated to his daughter a letter to the members, expressing his wish to have been present at the forthcoming annual meeting, and stating that he had read the programme and felt confident of its success. It is scarcely necessary to

say, however, that the programme was not carried out, and that the meeting adjourned after a resolution had been passed amidst profound sorrow.

Looking forward to this period, one powerful writer had already gauged the life-work of the great humanitarian, and pronounced an eloquent panegyric, which although stamped with the impress of an ardent enthusiast, may be not unfittingly echoed at this distance of time.

"When," says the writer, "the irrevocable decree shall be fulfilled which mingles the dust of the enlightened philosopher with that of the untutored Indian, and confounds all distinction in the 'cold obstruction' of the grave; when the heart that now glows with virtue and benevolence shall cease its pulsations for ever, and the hand that is stretched forth to the assistance of unobtrusive merit shall be extended no more; the name of Dr. Birkbeck will be remembered by countless multitudes with respect and veneration; in ages yet unborn it will be associated with those of the greatest benefactors of mankind; and the establishment of Mechanics' Institutions will be his passport to a glorious immortality!"

The organs of the press paid to him the tribute of respect usually accorded to the departed great. Several of them devoted long articles to his career; and such poor honours as

this world can give were freely bestowed upon the deceased philanthropist. How sincerely the mechanics mourned can well be imagined. "When," says Harriet Martineau, "the departure of this excellent man was known, there was sorrow over all the land where the working men met for self and mutual instruction." Nor were they alone in their grief. Social and educational friends who realised that a gap had been made in their circle, and men of scientific research who missed an earnest and an honest worker, mingled with the members of the Institution and other societies, who assembled in hundreds to pay their last tribute of respect to the man that had proved himself their life-long friend. Exiles from a foreign land, the unhappy Poles, whom he had greatly befriended, attended to mourn a benefactor lost, and homage was paid him by the great and noble. His remains were laid in Kensal Green Cemetery. The mechanics headed the funeral procession four abreast; twenty-four mourning coaches followed the hearse; fifteen private carriages succeeded, including those of Lord Brougham, the Turkish Ambassador, and several of the deceased's medical friends; and the committee of the

Polish refugees and several of their countrymen joined the mournful pageant in its progress. In all there numbered a thousand persons who, despite of inclement weather, stood at the grave of George Birkbeck.

Visible mementoes were also forthcoming. A marble medallion of the Doctor was executed by Mr. Foley at the expense of the members, and placed above the lecture platform of the Institution; and the "Birkbeck Laboratory of Practical Science" at University College was made the formal and substantial expression of the public sentiment.

Meetings were convened for deciding on the form the memorial should take; and a committee was elected which recommended the appointment of a special professorship at the University, in the formation of which the Doctor had borne so prominent a part.

Lord Brougham presided on the occasion of the report of the committee being taken into consideration, and stated that, although he had laid down a rule for himself not to attend public meetings, he should ever most cheerfully break through it when called upon to testify his sense

of gratitude, in common with that of the whole country, for obligations such as the man whose memory they were then met to perpetuate had conferred upon society. He spoke from a knowledge of upwards of forty-five years of Dr. Birkbeck, and could bear testimony to the talent, the skill, and the moral worth of the man, and to the steady devotion of all his powers to the best interests of mankind. His whole life was framed upon the maxim that the noblest of all pursuits was the pursuit of truth, and the highest of all duties was the diffusion of it among his fellow creatures.

Mr. Joseph Hume supported the proposal, and Lord John Russell moved a resolution to the effect that the meeting desired "to record their deep sense of the many services which Dr. Birkbeck had rendered to the education of the people by founding, in 1800, and teaching a class for mechanics at Glasgow, and by his munificent aid in founding and his constant care in superintending the London Mechanics' Institution, and by his ready assistance in forming similar bodies throughout the kingdom."

A little over £700 was raised, and was appropriated by the council of the College, together with

Dr. Birkbeck's name, to a laboratory for practical instruction in organic and general chemistry and the principles of chemical research, as applied more particularly to the manufacturing arts. The "Birkbeck course for persons practically engaged in manufactures" was also established, at reduced fees for evening instruction.

Several years later the inhabitants of Settle erected to their illustrious townsman, by public subscription, a handsome mural tablet having a medallion head, sculptured by Mr. Layland of Halifax. It was originally intended for the church; but owing to delay, consequent on the prolonged illness and ultimate death of the sculptor to whom the work was originally entrusted, and to some misunderstandings which arose, it was eventually placed in the Mechanics' Institute in the town. The inscription, which was penned by Lord Brougham, is as follows:—

"Sacred to the memory of George Birkbeck, M.D., who with unwearied industry and inflexible perseverance devoted his great natural talents, his extensive and accurate learning, under the guidance of a sound judgment, to the fearless but unpretending exposition of his principles and the general improvement of his fellow-men. Eminent as a teacher of science, he accomplished his favourite design of bringing philo-

sophy down to the acquaintance of the people. Having successfully taught the working men of Glasgow, while professor in the Anderson College in 1798, he afterwards extended to England the inestimable benefits of his wise and generous plan, by founding in 1824 the London Mechanics' Institute, to which he was likewise a most munificent patron. He was born 1776, and died 1841."

But no grander monument could be erected to Dr. Birkbeck than is seen in the Institution over which he presided from its birth to his own death—a colossal monument indeed. His epitaph is written in the tomes of its library; on its very walls his name is engraved. Its classes, its lectures, its members, its workers, all bear witness to his benevolent labours, and unite to sound his praise. And wherever a kindred Institution exists, there too his fame is proclaimed. Throughout the length and breadth of the land indications are seen of what he achieved; and enduring testimony reminds us to-day that he was indeed "the people's friend." *Si monumentum requiris, circumspice.*

George Birkbeck was in fact a NATIONAL REFORMER.

Never before had one belonging to his rank of society made a serious and sustained effort to

educate the lower classes, or condescended voluntarily to give instruction to the English mechanic. We have seen the opposition the scheme encountered from many powerful and influential quarters; and this may be considered fairly typical of the general sentiment which at the first prevailed, and which long continued to exercise a pernicious sway.

It is an observation often made—and every progressive mind has realised its truth—that man is largely conservative in his ideas. All changes of an important character are viewed with diffidence and distrust, if not with strong antipathy; and reforms have to be advocated year after year ere they can be accomplished. With some, of a timorous disposition, the fear of flying to ills they know not of, makes them content to bear those they have. Others deem it their special duty to hold in check what they consider a revolutionary and iconoclastic spirit. Some discover that the time is not ripe for schemes which are being advocated, but hint that at a future date they would view the matter in a different light. Others are satisfied with things as they are, and boldly oppose any interference with existing institutions, in the apparent belief

that human perfection has at length been attained. And yet others seem to be of opinion that we have already advanced with too rapid strides, and themselves would be quite prepared to move in a backward direction. All are united, therefore, in the common object of placing obstacles in the reformer's path.

And in scarcely anything has the conservative spirit been more conspicuous and active than in its approval of the ignorant condition of the masses and its opposition to the diffusion of knowledge. It was looked upon as being perfectly right that the people as a whole should remain in ignorance of almost everything save their particular crafts. For them ever to attain to the higher branches of knowledge would have been regarded as impracticable, had the practicability of the question been considered. But, in truth, it had not advanced so far; it had not even reached the stage of calling for serious attention. And when, at length, it was forced upon the public mind, it was met with doubts and disapproval. The possibility of the masses devoting themselves to the study of the sciences was at once ridiculed and challenged. They

lacked both capacity and inclination ; and, above all, education would be a sure means of rendering them envious and discontented. It would—terrible calamity!—make the people study politics, and lay them open to the arts of designing men. Science and learning, if universally diffused, would, said a metropolitan magistrate, in a pamphlet on Indigence published in the early part of the century, speedily overturn the best constituted Government on earth. Later on the assertion was gravely made in Parliament that in France there was least crime where ignorance was most dense ; the inference being that education would render the people vicious. "The principle was reverenced," says Lord Cockburn, "as indisputable, that the ignorance of the people was necessary to their obedience of law." Nor, despite the progress that had been made, had this spirit by any means died out at the time of Dr. Birkbeck's death. Writing shortly after, the *Morning Post*, in a sneering article, gave him credit for being a well-meaning sort of man, deeply imbued with partialities for the promotion of popular education, the prevailing theories upon which the writer declared to be connected as a cause

with much of the misery that might be witnessed in the world.

Such eighty years ago was the generally accepted creed of society; whilst even forty years afterwards it was still widely prevalent. To-day its shibboleth is so rarely pronounced that its exponents excite only pity or contempt.

The man, therefore, who could initiate and be the chief instrument in bringing about such a vast change of public opinion was no ordinary individual. Apart from what we actually know of him, it is not difficult to read his character. A clear head, a ready hand, a benevolent heart; originality of idea, depth of emotion; firmness in resolve, promptness in action; unbounded enthusiasm, unwavering devotion; proficiency, erudition; perseverance, pertinacity; generosity, self-denial; nobility, manliness—such must have been the attributes of the mechanics' friend.

A writer of an obituary notice in the *Gentlemen's Magazine* gives us the following portraiture:—

"He was mild and equable in his temper and disposition, benevolent in spirit, and possessing great suavity of manners. Whenever he appeared among the mechanics he was welcomed as a father; he was highly appreciated by a very large circle of private

friends, and was held in great esteem by the most eminent public literary and scientific men of the day. He possessed a reflective, beneficent countenance, a venerable and very unpretending aspect."

Says the *Morning Chronicle*—which never swerved in its allegiance to him and the cause he advocated—in the course of a long article :—

"The grave cannot be permitted to close over the remains of this estimable man, without some tribute of respect to his worth being paid in the columns of a public journal. He was a Liberal in his politics, but science is of no party; over it and its votaries the storms of party war and civil strife should alike roll innocuous. The subject of this sketch never allowed party motives to influence the exercise of his beneficence; and those who have exerted themselves to ameliorate the condition of their fellow-men are entitled to commemoration, whatever be their political or religious creed."

The *Times*, *Standard*, *Examiner*, and other newspapers rendered similar testimony, which it is not necessary to repeat. In one memoir Dr Birkbeck's name was referred to as "part of the history of the day and its efforts at self-advancement"; in another he was introduced as the "well-known medical and philanthropic individual"; and another closed its biographical sketch by stating it had been "drawn from one not accustomed to bestow undue praises on

a member of the faculty; but, in the language of Junius, 'the panegyric will wear well, for it has been nobly earned.'"

As will already have been gathered, as a politician the Doctor was not frequently active, perhaps fortunately for the cause he had espoused; and he studiously avoided arousing a party spirit. But his sympathies, as exemplified in speech and action, were all in the direction of progress. In his inaugural address to the Institution he advocated the abolition of those laws which prevented free trade and placed restrictions upon workmen; his hearty support of Mr. Grote, and his services in connection with the partial repeal of the newspaper-tax have been referred to; and it will be readily believed that he was the friend of all reform.

His theological tenets, equally with his political, he never sought to parade; but it will be remembered that he was originally connected with the Society of Friends, to which, as already stated, his family had for generations belonged. In his later life he does not appear to have identified himself with any special denomination; and he listened with pleasure to the various talented and popular preachers of his day, irre-

spective of their particular opinions. He was strongly in favour of complete toleration for all religious beliefs; but he regarded the profession of atheistical views as explicable only on the supposition that it proceeded from an affectation of singularity or a mental incapacity. Whilst he made no ostentatious display of piety, he was too sincerely devout to repress in his public utterances a recognition of his belief in a divine Providence which was the controlling principle of his actions. Science and theology were not so antagonistic in his day as they now sometimes are; and in all his studies he was led to a more profound faith in a wise and beneficent Creator. His address, already quoted, on the occasion of the laying of the foundation stone of the Institution fairly exhibits his religious spirit; but two other illustrations, taken from his lectures to the mechanics on the winds and on the structure and functions of the human body, may not be out of place. The first he concluded as follows:—

"Difficult as it may appear to reconcile all the variable and capricious phenomena of the atmosphere, there cannot exist a doubt that from a system so impressively stamped with design and intelligence, fortuitous occurrences must be universally excluded.

He who at the creation proclaimed 'This be thy just circumference, O world!' who declared to the impetuous ocean 'Thus far shalt thou go and no further, and here shall thy proud waves be stayed', and who by his immediate mandate 'has stopped the thunder in mid-heaven', has not allowed, we may be persuaded, the subordinate phenomena to proceed without equal control. Every breeze which murmurs through the air must have received its commission in accordance with unchangeable laws, and when we have extended our inquiries into second causes to the utmost limits to which science can aspire, we must terminate our researches by reverently admitting the existence of a presiding Intelligence, a great First Cause."

His remarks on the human body he closed by some observations struck in a similar key:—

"In the lectures which I have already delivered, and to which your attention has been intense and unvarying, I hope I have succeeded in pointing out to you the structure and situation of the chief organs which constitute the beautiful fabric of the human body, and in showing the various purposes which the parts enumerated were intended to answer. These purposes, which it is always delightful to contemplate, philosophers have called *final causes;* they may be called also the intentions of the Deity; and as the counsels of God I have not refused to deliver them to you. Where we have been capable of detecting the *final cause*, or the *counsels*, as they may be termed, I have also been anxious to proclaim to you the great wisdom with which they may have been introduced, and their unquestionable superiority over the contrivances and arrangements of the human artificer. I have

likewise endeavoured to render the subject as plain and intelligible as possible, whilst presenting to your minds those instances of design in the mechanism of the body which human sagacity has been able to penetrate. I hope I have made you discover in this curious structure, something more valuable and more deserving of your care than you had previously known to exist in it; and I trust also that I have sufficiently verified the assertion with which I commenced these lectures—that 'man is a miracle to man.'"

Of the extent of the Doctor's scientific attainments we have abundance of evidence. Such rapid strides, however, have been made of late years, and the doctrine of teleology, which he ever taught as it was proclaimed by Socrates and Newton, has been in many eminent quarters either attacked or ignored, that some may be inclined to under-estimate his accomplishments. Sufficient, nevertheless, has been said to indicate the appreciation in which he was held in his own day; and, whilst he was distinctly in advance of his times in the work with which he is especially identified, he took great care to keep abreast of the age in his personal knowledge. In more than one quarter regret was expressed that he had not devoted himself entirely to general science, rather than have embraced the medical profession; and, on the other hand, it was confi-

dently stated that had his time and his talents been directed exclusively or even principally to the study of medicine, he would unquestionably have enlarged its boundaries. Upon this subject the *Morning Chronicle* remarks :—

"As a medical man, Dr. Birkbeck enjoyed considerable practice, much more so than is generally bestowed on those given to scientific or literary pursuits. . . . . The physician who cultivates letters will be baulked of his professional expectations, and stigmatised as a paper-stainer by the chief of his professional brethren. Dr. Birkbeck, from some fortunate accident, was not a sufferer to this extent; but we believe it was generally expected that on the accession of Her Majesty to the throne his scientific services would have been acknowledged by the appointment to an honorary medical office in the royal household; but this expectation was not realized."

The Doctor's literary style, and to some extent his powers as a public speaker, have been exhibited by the extracts from his addresses which have been introduced. His diction was clear and expressive, his sentences were rhythmical, his language was well sustained, and he had a musical voice. He made a judicious use of simile and metaphor, was felicitous in his introduction of quotations, and occasionally illustrated with effect from the poets, of whom Gray

occupied a high place in his estimation. Perhaps the chief criticism which could be passed upon his style would be that it was at times too formally polished ; and some of his special addresses bear internal evidence of careful preparation. But whilst he indulged in rhetorical embellishments, he cannot be accused of sacrificing sense to sound. In his ordinary lectures to the mechanics —which, on account of their purely technical and didactic character, have been but very scantily quoted—he was studious to employ such expressions as were best suited to convey instruction to their minds ; and he addressed them in an easy manner, employing only a few notes. Contemporary testimony was to the effect that as a public speaker he acquitted himself with credit, speaking with singular neatness and fluency ; and that his ideas were always sound and practical, and were as clear as his language.

Of his professional character, Dr. Henry Clutterbuck, one of his colleagues in the presidency of the Medical Society of London, has left on record the following testimony, originally given to the members of the Society :—

" His claim to notice was of he highest stamp. Acute in observation, discriminating in judgment,

patient and cautious in prescribing and administering remedies, he was, as might have been expected, eminently successful in practice; thereby, as well as by suavity of demeanour, ensuring the entire confidence of his patients. He was thoroughly imbued with a knowledge of the principles and practice of our art as at present subsisting."

As to his private character, it is needless to reiterate the testimony which has been given throughout these pages; but further reference may be allowed on this point to the authority just quoted, who—after stating that he had been associated with Dr. Birkbeck in office for nearly thirty years, during which time not a single unkindly feeling existed between them—states that as a man he was unassuming and artless in his manners, of unbounded benevolence and inflexible integrity; and that he was beloved as well as esteemed by a large circle of private friends; was admired respected and lamented by multitudes of all ranks, who had profited by his instruction or by his benevolence; and was almost adored in his domestic circle.

Of the life-work of Dr. Birkbeck the present generation can scarcely form an adequate estimate.

Difficult is it to-day to realise how great was the

reformation which he effected. Nearly a century has elapsed since his self-appointed task began, and the spirit by which he was actuated has now permeated the land. Even for a moment to take that spirit from our midst and to retrocede some four score years does not admit of possibility. We may attempt to portray the condition of the country, but the portraiture lacks distinctness and vividness; at the best it is but a feeble reproduction of what he saw and felt.

And as impossible is it to gauge his labours as to revivify the times in which he lived. He found a society in which caste was dominant; and he became the means of raising the humble Sudras to the dignity of manhood, until the haughty Brahmins were compelled to acknowledge their claims. He discovered men with mental powers which hitherto had been neglected; and he furnished the means by which those powers could be developed and employed. He opened out a path to science along which the poor might journey; and he guided and sustained them on the road. Almost before the demand existed, he created the supply; and as the supply re-acted and gave rise to an

ever-increasing demand, he laboured unwearyingly to satisfy the want.

Thus he effected a splendid revolution. In its origin almost imperceptible, quietly it was carried out; yet with great and enduring results. "Peace hath her victories no less renown'd than war," and this will rank amongst her most renowned. It was a triumph the magnitude and glory of which can scarcely be overrated—a triumph of knowledge over ignorance, conviction over prejudice, zeal over apathy, esteem over disdain. And it was gained by one whose avocation was to heal, and not to slay: it left no blasting pestilence in its train, but prosperity and joy for thousands.

For all these truly national services, intimates a writer of thirty years ago, not without a touch of sarcasm, "the Government had the generosity the other day to offer £50 per annum to Dr. Birkbeck's widow—an offer which was *declined*."

Better was it that it was not accepted. Alone he struck the first blow for the intellectual emancipation of his lowly friends; without State aid or grant he fought the battle with his own right arm; and with the army which he himself had raised, from amongst those won to him by his

genial manner, he gained the mighty and glorious victory. Better far that the name of the noble warrior with ignorance, bigotry and vice should figure not in civil list or pension roll. Let these be reserved for the generals who but too often desolate and destroy, and who receive not their fifties but their thousands from the public revenue. For George Birkbeck was reserved the higher reward of the lasting esteem and gratitude of his humble brethen.

As already indicated, the second partner of the Doctor's home survived him; and her grief was assuaged, as far as it could be, by the consolation and support of her two sons and two daughters; whilst the son by the first wife also remained long to follow in the footsteps of his father.

The career of MR. WILLIAM LLOYD BIRKBECK, the eldest son, has been worthy of the distinguished name he bears. In 1826, at the age of nineteen, he entered Trinity College, Cambridge; and in January 1830 graduated as Bachelor of Arts. In October of the same year he was elected a Fellow of his College, and in 1833 took his degree of Master of Arts. The

next year he was called to the bar, and in 1852 was appointed reader in equity to the Society of Lincoln's Inn—a position which he occupied for twenty years. In 1860 he became Downing professor of the laws of England in the University at which he had obtained his honours, the duties of which office he still discharges. Like his father, he has proved a friend to the Poles, having been the co-adjutor of the late Lord Dudley Stuart in his measures on behalf of this oppressed nation and its exiled children, and having now been for forty years honorary secretary of the Literary Association of the Friends of Poland, in many parts of which country he is well known. He has also identified himself with the cause of popular education; and has been the president of the parent Institution from the death of its founder, and taken an active part in measures for its welfare.

The Doctor's second son, Mr. George Henry Birkbeck, of Rock Ferry near Birkenhead, has also attained some distinction. From an early age he gave signs of great aptitude for mechanical pursuits. At sixteen he entered the workshops of the celebrated Mr. (afterwards Sir) William Fairbairn of Manchester, for the

purpose of studying engraving, and he subsequently became a civil engineer of eminence.

Of the daughters, the elder, Anna Margaret, was a lady of some genius, celebrated also for her remarkable beauty. She was the author of "Rural and Historical Gleanings from Eastern Europe", a work, published in 1854, which dealt in an interesting form with the history customs and legends of the Magyars and Slavonians of Hungary. In 1857 she married Colonel Mednyanszky of Eperies, the aide-de-camp of General Klapka. She died in 1863, having by her will bequeathed £1,000 to Trinity College Cambridge for the establishment of a "Birkbeck Lectureship" in ecclesiastical history, in memory of her younger brother and sister, who died shortly before her. There was also established pursuant to her will, at the Institution her father had founded, an annual "Mednyanszky Prize" of the value of £3, for the best essay by younger members on the subject of education.

CHAPTER VIII.

RESULTS OF THE DIFFUSION OF KNOWLEDGE.

IT would be superfluous to point out in detail all the benefits which have accrued, alike to individual and nation, from the noble reform the history of which has been narrated. To a great extent they may be incidentally gathered from what has already been said; and, apart from this, they can be seen and felt, and need not to be tabulated to be appreciated.

Not, however, to rest content with a mere general survey, and in justice to the subject of our memoir, let us take a glance at some of the chief advantages arising from the diffusion of knowledge amongst the people.

Looked at first from the individual point of view, the benefits conferred upon the poorer classes it is scarcely possible to over-estimate. For they are those manifold benefits which

knowledge always bestows, and which to adequately indicate would require a volume alone.

So long as the vast majority of the people were allowed to remain in a state of ignorance, the inquiry might well have been made, what boots it all our talk about progress? If knowledge is a partial benefactress, and like society smiles upon broadcloth alone, whilst to the eyes of the humble poor "her ample page, rich with the spoils of time," she ne'er unrolls, what matter it to nine-tenths of the population how ample or how rich that page may be? To the warm-hearted humanitarian, nay to all but the absolutely selfish, no advancement can be hailed with unmixed satisfaction which is chiefly confined to a class, and that the class to whom fortune has already been specially gracious. Increased learning, like increased wealth, unless accompanied by general distribution, fails to exercise its maximum power for good. The highest form of progress consists in the elevation of the masses.

With justice, then, does Miss Martineau refer to the establishment of the London Mechanics' Institution as one of the most cheering incidents of the period, and observe that men of her

generation might well distinguish the year 1823 with a mark of honour in the catalogue of their years. Like a minister of light, Dr. Birkbeck appeared amongst the mechanics and artisans, dispelling the darkness which enshrouded their minds. He unscaled the eyes, he strengthened the vision, he opened out to view a radiant landscape; until at length his dazzled and delighted beholders felt that they had entered a brighter existence, and that whereas they were blind now they could see.

Science, we are told by a high authority, is the knowledge which is of most worth. Says Mr. Herbert Spencer, after an exhaustive analysis of the subject :—

"For direct self-preservation, or the maintenance of life and health, the all important knowledge is—Science. For that indirect self-preservation which we call gaining a livelihood, the knowledge of greatest value is—Science. For the due discharge of parental functions, the proper guidance is to be found only in—Science. For that interpretation of national life, past and present, without which the citizen cannot rightly regulate his conduct, the indispensable key is—Science. Alike for the most perfect production and present enjoyment of art in all its forms, the needful preparation is still—Science. And for purposes of discipline, intellectual, moral, religious, the most efficient study is, once more—Science."

This, it may perhaps be said, is the view of a specialist in those branches of study to which he awards the palm; but recently, indeed, it has been to some extent condemned as being one-sided and partial; and possibly it does not represent the entire truth. But though it need qualification, it bears unimpeachable testimony to the fact that in opening the doors of science to his humble brethren Dr. Birkbeck conferred upon them a boon invaluable for every purpose and department of life.

Apart, however, from the fact that a wise selection was made in the class of knowledge primarily offered to the working man, any effective scheme for his mental enlightenment could not fail to be productive of good. All knowledge, be it of the comprehensive character of science or of a more restricted nature, is attended with great gain to the individual, as has been demonstrated in eloquent language on many an educational platform. That it is power has become proverbial; but it is more than this—it is an important subjective control; in its effect upon the recipient himself its utility is of the supreme degree.

Knowledge has a refining influence; it elevates

its rich possessor, and dignifies the lowliest roof. Since it is the mind which raises man above the brute creation, it is by the cultivation of the intellect that he becomes truly manly; since it is the mind which most nearly approaches the divine, it is by the cultivation of the intellect that he becomes godlike. Whether it be true or not that there is only a "missing link" between the lowest type of humanity and the highest type of the animal race, to the outward eye the grinning, gaping, chattering ape scarcely seems more removed from the civilized being than does the wild ferocious cannibal.

"The mind's the standard of the man;"

and the noble form without the intellect is one of the saddest spectacles in the wide creation. Dr. Birkbeck's gift to the labouring classes was therefore of the most exalted character.

Nor does knowledge simply impart nobility; it is also a permanent source of happiness. Other forms of pleasure are fleeting. The gratification of the senses brings but a spasmodic and ephemeral enjoyment; the bacchanalian cup may satiate—it cannot satisfy. But a cultivated intellect, as has been frequently pointed out, is a fountain of perennial and all-sufficing

happiness. The excitement of the busy world, the stimulus of external objects, are not needed ; the mind has resources of its own, and in quiet meditation finds repose and content. The educated man is not dependent upon special circumstances, is not at the mercy or caprice of others ; he may be denied extrinsic means of pleasure, but none can rob him of the treasury of thought. Should health fail him or friends prove false, he has staunch companions who will never forsake him ; *ennui* shall neither haunt his couch nor disturb his retirement ; he can live in a world peopled by memory or imagination ; he "holds communion with the immortal dead." Once more, then—Dr. Birkbeck was the means of creating for the working man a sublimer and happier life.

But, further—we find there was brought into play a counteracting influence to idleness and vice. To the individual who has no resources within himself, leisure hours are often a burden and a bane. He is carried away by every passing wind, becomes a mere creature of circumstances, and ofttimes, from want of occupation, finds his way to the haunts of profligacy and dissipation. The love of study, on the other hand, is an anti-

dote to indolence, and the full employment of the mental powers tends to subdue the sensual passions. Higher aims and aspirations are created, and immoral tendencies are curbed. True, alas! education is not a safeguard from depravity and crime; and the mere development of the intellect, if the emotions be dwarfed, produces anything but a lovable character. But this does not depreciate the advantages of knowledge, or detract from the general truth of what has been said; and there can be no doubt that ignorance is greatly responsible for a large share of the moral evil that is in the world. By rendering the people better informed, an encouragement is given to industry and thrift, and thereby to sobriety and virtue; and — again — Dr. Birkbeck's mission, therefore, was of the most beneficial character.

Nor are material rewards wanting. Knowledge, in addition to ennobling the mind, gladdening the heart, and elevating the moral tone, is the means of obtaining those substantial blessings which are indispensable to physical comfort. It is, in fact, a marketable commodity, possessing commercial and pecuniary advantages. And, however enthusiastic we may

become when dealing with the sublimer products of learning, this is a practical aspect of the subject which is by no means to be disregarded. The bread and cheese question is one which cannot be ignored; nay, it of necessity demands primary attention. And from this point of view, a high-class education is the greatest boon a man can receive. Merit, it cannot be denied, in some instances fails to command adequate remuneration; but skilled or mental labour does as a rule obtain a higher recompense than mere mechanical handiwork. Knowledge is a passport to posts of responsibility; it claims as its rewards the emoluments of the State. Other things being equal, it gives its possessor an immense advantage in the struggles of life, and is a means, not simply of adding to the aggregate wealth, but of bringing about a more equitable distribution. Whilst, therefore, it is worthy of pursuit for its own sake—and indeed is never more attractive than when so pursued—this concrete outcome of the quest calls for special recognition, and may be justly enumerated amongst the benefits which Dr. Birkbeck bestowed on the working classes.

We have hitherto looked at the results of the diffusion of knowledge so far as the individual is concerned: a few observations may now be offered, before leaving the subject, as to its effect upon the nation. This, at first sight, may seem to resolve itself into a mere generalization of the advantages already enumerated; since the gain to the community may be said to consist in the aggregate gain of the units composing it. But, as a matter of fact, this method of simple addition gives an inadequate sum total. For when education, from being confined to a small class, is extended to all sections of society, more powerful forces are brought into action, greater division of labour and co-operation are possible, and progression is in a geometrical rather than a simple arithmetical direction.

However valuable and indispensable the great men of a nation may be, by far the larger part of its resources remains but partially utilised, so long as vast numbers of the population are allowed to live in a state of comparative ignorance. The philosophers and the statesmen—the aristocracy of talent—are but a small section of society; and although they justly exercise an enormous influence,

the sinews of the country are found in its toiling masses.

Hence, from the standpoint alike of the political economist and the social reformer, that the people should be liberally educated is of the highest importance. The peculiarly gifted are thereby rescued from an obscurity from which, in all probability, they would otherwise never emerge; and latent genius is developed and made available for the good of all. Habits of endurance attention and industry, which a large class perforce acquire, are brought into combination with superior intelligence; and practical skill becomes united with theoretical knowledge, producing—to use language already quoted—the full perfection of intellectual power. And the general tendency is to render men, even when actuated by no unselfish motives, more mutually helpful, better citizens, and of greater service to the State. Thus moral progress is likewise made, and important reforms are brought about. The companions of ignorance, as we have seen, are too often poverty, vice and crime; and if we would effectually deal with these pernicious outgrowths, we must strike at the root of the evil. No doubt it partly arises from other causes, and especially

from the prevalent appetite for intoxicating drink; but even these are reached by increased knowledge, which not only tends to subjugate the sensual nature, but makes the social ban more rigorous and more keenly felt. And similarly, in the realm of politics, wiser and more righteous laws are the outcome of general education. Legislation, it is truly observed, is never in advance of the people; and a reliable index to the condition of the nation is to be found in its parliamentary annals. An ignorant mobility is invariably accompanied by a paternal and probably a despotic Government: only with an enlightened community are free institutions possible.

To raise, then, the intellectual status of the nation is to give the greatest impetus to material and moral progress; and this can only be accomplished by scattering broadcast the seeds of knowledge. By his educational labours amongst the people, Dr. Birkbeck contributed substantially to the prosperity of his country, and promoted the growth of civilization.

To fully chronicle the progress which has been actually made would be to narrate the

history of the century. When the pent-up waters of science were set free a new stream of life traversed the country in all directions. And that stream has never ceased to flow. Though many have tried to stem its progress, it has swelled in time into a mighty river, gathering increased volume as it rolls along, and sending forth innumerable tributaries, until at length it promises to fertilize all the land, and not to leave one barren acre.

The working classes have now become a powerful factor in the State, bringing into constant play a vast amount of mental force which for long ages had been lying dormant. If they have as yet justified the early opinion of the great educational reformer that the people cannot be profound, they have equally justified its accompanying prediction, uttered at a time when he stood almost alone, that great good would accrue to the community by the general diffusion of knowledge. Breathing a more invigorating air, and thereby acquiring greater strength, they impart to the body-politic additional life and increased vigour. To-day it is their voice which to a great extent decides who shall regulate the affairs of the nation. Few

are there who will not admit that they give stamina to the constitution; and measures for the increased dissemination of knowledge are lauded to the skies.

With the Reform Bill of 1832 a new era was inaugurated, and the system of representative government first established on a sure basis. Since then the franchise has been still further extended; a cheap daily press has made all men politicians; and the nation, it may now be said, is governed largely by the nation. Pauperism has enormously decreased; the standard of living has been raised; and there has been a steady accession to the ranks of the middle classes. The mechanical skill of former ages will scarcely bear comparison with that of the present century; the average number of inventions per annum has risen from two hundred and fifty to upwards of four thousand, and this notwithstanding the hitherto unsatisfactory state of the patent law; the domain of science has been enlarged beyond the wildest dreams of the past; agriculture, despite its depression in recent years, is in a new phase of existence; and the commercial supremacy of England has been established. Unjust restrictions upon workmen have been abolished;

the Factory Acts have rescued women and children from a bitter drudgery; and female education is raising the weaker sex to her true position, and enlarging for her the scope of employment. Drunkenness is far less prevalent than it formerly was; a revolution has taken place in sanitary affairs; a more just and merciful penal code has gradually been established; and religious tolerance has at length been largely secured.

Such are the more important triumphs which have been achieved, to a great extent—directly or indirectly—by means of the diffusion of knowledge amongst the people, and the change, incidental thereto, from a practically oligarchic to a democratic form of government. In recognizing these, we need not be unmindful of the fact that there is no discernible finality to reform, and that still further development awaits us as knowledge continues to enlarge its area. With all that has been accomplished, we are only yet in the early morn of the new era; and what splendour shall attend its meridian we can at present but vaguely foresee. Undoubtedly, many of the existing evils arise from a too marked inequality in the distri-

bution of wealth; and whilst communistic and socialistic schemes are for the most part so impracticable or inequitable as to render them unworthy of serious attention, to an increasing co-operation between capital and labour, a more extended recognition of the law of population, and a judicious revision of the landed system—all of which, there is little doubt, will come to pass as the people learn to appreciate the principles of economics—together with a still wider adoption of temperance principles, we are warranted in looking for a solution of the problems of the day.

Of course malcontents are to be found who will take a contrary view to all that has been advanced. There are always some, of a reactionary character, who mourn or affect to mourn for the good old times, talk of the degeneracy of the age, and reversing the happy creed of Pope, go about gloomily muttering that "whatever is, is *wrong*." Hence, we still occasionally meet with individuals who oppose the education of the masses, who yet believe in government by the few, who talk with regret of the period when the lower orders knew their position and did not

aspire to equality with their betters, and who would rather "let wealth and commerce, laws and learning die" than that the people at large should share in the power formerly centred in "our old nobility."

But to these little attention need be paid; they serve principally to illustrate a rule to which they are not very brilliant exceptions; and experience justifies no apprehension of the dire calamities they predict. The alarmist cry, which was uttered at the outset, has been echoed at every stage, but has proved unfounded and of no avail. The disasters which were foretold have not come to pass; the country has not gone to ruin; anarchy and turbulence have not resulted; the people have not become iconoclastic; and the despised plebeian, when fairly tried, has been found to possess as much wisdom as his haughty censors, and ofttimes more common sense.

We need not therefore fear the future. The past affords a basis for sound judgment, and verifies the conclusions at which we have arrived deductively; and with the educational forces now in play, we may look forward with hope and confidence.

CHAPTER IX.

FURTHER HISTORY OF THE PARENT INSTITUTION AND OF THE POPULAR EDUCATION MOVEMENT.

1841-1883.

THE present record would be incomplete without a parting glance at that now veteran Institution the progress of which has been traced down to the death of its illustrious founder, and a brief notice of the development of the educational movement during the period which has since elapsed.

Years ago the name of the venerable athenæum was changed in honour of him with whom it mainly originated, and in indication of its extended scope; and it became known by its present title of "THE BIRKBECK LITERARY AND SCIENTIFIC INSTITUTION." As already indicated, upon its founder's decease his eldest son was requested to occupy the presidential chair; and ably

has he filled the position for more than twice the period of his father's tenure.

The loss, however, sustained in Dr. Birkbeck's death, was not one from which the Institution easily recovered; and it has undergone periods of great vicissitude and trial. The number of members had somewhat declined during the period of the Doctor's illness; and, still further diminished by the depression of trade, it reached in 1844 as low a figure as 750. The receipts being less, the expenditure had been reduced; and fewer lectures were consequently given. The members were specially convened to consider the state of affairs; a committee was appointed; and in May 1845 a public meeting was held, at which Lord Brougham (although he had then retired from public life) took the chair, and was supported by Bishop Thirlwall, Lord Dudley Stuart and others. Brougham made a donation of £25, Prince Albert sent £20, and various other subscriptions were obtained amounting altogether to about £500, with which some material improvements were effected.

In 1847 a prospectus was issued for the formation of a "Birkbeck School." It stated that a desire had long been felt to render the

Institution complete as an educational establishment, by connecting with it a school to which members and friends might send their children, and insure for them education of the highest character. An efficient schoolmaster undertook the charge, and the plan adopted was that of the British and Foreign School Society, save that religious instruction was not included. The fees were sixpence and a shilling per week, according to age; and in time not less than three hundred children attended. The school was held in the lecture-theatre of the Institution, for the use of which an annual rent was paid; and it continued its beneficent operations until it had given rise to several large similar agencies in various parts of the metropolis.

But although the Institution continued to carry on the good work, it was for a long time on a more limited scale; and never, perhaps, did any organization suffer more from the withdrawal of its guiding spirit. The rent of £229 per annum was a serious burden, and neither it nor the interest on the building debt could be paid. At one time a memorial, bearing

several influential signatures, was presented by the secretary of the special committee, Mr. John R. Taylor (who devoted considerable time to the matter) to the Lords Commissioners of the Treasury, praying for a grant of public money on the special ground of the Institution having been the parent one; but, although the London University was subsidized by the State, no aid was granted to the people's athenæum.

At length a crisis was reached. An action was brought against Lord Brougham, as surviving trustee of the building, to recover the arrears of rent, and a plan was even prepared for converting the premises into chambers, when some of the more energetic members, grateful for benefits they had derived from the Institution, determined to make a supreme effort to save it. A committee was appointed, with Mr. Pearsall for its energetic secretary; a meeting held at Willis's Rooms, under the presidency of Lord Morpeth, (afterwards Earl of Carlisle); and a dinner given at the Albion Hotel, when Mr. Thomas Baring took the chair. In the result about £2,000 was raised, large subscriptions being obtained from the personal friends of Lord Brougham, chiefly

through the exertions of two of them, Mr. Henry Vane and Mr. Alfred Montgomery. This amount, however, was still insufficient to accomplish what was desired; but the executors of Dr. Birkbeck, carrying out what they felt would have been his wish if living, advanced out of his estate the further sum of £2,000. With the total amount obtained the existing liabilities were discharged, and the option of purchase contained in the lease was exercised by the payment of the requisite £3,500, the rent being thereby reduced to £29 per annum.

The threatened dissolution of the Institution was thus averted, and the educational work proceeded. In 1869 new financial arrangements were made, with a view to the gradual freeing of the organization from debt, and of supplying additional class-rooms. Dr. Birkbeck's surviving trustee, with the generous consent of the beneficiaries, released £1,000 of the amount then owing for principal and interest, thereby largely adding to the obligations the cause of popular education was already under to its pioneer; and the balance of their claim was discharged by means of a new loan obtained upon

specially favourable terms. This was effected through the instrumentality of MR. FRANCIS RAVENSCROFT, an old member of the Institution, who had testified in many ways his sense of benefits received, and who now arranged for an advance of £4,000 for fifty years upon mortgage of the lease, at the low interest of two and a half per cent. As the complement of this arrangement, a sinking-fund was established by MR. GEORGE M. NORRIS, who had three years previously been appointed secretary; and in this way provision was made for paying off the mortgage within the fifty years.

Prosperity now once more dawned upon the Institution; and from this time it has gone on increasing its power and extending its area, until it not only enjoys its old reputation, but is flourishing to a degree which its early friends would scarcely have deemed possible of attainment. This is largely due to Mr. Norris, who by his attention to the students' wants, by opening new classes from time to time, by promoting important improvements in the constitution, and by ably superintending the work generally, has laid the members under permanent obligations. Public recognition was made of

his services in 1872 by the presentation to him of a handsome testimonial at a special meeting, and since that time he has, as manager, continued to be chiefly instrumental in bringing about the progress that has taken place, and is still the guiding genius of the Institution.

Of the magnitude of the work at present carried on an adequate estimate can only be formed by looking at the various topics dealt with. They present indeed a formidable appearance; and the enumeration of the titles alone might well bewilder the uninitiated mind. Not only do they comprise the scientific and technical subjects to which at the first almost exclusive attention was paid, but all the departments of knowledge are represented. Every branch of mathematics; of natural science, comprising theoretical mechanics, chemistry, physics, botany, the principles of agriculture, biology, animal and vegetable morphology and physiology, physiography, geology, mineralogy and metallurgy; of applied science, embracing mechanics, steam, engineering, geometry, machine and building construction, surveying, iron and steel manufacture, watch and clock

making, electric lighting, and photography; and of mental and moral science, comprehending logic, psychology and political economy; together with the various departments of language, law, music and art, the curriculum of the Institution includes. In addition are of course to be found the more conventional subjects of English grammar, history and literature, writing, bookkeeping, and geography. Eight modern and five ancient languages are taught, and for French alone there are nine grades. Six classes, at various stages of progress, are devoted to shorthand; and a similar number to drawing, besides those for painting and modelling. There is a high-class debating society; rhetoric and elocution find a place; and dramatic performances are given by the members. Students for the Civil Service and London University have special facilities offered for their preparation; and, in all, nearly seventy distinct subjects are opened out to view, these again having numerous ramifications. The cause of female education, which the Institution was almost the first to espouse, has continued to receive its powerful support; the classes and examina-

tions are open alike to both sexes, and many of the competitive honours are obtained by the ladies.

Nor is quality sacrificed to quantity. The instruction imparted is of the highest order; and the teachers are men who have taken degrees in Science, Philosophy, Literature, Medicine, Arts and Laws; Fellows of the learned Societies of England, and renowned in their various departments.

Incentives to application are supplied; and prizes of upwards of a hundred pounds in value, and certificates according to merit, are annually given. In addition, Mr. Ravenscroft alone awards every year no less than ten prizes of five guineas each to the candidates who receive the highest marks in certain special examinations; and he has recently given to the Institution the capitalized value of these prizes, so that they are insured in perpetuity. The members are also entitled to compete for more than forty scholarships, of the aggregate value of upwards of six thousand pounds, which are awarded by the Science and Art Department of the Committee of Council on Education; and although these are open to all residents in the United

Kingdom, the Colonies, and India, no less than eight were during the past year obtained by the students of the Institution. The anniversary gatherings have been presided over, and the prizes and certificates distributed, by some of the most celebrated men of their day; and it is gratifying to note that the last session was inaugurated by an address from a former member who has risen to eminence, Professor Tomlinson, F.R.S., the chair being occupied by the Baroness Burdett-Coutts, the distinguished daughter of a distinguished father who was one of the warmest friends of the Institution in its early days.

Amusement is represented in various forms, it being however in most instances of an intellectual character; and entertainments or popular lectures are provided weekly for the members and friends. The reading and magazine rooms are supplied with all the current newspapers and periodicals, including the ponderous quarterlies and the foreign reviews; and the library has about nine thousand volumes.

In short, it is difficult to devise any important addition or improvement. The most humble individual may here receive a university edu-

cation, and obtain many of the advantages of a social club, with several others of a varied nature.

The Institution is open to all above a prescribed age; it is thoroughly catholic in its character, and gives prominence to no particular shade of thought. Its government is vested in an executive consisting of the president, six vice-presidents—at the present time Lords Carnarvon, Derby and Aberdare, and Sir Stafford Northcote, Mr. Forster and Mr. Goschen—and a committee of twenty elected by the members. In addition to these officers there are librarians, trustees, a treasurer, auditors, and the manager, who is also honorary secretary of the educational council. The subscription varies in certain events, but the highest rate is only eighteen shillings per annum, with moderate additional fees for the classes.

Of course the very existence of such a comprehensive Institution is in itself an indication of how greatly it has been and is appreciated. It has now long been self-supporting—save so far as its many friends encourage its work by the gift of prizes—and in that fact is seen at once how largely it *is* supported. Between three and four thousand members or students are entered

on its books; and it is no uncommon occurrence to find in some of the more popular classes a hundred persons assembled at the same time. The annual receipts are more than four thousand pounds, which sum is sufficient to meet the expenditure and leave a considerable balance on the right side.

Of late years, however, a new source of anxiety has arisen—the Institution has outgrown itself. The accommodation has been greatly increased from time to time, and the appearance of the building has undergone a great improvement; but there is a limit to the elasticity of bricks and mortar, whilst no restraint can be placed upon the thirst for knowledge. Clear indications were long since given that even greater good might be achieved on a more extended field of labour. Some five years ago a meeting was held at the Mansion House, when it was resolved that contributions should be solicited for the purpose of erecting a new building; and the result has been that the members are at length about to migrate. For, unfortunately, they must do this to obtain sufficient accommodation, since additional space is not available in the immediate vicinity. A suitable site has, however, been

secured within a few hundred yards, in a new wide and quiet thoroughfare leading from Chancery Lane, and known as Bream's Buildings; and the foundation stone of the edifice was laid on 23rd April 1883 by H. R. H. THE DUKE OF ALBANY, the patron of the Institution. A spacious marquee was erected, and the chairman was impartially supported by the primate, by several eminent professors and members of the nobility and of Parliament, and by other distinguished individuals. The worthy president of the Institution delivered a suitable address, the Archbishop offered prayer, and speeches were made by the Lord Mayor (Sir H. E. Knight) and Professor Tyndall, amongst others; the royal visitor acknowledging a vote of thanks in felicitous terms, and referring to the important work of the Institution, and bespeaking a favourable response to the appeal for contributions to the building fund.

The new Institution will have the advantage of abutting on two thoroughfares, will be in every way greatly superior to the present, and will provide accommodation for six thousand students. The architectural appearance is pleasing, being a modern adaptation of the

Elizabethan style; special attention has been paid to lighting, warming, ventilation, and protection from fire; and the lecture-hall, which has a frontage in Rolls Buildings, is constructed to seat twelve hundred persons with comfort. The total estimated cost of the entire edifice is £19,000; and of this (including the amount to be received for the existing premises) upwards of £12,000 has been raised. Amongst the principal donors are several noblemen, members of Parliament, and city Companies; and the students and friends are also doing their share.

And now a few words as to the popular education movement generally.

Whilst their metropolitan progenitor has prospered in manner indicated, its offspring have likewise flourished, and have enormously increased in numbers. In the year 1850 there were about seven hundred Institutions: now, the greater London alone possesses two hundred and fifty; and in all there are about two thousand, most of them in a satisfactory condition. England, naturally, has by far the largest number; but Wales owns about forty, Scotland a hundred and sixty, and Ireland nearly fifty. Many of them adhere

to the original title of "Mechanics' Institution"; others adopt the modest designation of "Working Men's Club" or "Institute" or "College"; others employ the prefix of "Literary and Scientific"; and others—probably about a tenth of the total number—,with a religious as well as an educational bearing, are known as "Young Men's Christian Associations" or "Church of England Young Men's Societies." There is of course some difference in the scope and extent of the various societies, but they are all engaged in the noble work of the diffusion of knowledge amongst the people.

One of the metropolitan Institutions has long been the friendly rival of the parent society, and has recently commemorated the thirty-fifth year of its existence by the erection of a new building near Moorgate Street Station at a cost of £16,000. It was founded in 1848, being then known as the Metropolitan Evening Classes, meeting at Crosby Hall; but in 1860 it received its present title of the CITY OF LONDON COLLEGE, and it now affords instruction to two thousand students. It has an extensive programme, comprising theological as well as secular subjects; and the names of several bishops and clergymen are

found on its prospectus, whilst the Archbishop of Canterbury is its president. It is also under the patronage of Her Majesty; and the new building was formally opened by H. R. H. the Prince of Wales.

Another important metropolitan educational agency, the existence and maintenance of which is almost entirely due to the philanthropy of one individual, is worthy of special notice. This is the Polytechnic Young Men's Christian Institute; to which public attention was called some time since by Archdeacon Farrar, who has taken great interest in popular education, and who three years ago inaugurated the fifty-seventh session of the Birkbeck Institution by the delivery of one of the most memorable addresses ever heard within its walls. The old Polytechnic was an establishment very well known, not only to residents but to all visitors to London; and with it, but forming a distinct branch, were associated numerous evening classes. The career of these, however, was necessarily terminated when the establishment came to an end in the form in which it had existed so long; but happily the building was purchased by MR. QUINTIN HOGG, and by him dedicated entirely

to educational, religious and social purposes. Mr. Hogg had established as long ago as 1863 and supported a small school; and the scope and accommodation of this he extended from time to time, until at length in 1877 it developed into an Institute in Long Acre, with a gymnasium and several special features; and ultimately, the demand increasing and the Polytechnic coming into the market in 1881, he secured it at enormous cost, and founded the present noble Institution. Young men between sixteen and twenty-three are alone eligible as members; and to these it offers, in addition to the usual educational advantages, facilities for learning practical trades, physical as well as mental recreation, and not a few home comforts, at fees which are insufficient in any case to make the Institute a commercial success. The large hall is appropriated for the gymnasium; there are various athletic clubs, a volunteer company and three bands. Provision against sickness and accident is afforded; and among other agencies are a total-abstinence society, a savings-bank and a parliamentary debating society. There is also a Christian workers' union; and religious services are held on Sundays.

Already has it become necessary to utilize the whole of the extensive premises in order to accommodate the large number of members, now amounting to over two thousand ; whilst the names of upwards of one thousand applicants are on the books waiting election as opportunity may offer. The Institution is especially worthy of recognition, as being the outcome of the unostentatious work of a single individual, as having received no grant or public aid, and as doing in some respects a unique work, preserving as it does hundreds of youths of the humblest class from the manifold temptations of London life and training them up to become useful members of society. The name, therefore, of Quintin Hogg—a man of so kindred a spirit to that of George Birkbeck—can with peculiar fitness be introduced into these pages.

In 1853 an effort was made to revive the Mechanics' Institute at Settle, which had fallen into decay ; and, by the exertion of several philanthropic gentlemen in the neighbourhood, a commodious hall was erected, which was opened in January 1855 by the Earl of Carlisle, who was a friend of the president, Mr. John Birkbeck. For some time the new Institution flourished,

but at length it once more declined, and it has now practically ceased to exist; although the building is still devoted to educational purposes, being used as a school. This chequered career is doubtless largely traceable to the fact that the Literary Society, Friends' Institute, political Clubs, and other similar agencies keep the inhabitants well supplied with intellectual food; but it is nevertheless to be regretted that the particular movement with which Dr. Birkbeck's name is associated throughout the country should have lacked continuous support in his native town; and it is to be hoped that Settle may yet see a rejuvenated Mechanics' Institute doing useful educational work.

The measures which were adopted for joining the Institutions in a common bond have been successfully carried on. In 1852 a union was effected between about a hundred and fifty of them and the Society for the Encouragement of Arts, Manufactures and Commerce, the principal objects being to render the experience and information of each available to all, and to establish systematic simultaneous examinations. The Institutions also hold examinations in con-

nection with the Science and Art Department of the Committee of Council on Education, already referred to; and some idea of the extent of the work carried on by this Department may be gathered from the fact that last year over eighty thousand papers were worked in science, and over fifty thousand in art (exclusive of those worked by children—between six and seven hundred thousand) in addition to which four hundred and fifty thousand art "works" were submitted for examination.

Local unions were established for Lancashire and Cheshire and for the Midland Counties in 1847; and in 1848 the Northern and Scottish Unions were formed, as was some years later the Worcestershire Union. Under the direction of the Yorkshire Union—the origin of which was dealt with earlier, and which now embraces two hundred and seventy Institutions—a hand-book was issued in 1856, somewhat similar in scope to the earlier publications of the Society for the Diffusion of Useful Knowledge, but bringing the information up to date, and being replete with practical suggestions. A "Working Men's Club and Institute Union" was established in 1862, with a view more especially to combine

social recreation with mental improvement; and with this about five hundred and fifty Institutions are at present affiliated.

Unions have also been effected between the various religious Institutions. The alliance of the Young Men's Christian Associations was formed in 1855; and there are now some three thousand agencies extending to all parts of the world. Only a small fraction of these, however, come within the category of popular education organizations; but several, nevertheless, those in the large towns in particular, provide classes for instruction in various departments of useful knowledge. As is generally known, the central establishment is now at Exeter Hall, London; and the EARL OF SHAFTESBURY—another devoted labourer in the field of popular education—is president of the Association. The Church of England Young Men's Society, which was constituted in its present form in 1856, has in all about twenty-five branches, several of which also offer secular instruction.

In 1854, at the instigation of the Society of Arts, an Act was passed "to afford greater facilities for the establishment of Institutions for the promotion of Literature and Science and

the Fine Arts, and to provide for their better regulation." This gave a recognised legal status to the various Institutions, empowered them to hold lands, and enabled governing bodies to make binding laws. A previous Act had exempted the Institutions, under certain conditions, from the payment of local rates.

The completion in 1855 of the reform Dr. Birkbeck had so zealously advocated, namely the abolition of the newspaper-tax, still further promoted the dissemination of knowledge; as also did the abolition of the paper-duty a few years later.

As to the foreign Institutions, their number and scope, it is difficult to obtain reliable statistics; nor is detailed information called for.

It has already been shown how the movement long since extended to America, France, Holland, Russia, China, India, New South Wales, and Tasmania (Van Diemen's Land). In many of these countries it has been attended with rapid development; and, in addition, it has reached Belgium, Germany, Norway, Sweden, Syria, Madagascar, Egypt, South Africa, New Zealand, Queensland and the Sandwich Islands. In

short, its beneficent influence has spread to the whole of the civilized and semi-civilized parts of the globe.

How Parliament has given its powerful aid to the educational movement in recent years, by the passing of the Elementary Education Acts, —with which the name of Mr. Forster will ever be honourably associated—is too well known to be dwelt upon here.

It was long felt that the work of the various Institutions was greatly restricted by the absence of sufficient means of elementary education, whereby the people might receive that rudimentary knowledge which would fit them for the higher branches of study pursued in the adult societies. The various existing agencies to which reference has been made, valuable as they were, could only very inadequately cope with the difficulty, and did not reach the poorest and most ignorant classes. Fortunately, here also philanthropy had stepped in; and the numerous branches of the Ragged School Union, established in 1844, and over which the Earl of Shaftesbury also presides, had been, as they still are, doing a most useful and praiseworthy work.

But a system which should insure instruction being given to every child was alone capable of banishing ignorance from the land.

The early efforts of Brougham and others, and the slight assistance of the Government, have already been referred to. It was not, however, until the neglect of the mental faculties had come to be regarded as a national disgrace, and educational Institutions had been established in all the important and many of the small towns of the kingdom, that the Legislature furnished the prerequisite to their extensive work being rendered fully efficient, by providing the means whereby ultimately all shall obtain that preliminary instruction which is the foundation of learning, and which imparts the desire for its acquisition that such Institutions happily gratify.

The authoritative decree of 1870 was a noble, though tardy, contribution to that cause of popular education which private enterprise had originated and brought to so successful an issue. And even this was undoubtedly chiefly due to the ever-growing demand which had been created by Dr. Birkbeck and his fellow-labourers in the cause; though it was not until thirty years after his death that the Government effectually at-

tempted to satisfy that demand. Miss Martineau, writing long before this full result had been attained, truly observes that it was impossible the members of the Institutions should not be more anxious to procure education for their children than if the advantages and charms of museums, libraries, lectures and reading-rooms, had not been opened to themselves; and that, although at the time of the establishment of the Institutions the chief advantage contemplated was the most obvious one of opening means of knowledge to working men who desired it, they of a somewhat later time saw a yet more important result accruing, in the exaltation of the idea of education in the popular mind, and the quickening of parental as well as personal desires for knowledge.

And at length, after much delay and many wearying struggles, the means of satisfying these desires were obtained. The fiat which was alone wanting to complete the great reformation has gone forth. It has not yet fully accomplished its object, for no great measure can be rendered effectual in a day; but time and the experience which time brings with it alone are wanting; and now that poverty need be no barrier to

knowledge, it remains only to extend and improve. Seldom has the British Legislature enlisted in a nobler cause, seldom has it obtained a more glorious and enduring triumph, than when it unfurled the banner of National Education, and grappled in his last stronghold with the giant of ignorance. The mighty revolution, once effected, is bearing, and shall bear, fruit for all generations.

CHAPTER X.

VALEDICTORY.

WE have thus seen that Dr. Birkbeck's labours were not only great and beneficent in themselves, but that they were attended by the great and beneficent result of inducing others to share in and continue to carry them on. His work did not die with him. Its success was not compassed by one brief life, or measured by one bright career; but is as unlimited as philanthropy, as unbounded as time.

Noble characters beget noble characters; and he who first opened the portals of science to the working man, proved the forerunner of a goodly band of educational reformers. His followers in turn have given rise to theirs, until to-day the spirit of the movement has taken possession of all—has become a *Zeitgeist*, which is almost deified. Few examples have been more widely followed; few men have obtained, in so com-

paratively short a period, a larger number of conscious or unconscious disciples.

The athenæums which Dr. Birkbeck called into existence have become one of the permanent institutions of the age. Found as they are in every corner of the land, we can scarcely imagine what the country would be without them. At a period of life when a place of resort must be had, they offer to the rising generation social and intellectual advantages which cannot be obtained outside their walls; they furnish the means of pure enjoyment, of profitable intercourse and of mental culture. Upon the working classes they confer benefits similar to but greater in degree than, in their early days, their founder was able to give to a comparatively small number of mechanics. And to the community at large they are a well-spring of morality, law, order and progress. But for their invaluable liberal aid thousands who have attained to nobility and competence would have necessarily remained in a lower condition, labouring simply for daily bread, and knowing little or nothing of the pleasures of the intellect. Of those who have been gathered within their fold, many are dis-

tinguished at the present time in science, art, literature, and law; and a far larger number, who may never be known to fame, have nevertheless been incalculably blest.

In conclusion, then, it may well be said that this noble and true-hearted gentleman is worthy of honour and renown, as a wise patriot, a practical philanthropist, a *chevalier sans peur et sans reproche.*

Dr. Birkbeck dazzled the world by no brilliant or wonderful discoveries; nor did he leave behind him trophies of a colossal genius. But with quiet unostentation, he inaugurated and achieved a reform which has at length revolutionized society, and been productive of as general and lasting good as the labours of many more widely known and revered. He ranks not with the Bacons or the Newtons of our land, but he has brought the imperishable products of their master intellects within the reach of the lowliest mind, and on a thoroughly impartial if unpretentious scale has been the means of diffusing the blessings of science, and of offering to all the advantages of learning. If he added but few sheaves to the world's rich intellectual

harvest, he opened the fields to the humble gleaners, and induced the husbandmen to share the grain with the mentally ill-nourished masses.

By the "people", therefore, should he especially be held in lasting and grateful remembrance.

Yet not by them alone.

When statesmen rejoice in the extension of knowledge; when reformers glory in the victories of the past; when historians rehearse the triumphs of the century; when biographers sound the praises of the great; let them not forget him who was a worthy compatriot of Romilly, of Wilberforce, of Clarkson, and of Cobden; but let them, one and all, as they render honour impartially to whom honour is due, find a laurel for the brow, an *immortelle* for the grave of GEORGE BIRKBECK, THE PIONEER OF POPULAR EDUCATION.

THE END.

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