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JOURNAL OF EDUCATION

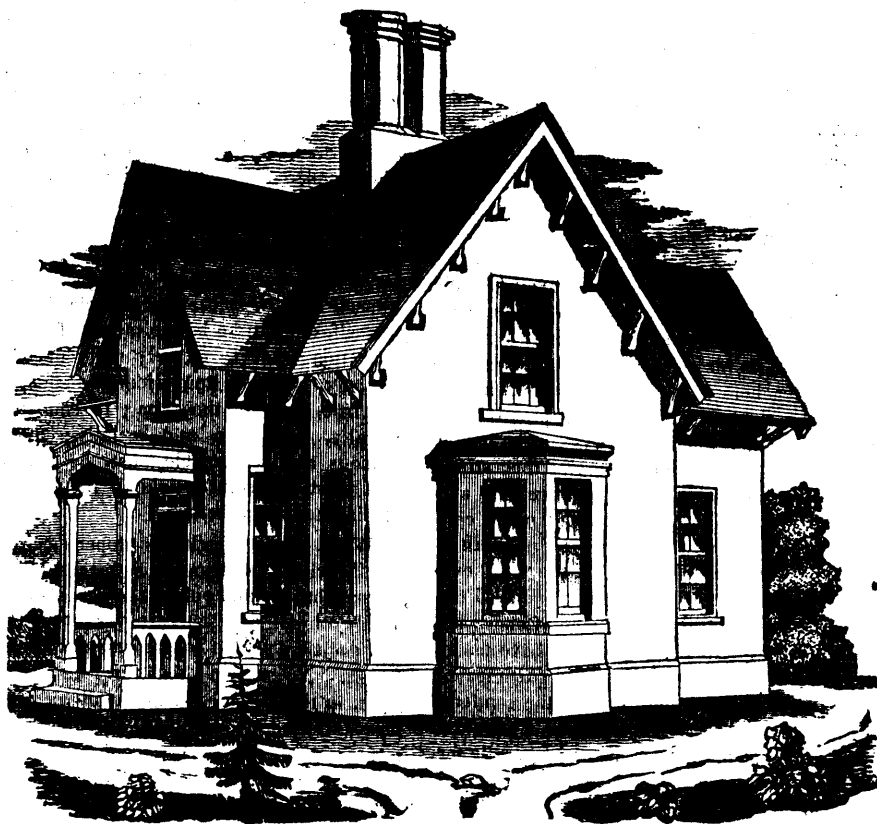
FOR

Upper Canada.

Vol. II.

TORONTO, JULY, 1849.

No. 7.



FRONT VIEW OF A HANDSOME SUBURBAN ENGLISH COTTAGE.

Having for the last few months devoted this page to the illustration of the department of "School Architecture," and having inserted several very handsome Academy and Grammar School front views, we now diverge slightly from our usual and original design, and present our readers with the *Front View* of a very neat and pretty Suburban Cottage residence. We are the more disposed to vary our engravings on this subject, because, as far as we are aware, no architectural contributions of any kind have as yet appeared in any of our Provincial periodicals or magazines. We are anxious too to cultivate and promote a taste for improved Cottage, as well as School-house, Architecture.

The beautiful engraving of a cottage, in the English style which heads this article, is a copy of one of Mr. RANLETT'S elegant lithographic prints, in the fifth number of his new and useful work on Cottage Architecture,—*The Architect.*"

The great number of cottages, which have been erected in the suburbs of London, in latter years, has afforded the finest opportunity for the application of improved taste and skill in cottage architecture, and the result is a vast amount of rural scenery, comprising in great harmony, highly improved gardens and yards with their exquisite flowers, their shrubs and vines, constituting views which are admired by visitors from all countries. One of the chief

sources of the beauty of these rural residences, is the position of the houses on the lots, which are back sufficiently to afford front yards for the cultivation of plants and vines, which are arranged and trained in graceful combinations with the architectural features of the cottage, thus heightening the general effect by promoting the influence of various parts.

The general characteristics of a residence must be determined by the tastes, habits and circumstances of the family who are to occupy it. There is very properly, a great variety of styles and dimensions in rural residences. Cottages and small villas are the most appropriate dwellings for those who aim at competence and comfort in the simple independence of country life. Cottages or houses, one story, or one and a half high, may be erected in any style, and possess all the desired accessories, such as porches, verandahs, balconies, pediments, &c.

The construction of dwellings is a department of enterprize and investment, which involves various considerations of vast amount. It should be remembered that a dwelling is constructed for the accommodation of a family. Sound philosophy and good taste require that the site, form, and character of a building should be suited to its use and the expression of its destination. A grove affords to a house a natural protection, both in summer and winter.

Miscellaneous.

TEACHERS' WAGES.

BY S. S. RANDALL, ESQ.

One great and serious obstacle to the advancement of sound education among us, consists, beyond all question, in the meagre and scanty compensation which is accorded, under a false view of economy, to those who are disposed to devote themselves to the business of teaching, as a profession. It is believed that there is no calling, within the comprehensive circle of social civilization, above that of the common day-laborer, which promises less, in a pecuniary point of view, than that of the instructor of youth—none which offers less substantial inducements to genius, talent and worth. And yet we apprehend, few will be found so destitute of judgment and candor, as to allege that in all the requisites of character, ability, mental culture, persevering effort, time, study and knowledge, the teacher in any respect, if suitably qualified for his profession, falls behind the great body of those who fill up the ranks and participate in the rich rewards of the other and more favoured classes of society.

It is, at least, a little singular that in this respect the march of modern civilization has fallen far behind that of ancient times. ADAM SMITH tells us, and history confirms the assertion, that prior to the invention of the art of printing, in the fifteenth century, the sole employment by which a man of letters could avail himself of his talents was that of a public or private teacher—by the verbal communication to others of the curious and useful knowledge he might have acquired. ISOCRATES, in his celebrated discourse against the Sophists, reproaches the teachers of his own time with inconsistency, in that "they make the most magnificent promises to their scholars, and undertake to teach them to be wise, to be happy and to be just, and in return for so important a service they stipulate for the paltry reward of *four or five minas*," (between \$80 and \$100). "They who teach wisdom," he continues, "ought certainly to be wise themselves; but if any man were to *sell such a bargain, for such a price*, he would be convicted of the most evident folly." ISOCRATES himself, we are informed, demanded ten minas, or about \$150 from each of those persons who attended his course of lectures on Rhetoric at Athens. He must have made, therefore, from the hundred pupils who we are assured participated in the benefits of his teaching during a single season, the comfortable sum of at least *fifteen thousand dollars*. Indeed PLUTARCH expressly informs us that a thousand minas was his usual income for teaching. Many other eminent teachers in those times appear to have acquired great fortunes. GORGIAS, we are told, made a present to the temple of Delphi, of his own statue, (probably not the size of life, as the mines of California were then unknown,) in solid gold. His way of living, as well as that of HIPPIAS and PYTHAGORAS, two other eminent teachers of that day, is represented by PLATO as splendid even to ostentation. PLATO himself is said to have lived with a good deal of magnificence. ARISTOTLE, after having been tutor to ALEXANDER, and most munificently rewarded both by his illustrious pupil and his father, PHILIP of Macedon, thought it worth while, notwithstanding, to return to Athens, in order to resume teaching. The most eminent among the scientific men of this golden age, of literature, appear always to have enjoyed a degree of consideration much superior to any of the like profession in more modern times. The Athenians sent CAVNEADES, the Academic, and DIOGENES, the Stoic, upon a solemn embassy to Rome.

These particulars, gathered principally from ADAM SMITH's well known work on the Wealth of Nations, sufficiently indicate not only the high consideration with which the instruction of youth was regarded among the most civilized nations of antiquity, but the opinion of this philosophic statesman, of the short-sighted penuriousness which characterizes our modern times, in this respect. The average amount of compensation received by the *best qualified* male teachers in our public and private elementary institutions of learning would not, we apprehend, reach five hundred dollars per annum; and if a man, with a family to provide for, educate and support, can succeed in obtaining twice this sum for devoting himself assiduously and entirely to the instruction of young gentlemen and ladies in our higher institutions, he does well. Is this the

case in any other profession? Where is the lawyer, the physician, the divine, the legislator, the architect, the artist, the painter, the sculptor, the musician, thoroughly trained to his calling and capable of excelling in it, who will be satisfied with such a compensation? Is it not high time that more elevated conceptions of the dignity and importance of the teacher's calling were beginning to prevail? The labourer, in this, the most responsible department of human exertion, is surely worthy of his hire; and ungrudgingly, fairly, liberally, should it be meted out to him.

DEPORTMENT IN THE TEACHER.

When we take into consideration the almost unlimited influence which the Teacher may, and almost unconsciously does exert, over his pupils, especially in his general bearing and manners, we cannot but feel the reality of the truth, that he teaches by example no less than by precept. One great aim of education is to improve and refine the manners. The man who has improved his intellectual powers in the most eminent degree, but who is unable to discharge properly his social duties, may still be considered as wanting one of the most essential parts of a good education. The chain that should bind him in close affinity to his fellow-mortals, his friends, neighbours, and associates, has one broken link, and, after all, he is little better than a blank in society. If his manners are repulsive and disagreeable, instead of being courted and admired, he is disliked and shunned. The position of such an individual is far from being enviable. Obligated, almost of necessity, to debar himself from the pleasures of social intercourse, he cannot be happy himself, nor can he be the means of rendering others happy. True education leads to entirely different results. The teacher is its minister. He is commissioned to educate the rising generation in the true sense of the term; to educate the people intellectually, morally, physically, and socially; and in the discharge of his arduous and responsible trust, he should be careful not to omit that most important article in his commission,—the improvement of his pupils' manners.

What, then, constitutes proper deportment in a Teacher? By the Teacher's deportment, is meant his manners, or general behaviour, both in and out of the school-room. It certainly should be manly on all occasions; never haughty or arbitrary. Calmness and decision should be predominant qualities in his mental constitution. No passion should ever be permitted to manifest itself, at least, in the presence of his pupils. In short, he should always be pleasant, kind, and affable. Whenever and wherever the instructor meets a pupil out of the school-room, whether he be young or old, rich or poor, worthy or unworthy, he should always extend to him the hand of friendship, and treat him with kindness. His language should be guarded and becoming. His address should be courteous and dignified toward all with whom he may chance to meet; and his influence will be in proportion to the means used in acquiring it. No harsh disputations, conflicting with local, party, or sectarian prejudices, should be engaged in. But rather let coolness, impartiality, and moderation, characterize the Teacher's conversation. The good effects of such a course cannot for a moment be questioned. The power of example is immense, whether it be good or bad. If the Teacher's example in deportment be such as stated above, its effects will be most beneficial for the time being, and will exercise a controlling influence through untold years of the future. The pupil will remember, even to the latest day of his earthly existence, the kindness of his instructor; it will cling to his memory in every situation in life. Even the vilest of the vile, were it possible to suppose that such had received good instruction, cannot fail to hold in affectionate remembrance the kind and courteous Teacher. But, on the other hand, a savage severity in the Teacher, coarseness, and roughness of manners, the indulgence in pernicious habits, produce entirely different, but equally momentous results. The Teacher who is profane, intemperate, coarse, or uncourteous, may expect, in most cases, to find his pupils imitating his example. If the Teacher is impolite, the pupils will most assuredly be so. If the Teacher is intemperate, unjust, unkind, he is every day sowing the same noxious principles in the tender minds of those committed to his care.

Therefore, Teacher, be just, kind, and courteous to your pupils, and they, in turn, will render justice, kindness, and courtesy unto you.—*Maine Common School Advocate*.

TEACHERS' ASSOCIATIONS AND EDUCATIONAL CONVENTIONS.

There never was a time in the history of our country when the public mind was so generally aroused to the great considerations of education, as at this time. It seems everywhere in this country to be a conceded fact, that the permanency of our institutions depends upon the general diffusion of knowledge among the people. Wherever, in any land, there are privileged classes, and the soil is owned by a few—and a few monopolize the seminaries of learning—and a few lord it over the heritage of the church—and a few enjoy the honors and the offices; these fortunate few will not, in general, be favorable to the education of the masses. But where every one is educated, and emulous of knowing as much, and living as well, as his neighbor, monopolies are broken up.

In rural districts, where every two miles square has its common school, and every ten or fifteen, its academy, the peasantry are leveled up, so that they appear upon the same platform before the people, enjoying nearly the same advantages. With these, professional eminence and distinguished position are not the accidents of birth, or of wealth, but evidence of superior industry and character, and of the possession of those cardinal virtues which characterize eminently good men.

Let teachers meet, compare notes, and encourage one another, and they will do their duty in *making* public sentiment. It is not long since that the industrious and faithful teacher thought that by teaching in his school-room six or seven hours a day, that he had fully discharged his duty, and exhausted his influence upon the fortunate ones whom he taught. The few spirited teachers who, five years ago, gave an impetus to the onward movement of the age, in bringing teachers periodically together, that they may bid each other a God speed, and show the results of their own experience, have done more towards shaping the destiny of our country than ten times their number of mere politicians have ever done in noisy conventions.

Teachers' Associations and Institutes are becoming numerous; we will not here attempt their enumeration. Among those which stand out prominently, we may mention the following, in the three great States of New-York, Pennsylvania, and Ohio. Others might be mentioned in Massachusetts, Connecticut, Vermont, &c. —*N. Y. Teachers' Advocate for July.*

VALUE OF KNOWLEDGE—STRIKING ILLUSTRATION.

During the "Reign of Terror," CHAPTAL, the celebrated Chemist, who was then, we believe, residing at Paris, was so unfortunate as to fall under the suspicion of those in power. Aware of the unprincipled and blood-thirsty character of the ruling faction, he anticipated nothing but death, and was in momentary expectation of being summoned before that terrible tribunal, from the vindictive mockeries of which so many had already passed to the guillotine. But, fortunately for CHAPTAL, his proscription happened at a period when the whole of Europe was dependent on the East Indies for a supply of *nitre*, and when the armies and arsenals of France, with the forces of the enemy advancing, were wholly unsupplied with powder. England commanded the resources of the East Indies, and of course its provision from that quarter was not to be thought of. In this fearful and perplexing dilemma, CHAPTAL, whose fame as a Chemist was widely diffused, was applied to by the Government, and a proposition made to him, that in case he could supply the public with the desired material, his life should be saved. This condition was of course most welcome. The work was immediately commenced. From the cemeteries of the city, he drew forth the sepulchral remains of unnumbered generations—old buildings were razed, and the soil carefully excavated from beneath them, was formed into heaps—the caves and cellars of the city were scraped, and the soil of more than two millions of human bodies were conveyed to the Barrier d'Enfer, where, by chemical art, CHAPTAL extracted the material by which France was saved from her foes!

From that day—a most momentous era in his life, as well as in the history of France—CHAPTAL was honoured according to his high deserts.

He was justly hailed as the benefactor of his country which his knowledge and skill had saved.

"Knowledge is power." That one man accomplished by means of his scientific wisdom more than could have been effected by a nation in arms. Of what inestimable value to mankind have been the discoveries of FRANKLIN, of WATT, of FULTON, of LIEBIG, and how conclusively, indeed, do their beneficent influences upon society demonstrate the fact, that—

"The pen is mightier than the sword."

WORK FOR CHILDREN—ITS IMPORTANCE.

There is no greater defect in educating children than by neglecting to accustom them to work. It is an evil that attaches mostly to large towns and cities. Our children suffer from it. The parent considers whether the child's work is necessary to him, and does not consider whether the work is necessary or not to the child. Nothing is more certain than that their future independence and comforts much depend on being accustomed to provide for the thousand constantly recurring wants that nature entails on us. If this were not so, still it preserves them from bad habits; it secures their health—it strengthens both mind and body—it enables them better to bear the confinement of the school-room, and it tends more than anything else to give them just views of life. It is too often the case that children, provided they spend half-a-dozen hours of the day at school, are permitted to spend the rest as they please. They thus grow up in the world without a knowledge of its toils and its cares. They view it through a false medium. They cannot appreciate the favours you bestow, as they do not know the toils they cost. Their bodies and minds are enervated, and they are constantly exposed to whatever vicious associations are within their reach. The daughter probably becomes that pitiable, helpless object, a novel-reading girl. The son, if he surmount the consequences of your neglect, does it probably after his plans and station for life are fixed, and when knowledge, for one of its important objects, comes too late.

No man or woman is fully educated if not accustomed to manual labour. Whatever accomplishments they possess—whatever their mental training, a deduction must be made for their ignorance of that important chapter in the world's great book—active industry.

SCHOOLMASTERS AND PRINTERS.—GOLDSMITH says,—"Of all professions I do not know a more useful or honourable one than that of a Schoolmaster; at the same time I do not see any more generally despised or any whose talents are less rewarded." Our Doctor forgot to mention Printers as being in the same category. The reason why these two classes are so much neglected are obvious. Education and refinement are not necessary to mere animal life, and to live the sensuous reign of a day is the highest ambition of too many. We wot of a Printer who worked hard and manfully to get his bread by toil, but failed. He went to brewing beer and made a fortune. He used to say every body had stomachs, whereas very few were blessed with heads.—*American Paper.*

THE HONEST BOY A SUCCESSFUL MERCHANT.—That "honesty is the best policy," was illustrated, some years since, under the following circumstances:—A lad was proceeding to an uncle's to petition him for aid for a sick sister and her children, when he found a wallet containing fifty dollars. The aid was refused, and the distressed family were pinched for want. The boy revealed the fortune to his mother, but expressed a doubt about using any portion of the money. His mother confirmed the good resolution—the pocket-book was advertised and the owner found. Being a man of wealth, upon learning the history of the family, he presented the fifty dollars to the sick mother, and took the boy into his service, and he is now one of the most successful merchants. Honesty always brings its reward—to the mind if not to the pocket.

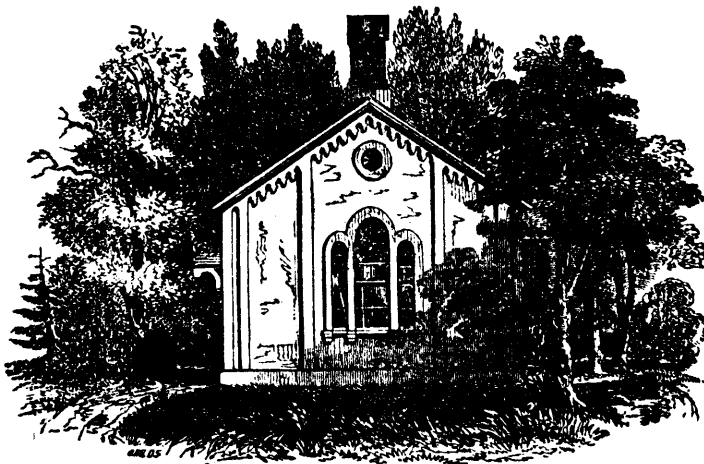
Never be idle. Our years are but few, and every minute of indolence shortens our span. Life is but a day. The river of time rolls by without ceasing, and on its bosom we are hastening to the great ocean of eternity.

Advice, like snow, the softer it falls, the longer it dwells upon, and the deeper it sinks into the mind.

School Architecture.

In our *Prospectus* of this Volume of the *Journal of Education*, issued last December,* we stated that the engravings illustrative of the new Department of School Architecture, which we proposed to commence in Volume II., would "exceed in number the months of the year." We have already, exclusive of the numerous illustrations in other departments of the *Journal*, redeemed our promise, and, including the engravings in this number, have now presented our readers with *thirty illustrations*—nearly *three times* the number of the months in the year. We have much pleasure in knowing that some of the plans of School Houses which have appeared in the *Journal* have been adopted by Trustees and others; and we shall be rejoiced to hear that our efforts in this department of educational progress in Upper Canada will be productive of still further good in promoting the happiness and comfort of Teachers and Pupils by means of the diffusion of an improved practical taste in regard to the selection of sites and the erection of School-houses.

(Fig. 1.)

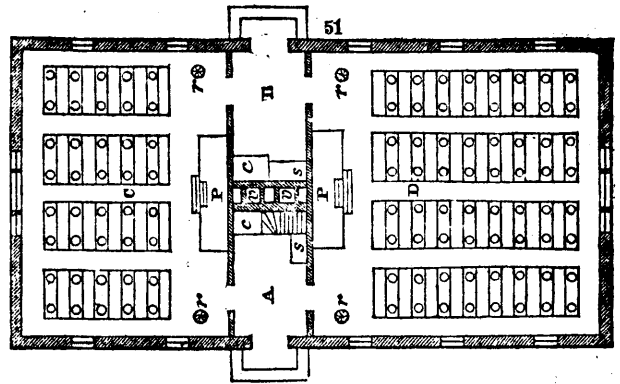


END ELEVATION OF A PRIMARY AND SECONDARY SCHOOL-HOUSE FOR 130 PUPILS.

The preceding engraving represents the end elevation of a Primary and Secondary School-house erected in Centremill, Rhode Island, after designs by Mr. TRFT of Providence—a tasty and skillful Architect of that city. The School-house stands back from the highway, on an elevated site,—as School-house sites ought always to be—and for beauty of design and convenience of arrangement is not surpassed we believe by any similar structure in New England, or equaled by any in Canada. It is 51 feet long by 26 feet wide, and 13 feet high in the clear, with two departments on the same floor. The style of the building is very neat and tasteful, and has something approaching to the Tuscan cast in it. The entrance doors of the boys and girls respectively are on either side. The handsome characteristic projection over each door may be seen in the engraving. The belfry and double chimney issuing from the centre of the roof are neatly designed, and give the building a finished and scholastic appearance. There are five prettily shaped arched windows in either side—three on one side and two on the other side of the entrance door. Their size and appearance are the same as that of the centre one in the triple window inserted in either end of the building, and as seen in the one facing the reader. The gable is slightly ornamented, and is furnished with a circular ventilating window, as seen in the engraving. The trees and shrubbery around the School-house give it an air of cheerfulness and repose,—so essential in contributing to the health, the comfort, and the success of the pupils and masters.

* See Vol. I., pp. 370-372.

(Fig. 2.)

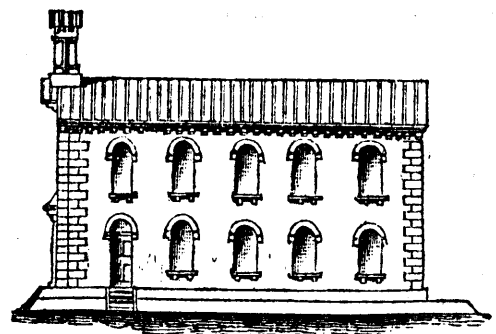


GROUND PLAN OF A PRIMARY AND SECONDARY SCHOOL-HOUSE.

The accompanying Fig. 2 exhibits the Ground Plan of the foregoing School-house, and is designed to afford accommodation for a Primary and Secondary department in the building. C. is the Primary, and D. the Secondary, or Grammar School department.

The room C is 25 feet wide by 25 feet long, with desks and seats attached for 60 pupils. The room D is 25 feet wide by 30 feet long, with desks and seats attached for 70 pupils. A is the boys' entry, and is 6 feet wide by 10 feet long. B is the girls' entry, and is of the same dimension as that for the boys. P, in either room, is the Teacher's Desk and Platform. The seats for the younger pupils are placed immediately in front of the Teacher's desks and are slightly lower, in their elevation above the floor, than those in the rear of the School-room—as seen in the Section of seats and desks at the close of this article, and on page 13 of this *Journal*. r, r, r, r, are Registers for the hot air, for heating the School-rooms, which issues from the furnace in the basement of the building, as described on page 85. v, v, are flues for ventilation, and are similar to those described on the same page of the *Journal*. C, C, are the closets for the dinner baskets of the pupils who have come from a distance. S, S, are the water sinks connected with the boys' and girls' department of the School. The smoke pipe is carried up between the ventilating flues v, v, and is made to branch off into two separate chimneys as it issues from the roof, so as to accommodate the bell—a very neat and convenient arrangement. The stairs seen in the Ground Plan lead up into the attic.

(Fig. 3.)



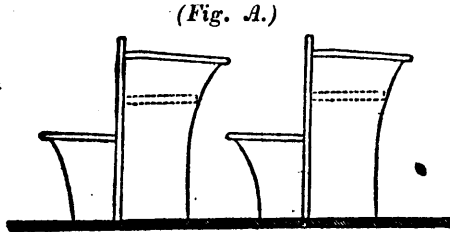
SIDE ELEVATION OF A BRICK GRAMMAR SCHOOL-HOUSE.

Figure 3 represents an original design for a handsome High or Grammar School-house, and is by the same Architect—Mr. TRFT, of Providence. It is a very chaste and ornamental building, and in excellent keeping with the correct proportions, requisite in a

School-house of this description. We insert it simply for the sake of variety—our practical object being to familiarize the public generally with specimens of neat and elegant exteriors, and utility of interior arrangements in the construction of School-houses; and to elevate the standard of local and rural taste in regard to School Architecture. The internal arrangements suitable to the foregoing Plan are so similar to those we have just explained, and to others previously given, that we do not deem it necessary to repeat them here, but simply direct attention to those already published. These arrangements can very easily be modified in each case to suit the wants and circumstances of particular localities. In connection with Fig. 3, we would solicit the attention of parties concerned to the very handsome Elizabethan Designs for School-houses, recommended by Her Majesty's Privy Council Committee on Education and published on page 53 of the April No. The preceding remarks apply as well to them as to the plan we now insert (Fig. 3.)

SEATS AND DESKS FOR PUPILS.

On the 13th and 35th pages of this *Journal*, we offered some suggestions on the proper construction of Seats and Desks for pupils, and intimated that we would refer to the subject more at length hereafter, and illustrate our remarks with appropriate engravings. So deeply impressed, however, are we of the great importance which should be attached to this department of School-house building, and of the almost universal inconsiderateness displayed in the construction



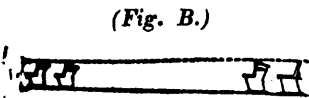
Section of Seat and Desk.

and arrangement of pupil's seats and desks, that we again repeat some of the remarks which appeared in the March No., on this subject, and solicit a careful attention to them on

the part of Trustees and others most interested in the matter :—

"In the construction and arrangement of the seats and desks of a school-room, due regard should be had to the convenience, comfort and health of those who are to occupy them. To secure these objects, they should be made for the young and not for grown persons, and of varying heights, for children of different ages, from four years and under, to sixteen and upwards. They should be adapted to each other and the purposes for which they will be used, such as writing and ciphering, so as to prevent any awkward, inconvenient or unhealthy positions of the limbs, chest or spine. They should be easy of access, so that every scholar can go to and from his seat and change his position, and the teacher can approach each scholar and give the required attention and instruction, without disturbing any other person than the one concerned. They should be so arranged as to facilitate habits of attention, take away all temptation and encouragement to violate the rules of the school on the part of any scholar, and admit of the constant and complete supervision of the whole school by the teacher."

Each pupil should be provided with a seat and desk properly adapted to each other, as to height and distance, the front of the latter constituting the back or support of the former,—as shown in Fig. A. The desk should slope about 2½ inches in 16, as indicated in the same Figure.



Section showing Variation in Height.

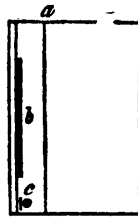
The seats should vary in height, from 9½ inches to 17, for children of different sizes and ages,—the youngest occupying the seats nearest the platform. The seat should be so made, that the feet of every

child when properly seated, can rest on the floor, and the upper and lower part of the leg form a right angle at the knee; and the

back of the seat, whether separated from, or forming part of the adjoining desk behind, should recline to correspond with the natural curves of the spine and the shoulders. The seat should be made as far as possible like a convenient chair.

The desk for a single pupil should be, at least, two feet long (2½ is better) by 18 inches wide, with a shelf beneath—as indicated by the dotted lines in Figure A—for books, and a narrow deep opening between the back of the seat in front of the desk itself to receive a slate—as at *b* in Figure C. The upper surface of the desk, except 3 inches of the part nearest the seat in front, should

(Fig. C.)



Top of Desk.

slope one inch in a foot, and the edge should be in the same perpendicular line with the front of the seat. The three inches of the level portion of the surface of the desk should have a groove running along the line of slope, *a*, Fig. C, to prevent pencils and pens from rolling off, and an opening at *c*, (same Figure) to receive an inkstand, which should be covered with a metallic lid. The end pieces or supporters of the desk should be so made as to interfere as little as possible with sweeping.

(Fig. D.)



Plan of moveable Seats and Desks.

For variety and for the sake of completeness on this subject, in connection with the foregoing remarks, we again insert the accompanying Plan of movable seats and desks, Figure D, from page 69 of the May No.

We have on more than one occasion acknowledged our great indebtedness to the very comprehensive and valuable work on "*School Architecture or Contributions to the Improvement of School-houses, in the United States.*" By the Hon. HENRY BARNARD, Commissioner of Public Schools in Rhode Island," for the complete and beautiful plans of School-houses which have for the last seven months illustrated the pages of this *Journal* devoted to that subject.* The work is published by Messrs. A. S. BARNES & Co., New York, and may be procured in Toronto, or direct from New-York, through Mr. D. M. DREWY, our attentive American Book Agent at Rochester, for \$2. (See Advertisements, pages 16 and 112.) It contains nearly 400 closely printed octavo pages; and is replete with useful information and practical suggestions derived from both European and American Educationists. The author is eminently qualified for the nice and important task he has undertaken, and has acquitted himself with great ability, taste and judgement. We have enriched our pages from time to time with valuable contributions from his work of a direct and highly practical character, in which he forcibly points out the great defects in the previous systems of School Architecture and suggests the most effective means of removing them. We would be rejoiced to see the *School Architecture* placed within the reach of each set of Trustees in Upper Canada. The trifling cost of the work would be amply repaid by the comfort and convenience which would be experienced even in the most unpretending rural School-house by strict attention to the numerous and minute suggestions contained in this admirable and elaborate work, on the part of Trustees and Building Committees. We would just remark that the engravings and mechanical execution of the very beautiful edition of *School Architecture* before us has cost the author about \$4000. A third edition will shortly issue from the Press enriched by additional engravings at a cost of nearly \$300.

* See pages 12, 16, 25, 28, 33, &c.

Educational Intelligence.

CANADA.

Burlington Ladies' Academy.—We have been favoured with a copy of the "Annual Register and Circular" of this admirable Institution. From it we learn that nearly 200 pupils have been in attendance at the Academy during the year 1848-9. The "Annual Review" of the classes closed on the 8th June; and from the following letter of the Rev. WILLIAM CLARKE, Superintendent of Common Schools for the Talbot District, addressed to the Visiting Committee, it will be perceived that the examination was of the most gratifying character:—

"I feel that I should not do justice to my feelings were I to leave this city without expressing my high gratification in witnessing the exercises of last evening, as well as my great satisfaction with the examination of the classes, so far as it was my privilege to hear them. The interrogations of the ladies and gentlemen engaged in conducting the studies of the young ladies, were so intelligent, and proposed with so much kindness and dignity of manner, and withal so searching and thorough; and the answers elicited were so correctly and modestly expressed, as to reflect the highest credit on both the teachers and the taught. The music, both vocal and instrumental, was of a superior order, conducted with much taste and skill; and I cannot but congratulate the honoured Preceptor and his accomplished lady, and the entire family, on the evident satisfaction and pleasure produced in the minds of all who attended the exercises."

In addition, we have much pleasure in annexing the Report of the Examining Committee. The Academic year for 1849-50 will commence on the 4th of October next, and close on the first Thursday of July, 1850. We are happy to learn that the proceeds of the Bazaar in aid of the "Calliopean Library" amounted to \$250.

"The Examining Committee of the Burlington Ladies' Academy, in submitting their Annual Report to the public, would state that they have every reason to be highly satisfied with the educational and domestic arrangements of the Institution; and that, in the late examination of classes in English Grammar, French, Arithmetic, Geometry, Botany, Astronomy, Natural Philosophy, Belles Letters, Drawing, Painting, Music, &c. &c., the proficiency of the pupils was great and apparent. The competency of the various Teachers was evident, and the pupils evinced not only great capacity of memory, but also great power of generalization and abstraction, and highly cultivated taste. The highest commendation is due to the Essays read by several of the pupils at the close of the Examination.

"The strikingly healthy appearance of the young Ladies must be attributed to the regular system of physical training which has been wisely adopted and faithfully pursued.

"The Committee would cheerfully express their unqualified approbation of the entire establishment,—its excellent and efficient Principal and Preceptress,—its numerous and accomplished Teachers,—its valuable Apparatus—its ample Library—its large and interesting and well-trained classes; and would also state their conviction—a conviction derived from, and strengthened by acquaintance with the Principal, observation of the sentiments expressed by the pupils during the examination, and knowledge of the domestic arrangements of the Burlington Ladies' Academy—that parents may, with confidence, commit to it the literary and moral education of their daughters; and that in such an Institution the City of Hamilton and the Province of Canada possess at once a responsibility and a blessing.

"Signed by order and in behalf of the Committee,

"A. BOOKER, Chairman,

"Hamilton, 8th June, 1849."

New School-house, Town of London.—Ceremony of Laying the Corner Stone.—The *Canadian Free Press* says: "The weather was fine, and a large concourse of spectators was on the ground. The procession formed on the Court-house Square, about noon. A long array of children attending the public schools, accompanied by their Teachers, the School Trustees, several of the Magistrates, &c., formed the first part of the procession. The Free-Masons' Lodge mustered strong, in all the pomp and paraphernalia of their Order, and closed the procession, which was preceded by the drums and fifes of the 20th Regiment. Before the ceremony, SIMON MORRILL, Esq., addressed the assemblage, and concluded by offering £100 for the purchase of a bell, and the interest of \$1000 annually towards the support of the School. Mr. MORRILL was loudly cheered by those who heard him, JOHN WILSON, Esq., M.P.P., followed with a very appropriate address—stating the satisfaction it gave him to witness the erection of a School-house capable of containing all the children resident in the town—one where all the children might receive an education on the improved plan. After the ceremony, the procession returned to the Court-house Square. In the evening a dinner took place at the Robinson Hall Hotel."

School Examinations, Town of London.—We attended the examination of the Common School under the tuition of Mr. R. WILSON, and feel very great pleasure in expressing our unqualified approbation of the efficient manner in which the pupils went through their exercises. We cannot avoid remarking the evidence given of a masterly method of engraving the rudiments of Grammar, Geography, Natural Philosophy, and Music, on the Scholars. The Geography of Canada occupied a prominent

place in the exercises in that branch of education;—the form and divisions, government, productions, &c., of the country, seemed perfectly familiar to the whole school.—[Canadian Free Press.

On the 27th ult., we had the gratification of witnessing the Quarterly Examination of the pupils attending Mr. MURTAGH'S School. The children—about 100—were cleanly and neatly attired, and acquitted themselves in the several branches in which they were examined very creditably. We understand that Mr. MURTAGH has been trained in the Normal Institution of the Board of National Education at Dublin. The success of his labours as an instructor of youth adds another to the proofs continually furnished of the utility of such training establishments for the education of our Common School Teachers.—[Ibid.

Example for Cities and Towns in U. C.—The Assessment of the Town of London for Common School purposes, for the year 1849, amounts to £722 1s. 7d. The adult population of London, in 1848, was 4584 souls.

Common School Festival, Brock District.—A Festival was held in a beautiful grove, on the 12th line of Zorra, about a mile and a-half from Woodstock, on Thursday last, for the purpose of purchasing a Library for a School in that neighbourhood. The arrangements made by the Committee, for the comfort and convenience of their guests, were very good; and the afternoon was spent in a very pleasant and agreeable manner. After having partaken of the "cup which cheers, but not inebriates," the company were well entertained by an excellent address on the importance of education from GEORGE ALEXANDER, Esq. The Woodstock Band was in attendance, and played several beautiful airs during the afternoon. We were pleased to see such a large attendance.—[British American.

Monsieur and Madame Deslandes' Academy, Toronto.—On the 26th ultimo, the public Readings and Recitations, in French and English, of the pupils in this Establishment took place. The young lady pupils were placed upon a slightly raised platform; and the large and highly dignified auditory was composed chiefly of ladies. In the French readings and recitations the accent was pure, the enunciation firm and distinct, and the emphasis correctly placed. In reference to the English department, which was under the special superintendance of the Rev. JOHN HURCHINSON, I am sure I speak the sentiments of all who were present, when I express myself in terms of the most decided commendation. In all the readings and recitations, the young Ladies spoke with a degree of ease, precision, and gracefulness which plainly indicated how carefully and skillfully they had been prepared; and in delivering the prize for this department, Dr. McCaul, who was present and took a warm interest in the proceedings, addressed the class generally, and, in a very happy manner, congratulated the young Ladies on an appearance so gratifying to their friends and so honourable to their Teachers. In the course of his remarks he adverted expressly to the good taste which Mr. HURCHINSON had evinced in his selection of the pieces—being all entirely different from the usual hackneyed school lessons uniformly read on such occasions—and approved highly of his having dispensed with gesture, and substituted in its place a just and forcible emphasis, and such also appeared to be the opinion of every one present. The Music and Pencillings of the young Ladies were very highly spoken of.—[Correspondent, British Colonist.

St. Urbain Street Academy, Montreal.—One of the most brilliant exhibitions ever given by the pupils of the above school was witnessed by a crowded audience on Friday evening last. The spirited manner in which the institution is carried on cannot fail to give satisfaction.—[Transcript.

BRITISH AND FOREIGN.

Abstract of the Report of the British and Foreign School Society for the year 1848.—The Report states, that 103 new schools had been opened during the year, providing additional school accommodation for upwards of 10,000 children. Those schools had been planted in 78 different localities, 67 of them in England, and 36 in Wales;—46 schools had been temporarily supplied with teachers, under emergencies which could not be otherwise provided for;—42 public meetings had been held, at which the principles of the Society have been zealously advocated. At 22 places, lectures had been delivered on the Importance and Necessity of Promoting the Education of the People. In Wales, 86 schools had been established, and 36 had been opened, either in North or South Wales, during the past year. During the year, 120 schools had been aided by grants of lessons, slates, and other material. The assistance hitherto rendered to schools in the colonies and other foreign parts, had been continued. The children of Jamaica, Tobago, and St. Domingo, of Greece and India, of Newfoundland, Fernando Po, and New Zealand, had all experienced their bounty during the year. The Model Schools had fully maintained their position

and were still overflowing. In the Boys' School, 919 had been admitted, making the total number received since its commencement, 31,339. In the Girls' School, 450 had been admitted, making the number entered on the books since its formation 18,294. Nearly 50,000 have, therefore, now received more or less instruction in the Model Schools alone. The Normal Schools had been efficiently conducted, and numerous attended. Dr. CORWELL reported the admission of 175 students. The Training School for Female Teachers had been equally prosperous; 36 students were reported in attendance in April last; 111 had been received since.

National Education in Ireland.—The Fifteenth report of the Commissioners is dated May 1, 1849, and at the close of 1848 the number of schools in operation was 4,109, and the number of pupils on the rolls was 507,469, exhibiting an increase in the attendance in 1848 as compared with 1847 of 104,837 children. Food was distributed by the British Relief Association, especially in the southern and western districts. The average number of pupils in each school was 125. The amount of salaries paid to teachers for 1848 was £57,103. The appointment of "paid monitors" has been found very successful—the salaries vary from £4 to £7 a-year. The arrangements for separate religious instruction of the children of all persuasions continue to be carried into effect every Tuesday, under their respective clergymen; each of the teachers in training is employed in giving catechetical and other instruction to a small class of children belonging to his own communion. The teachers attend their respective places of worship on Sundays, and every facility is given, both before and after service, as well as at other times, for their spiritual improvement under the direction of their clergy.

New Commissioner, National Board, Dublin.—JAMES O'FERALL, Esq., brother to the Governor of Malta, has been appointed to the important post of Commissioner of National Education, in the place of the late Right Hon. A. R. BLAKE.

Statistics of Ragged Schools, England.—From the annual report of the Ragged School Union, we learn that the metropolitan district now numbers 82 ragged schools and about 9,000 scholars, besides 20 industrial workshops, in which boys are prepared for colonial life.

Education of Recruits in the Army.—A general order has directed that all recruits for the army are daily to attend the garrison or regimental school, and are to be subjected to a charge of 4d. a-month for the instruction they receive.

New Congregation at Union College, England.—The Independents of England are about to build a new College in St. John's Wood, at the junction of the Avenue and Finchley roads, to combine the advantages of professors, &c., now divided among three distinct buildings at Homerton, Highbury, and Coward.

Scholastic Monument to Cook, the Circumnavigator.—A subscription is now being raised for the purpose of erecting a Sunday and Day School, in the parish of Martin Cleveland, Yorkshire, as a monument to the memory of the first great circumnavigator, Captain Cook, in his native village.

Parliamentary Grants for Elementary Education.—The Annual Parliamentary Grant, made the current year, for the purposes of Elementary Education in England was £125,000. For the same purpose in Ireland, £120,000; in Scotland, £16,434 3s. 8d.

Public Instruction in France.—Extract from the recent Message of Prince Louis Bonaparte, President of France.—In the outset of his administration the Minister of Public Instruction appointed two Commissioners to prepare two drafts of laws on primary and secondary instruction. His object was an immediate and sincere application of the principle of liberty, as traced in the Constitution. The result of their laborious deliberations will be submitted to the Assembly. A draft of a law on the establishment of a course of practical administration in each faculty of the department has been presented to the National Assembly. The question was not decided, and will again be brought forward. Two decrees of the Executive, of May 10 and August 16, placed the Algerine schools in the province of the Minister of Public Instruction, and Algiers became the seat of an academy. A commission, under one of our ablest generals, is studying to find out the means to facilitate the intercourse of the Arab and French languages. The Government has also occupied itself with the renovation of the colleges of Catholic theology, as wished by the National Assembly. This delicate question has been submitted to a Committee, and inasmuch as the highest interests of religion are concerned, the question is not open to be solved without the participation of the spiritual power. Considerable appropriations, which gave the means to raise the salaries of teachers, and

to improve the condition of the attendants have proved that the Assembly wished to supply the religious and intellectual wants of the people. The present Assembly will, no doubt, understand and continue this political, equitable, and religious idea. France has 68 establishments of higher instruction, with 6,269 students. Beside the Normal School, in which there are 115 pupils, there are 1,220 secondary establishments, with 106,066 pupils. There are 66 lyceums, 309 communal colleges, and 955 private establishments. The primary schools received 2,176,079 boys and 1,354,056 girls—a number of 3,530,135 pupils. These summary details will show you, gentlemen, that the Administration has been zealous in its duties. The Revolution has given it a fresh impetus; in its various branches it has not been satisfied with merely accomplishing its functions, but it has also endeavoured to answer the public expectations by preparing plans of improvement, which will be submitted to the Legislative Assembly.

Primary Instruction in the Dominions of the Sublime Porte.—The SULTAN of Turkey is undertaking seriously to establish a system of primary instruction. He is also encouraging the cultivation of the Turkish language and literature by every means, and especially by offering prices for the best translations of the standard works in ancient and modern literature. This was the plan adopted by PETER the Great of Russia, which has produced in our day so many good writers in Russia, and so many of the brightest ornaments in the scientific world. God speed the Turkish Sultan in his work of civilization!—[Paris Correspondence of the N. Y. Commercial Advertiser.

The Corporation of the City of Paris and its Schools.—The Municipal Council of Paris has just voted the appropriation of enough funds to pay for the tuition of 5000 additional pupils in the City Schools.—[Ibid.

New Greek University.—A Liberal Legacy.—The Athens papers report that M. DEBOLLI, a Greek, who in the war of emancipation had already made large pecuniary sacrifices for his country, has just died at St. Petersburg, at the age of 92, leaving a will by which he constitutes the Greek nation his universal legatee. His property represents the value of about £150,000 sterling. The whole capital is to be transferred to the Greek Government—on condition that it shall be employed on objects of public utility. Among those objects M. DEBOLLI himself indicates one—the creation of a new Greek University, to be called after the name of the testator.

Education in the City of New-York.—Report for 1848.—The Annual Report of the Board of Education of the City and County of New-York for the last year, exhibits an aggregate number of Schools of 194, and the number of scholars 95,045. Since 1843, the number of children attending the Common Schools has more than doubled. The number of scholars which we have given exhibits the registered pupils. The average actual attendance is less than one-half that number. It is understood that one cause of the increased attendance in the Common Schools is, that old prejudices against public education are dying out with the improvements of the system, and that the schools receive children more generally than heretofore from all classes of society. The aggregate of Annual Expenditure is \$346,804 98, including disbursements for new buildings, the Free Academy, &c. The system of Evening Schools has been enlarged with success. They number 15, 11 for males and 4 for females, and reach an ignorant adult portion of the population. Their importance cannot be over-estimated. The number of teachers employed in these male schools was 54, in the female 18; the number of pupils 5219 males, 1757 females;—581 of these were over 21 years of age; 2944 between 16 and 21. The number who could not read when they entered was 872; who could read but imperfectly 508. The Free Academy for higher education admitted, at its examination in January, 143 pupils out of 272 applicants. The directors of the Institution seem determined upon its elevation as a well-disciplined school of the higher order.—[N. Y. Literary World.

Schools in Connecticut in 1848.—The total number of children in attendance at the Common Schools of Connecticut, in 1848, was 89,007. The amount paid from the school fund of the State for their instruction, was \$133,336, or one dollar and fifty cents to each child. The total capital of the school fund is \$2,077,641. One school district in the State is so childless as to have but a single child to send to school.

Arrest of Truant School Boys!—The Constables of the Town of Saco, Maine, U. S., have been ordered to arrest all idle boys that may be found in the streets during ordinary school hours, and to carry them to such place as the Superintendent of Common Schools may direct.

Inaugurated.—The Rev. JARED SPARKS, LL.D., the distinguished historian and biographer, was inaugurated President of Harvard University on Wednesday. Gov. BARNES officiated at the ceremony, and the New President delivered a very able address.

JOURNAL OF EDUCATION.

TORONTO, JULY, 1849.

STATE OF POPULAR EDUCATION ON THE CONTINENT OF EUROPE.

The Committee of HER MAJESTY'S Privy Council on Education, having deemed it desirable to ascertain the state of popular instruction in foreign countries, applied for information through the Secretary of State for Foreign Affairs, from the governments of the principal States of Europe and America. The substance of the answers to these inquiries is published in the last volume (for 1848) of the Minutes of the Committee of Council on Education—which we have just received by the courtesy of Dr. J. P. KAY SHUTTLEWORTH, the Secretary of the Committee.

An abstract of the statistical information thus collected, with brief general remarks of our own on the systems of instruction in the several countries mentioned, may not be uninteresting to our readers; especially as it opens a wide field into which we have scarcely entered in the columns of this *Journal*—though we intimated our intention to do so in the Prospectus of the present volume.

It may be remarked, generally, that at present there appears to be no country in which public instruction is not directed or managed by a department of the government. The Schools are universally subjected to inspection, and their condition is annually reported upon. Boards of Education recommend or sanction the books used in all the Schools, and in some instances distribute the money appropriated by government in aid of their support, as does the Board of Education in Ireland, and the Committee of Council in England. The cost of public instruction is, in some of the continental countries, defrayed chiefly by incomes from endowments; and in the north of Italy these, united with the communal contributions, analagous to our local assessments, are sufficient to allow primary instruction to be given gratuitously—thus maintaining a system of Free-schools. In the countries of Central Europe, local School authorities levy a moderate school rate on families, whether the children attend the Parochial School or are otherwise instructed; and in those countries the law requires parents to send their children to the Primary School, or a private school, in which the same kind of instruction is given—the State providing for the instruction of those children whose parents are too poor to pay any tax for that purpose. Supplementary aid from Government is universal, both to Schools and Colleges. The admission to Colleges and Universities, and even offices under government is made dependent upon School Certificates, in addition to those of baptism or communion, and preliminary to further examinations and inquiries.

Such are the facts connected with public instruction common to most of the countries of Central Europe. Though the political press has been free to none, the Elementary-school has been opened to all; and the Free-school has been paving the way for free government. Such attention to public instruction was scarcely known in any of these countries before NAPOLEON shook Europe from its slumbers, and taught despots that they must govern for their subjects if they would be supported by them. Those despots have done so to a great extent in respect to the provisions for elementary instruction, but not for constitutional freedom. The intellectual supply has created the constitutional want; and the demands of that want are witnessed in the upheavings of Europe, from Palermo to St. Petersburg, and from the mouths of the Danube to the mouth of the Tagus. Intellectual light cannot long be the slave of

civil bondage. The sun of knowledge has risen too high to be grasped or extinguished by another ATTILA of ignorance and despotism. The school of knowledge is the birth-place of freedom and the ægis of its perpetuity. The schools of Europe will infallibly give free constitutions of government to the people of Europe. That consummation may be delayed, but it cannot be prevented.

From this summary and general view, we will proceed to notice the state of public instruction in particular countries. We will begin with HOLLAND—physically lower than the level of the sea, but intellectually higher than the citizens of the seven hills; in free constitution of government not behind Great Britain herself, and in popular education much in advance of her.

HOLLAND dates the impulse to its improved system of popular instruction as far back as the era of American Independence; and the origin of many parts of the American system of public instruction may be clearly traced to the Dutch Netherlands. It is singular that while in the seventeenth century, Holland was the LUTHER and WASHINGTON of mental and constitutional freedom to England, a century afterwards, it sympathised with America against England, and imparted to the new American Republic those hints and impulses which have matured into a diversified system of educational instruction that commands the admiration of the world. Holland was a free country, and the refuge of the religious persecuted of other countries, when civil and religious liberty was in chains in every kingdom of Europe; and the spirit that the inquisition and cruelties of the infamous ALVA could not extinguish or resist, has won half its territory from the ocean, converted one of the least propitious provinces of the globe into fruitful fields and rich pastures, the parent state of wide-spread colonies, and the abodes of wealth, intelligence and refinement. The origin of the Dutch improved system of popular instruction is as humble as that of the low lands on which it has flourished—surviving three great revolutions with little alteration or change.

In 1784, in the city of Groningen, an association was formed under the direction of a Menonite preacher by the name of JOHN NIBUVEN-HUYSEN, called the *Society of Public Utility*, the object of which was to improve and diffuse popular education, and the branches of which soon extended throughout the country, and even into Switzerland. This Society applied itself to the consideration of the best methods to be pursued in the physical, intellectual and moral education of children—founded Model Schools in different districts—published cheap and improved text-books,—excited discussions on methods of teaching, and stimulated the local authorities and others to establish new schools, without interfering with them—always withdrawing its efforts when no longer needed in any place. This Society was countenanced and assisted by the government in its efforts to train teachers and to excite attention to the state and interests of schools. The attention of the government was at length seriously directed to the subject; and in 1800 Mr. VANDER PALM (the Orientalist) introduced into the Chamber of Representatives of what was then called the Batavian Republic a great scheme of National education, and various edicts and regulations were adopted to carry it into effect. These were modified and generalized and digested by Mr. VANDEN ENDE into a law which was finally settled in February, 1806. That law was passed when Holland was a Republic, and was based upon popular principles; but it has remained unchanged in its leading features from that day to this. It proclaimed the exercise of the social and Christian virtues to be the great end of all instruction, and provided for their inculcation in the schools—embracing the great truths and morals of Christianity as held by Calvinists,

Lutherans and Roman Catholics—leaving the points of difference to the teaching of the ministers of each persuasion, as in the National School system in Ireland. It soon acquired a high reputation; and as early as 1811, the Emperor NAPOLEON sent a Commissioner from the University of Paris to examine and report upon the state of education in Holland. The report of the imperial Commissioner was highly favorable, especially in reference to the system of instruction in the Primary Schools. During the reign of LOUIS BONAPARTE, from June, 1806 to 1810, and subsequent to the incorporation of Holland with France, some changes were made in the details of the School Law; but on the restoration of peace and the accession of King WILLIAM FREDERIC of Nassau and Orange, his first care, after the peace in 1814, was directed to the state of education, which was, by a law of that year, restored to the footing of 1806; it has never since been disturbed, but has been extended and applied with growing vigour and success, and Mr. VANDEN ENDE remained, through successive revolutions and changes in form of government, at the head of the department of Primary Instruction from 1806 to 1833, when age compelled him to retire.

In Holland the department of primary instruction is managed by an Inspector General, who resides at the Hague, and who acts as the Deputy of the Minister of the Interior. The municipal divisions of the kingdom are provinces, districts, and cities. In each district and city there is an Inspector of Schools appointed and paid by Government, and Committees or Trustees chosen by the people; in each province there is a Provincial Board or Commission of Primary Instruction, consisting of all the inspectors of the school-districts into which the province is divided; and also some other leading inhabitants named to meet and confer with the Inspectors. Each Inspector of Schools is required to inspect every school in his district at least twice a-year; is the director of the primary education of his district; no one can exercise the office of a teacher without a license from him; and he is *ex-officio* member of all the local school boards and committees in his district.

The Commission of each province meets three times a-year in the chief town, where the Governor of the province presides in their meetings or conferences. Each of these conferences lasts two or three weeks, during which time each Inspector reads aloud his report on the state and progress of education in his district, and refers to the meeting any questions on which their decision is desired.

Each province is allowed to have its own special regulations, founded on the general law. The Commission at each meeting examines whether the acts of the several inspectors have conformed with these regulations, and prepares a general report on the state and progress of education in the provinces, which is forwarded to the Inspector General, together with such recommendations in regard to modifications or improvements in the provincial regulations as the Commission may deem expedient and advisable. Each Inspector is thus responsible to the provincial Commission; and the provincial Commissions are themselves responsible to the Government. The Inspector General, from time to time, meets Delegates from these Provincial Commissions or Boards to confer on the school affairs of the several provinces throughout the kingdom. As early as 1814 the Government sought and tried the best methods of instruction, and prepared and published a catalogue of the best school books. The Inspector General examines and approves or rejects the school books which may be recommended to him by the Provincial Commissions or otherwise; and Inspectors are charged to see that none but books thus authorized are used in the Schools. There are 80 of these school Inspectors, appointed and paid by the State to manage, in connexion with the local authorities, the edu-

cation of the country—men selected with the greatest care from a list of names submitted to the government by the several provincial Commissions. It is to the unrivalled system of inspection that the efficiency of the Holland school system is mainly attributable.

The Schools are aided by grants from the State, but are chiefly supported by the provinces and towns, the authorities of which provide in their local budgets for the cost of School education in their respective municipalities. Teachers are classified into four ranks, according to their qualifications, and cannot be removed from their situations without the concurrence of the Inspectors. A sum is also appropriated for the encouragement of Teachers' Associations, where Teachers meet and confer on School management, visit each others' Schools, and discuss the duties of their profession. Each Inspector is required to hold these educational conferences with the teachers in his district at fixed periods. There are two Normal Schools—annually training about 75 teachers. But many of the instructed masters in various towns teach the *art of Teaching*, as well as the required subjects of popular education, to those of their senior pupils who intend to become teachers. But the Dutch Government, after trying all other methods, found that a sufficient supply of properly qualified masters could not be secured without Normal Schools. The maxim in Holland is, that the men make the Schools; and therefore the chief attention is directed to the selecting of teachers and inspectors. Such men are, of course, highly respected as well as respectable. The examinations of teachers are conducted by Inspectors assembled in provincial meetings—men interested in obtaining able masters in their respective districts, and men who have spent years in studying the best way of promoting education, and who thoroughly understand what belongs to the profession of a schoolmaster. The law also enacts generally, "that the *municipal* and *departmental* authorities shall secure a sufficient income to the Teachers, and that they shall not be left dependent upon payments from the parents of their scholars."

Such is an epitome of the system of primary instruction in a country where human industry has achieved its noblest triumphs—which was the battle ground of civil and religious liberty in the sixteenth century—which (though a republic itself) secured to England an unrivalled system of responsible monarchical government in the seventeenth century—whose confederacy of seven independent provincial republics in one united republic, suggested the platform of the great American confederacy in the eighteenth century—and whose educational example from the commencement of the present century has furnished more practical hints, and exerted not less influence, than that of Prussia, in the promotion of popular instruction in other countries. We have no room here to narrate several practical developments of this system as ascertained by personal inquiry and observation; nor can we say anything respecting the Holland system of classical and university education; nor have we left ourselves space to give more than two or three of the statistics furnished in the Minutes of HER MAJESTY'S Privy Council Committee on Education—referred to at the commencement of this article. The intelligence, virtue, and industry of the people of Holland are the best illustration and eulogy of their educational system. In 1846 the entire population of the eleven provinces into which Holland is divided, was 3,053,384; the total number of children in the schools was 382,370;—one-eighth of the whole population being under public instruction. It has been alleged that not a native child of ten years of age, of sound intellect, can be found in Holland who cannot read and write. Honour be to this land of statesmen and soldiers, of liberators, navigators, and painters; of ERASMUS and GROTTUS, of ARMINIUS and BORRHAAVE, of COSTER and VANDEN ENDE!

Selections.

THE BIBLE AND RELIGIOUS INSTRUCTION IN THE PUBLIC SCHOOLS OF NEW ENGLAND.

From the Eighth Report of the Massachusetts Board of Education.

We cannot conclude this report without referring to a subject of vital interest, not only to the prosperity of all our institutions of learning, but to the welfare, also, of all the children in the Commonwealth. We refer to the importance of cultivating the moral and religious, as well as the intellectual faculties of our children by the frequent and careful perusal of the Sacred Scriptures, in our schools.

It is gratifying to the Board to be able to announce that, so far as there was reason for desiring a change in regard to the use of the Bible in our schools, the change which has taken place within the last few years is a favorable one. In one of the early Reports of the Secretary, after careful inquiry on his part, the fact was communicated to the Board and the public, that the Bible was then used in almost all the schools, either as a devotional or as a reading-book. But there were exceptions. From inquiries, however, which have been made by the Secretary during the present year, (1844,) it now appears, that, of 308 cities and towns in the Commonwealth, it is used in the schools of 258 towns, as a regular reading-book, prescribed by the school committees; and that, in the schools of 38 towns, it is used, either as a reading-book, or in the exercises of devotion. From nine of the remaining towns, no answers were received,—and, in the schools of three towns only, it is found not to be used at all.

By the direction of the Board, it has been in daily use, in all the Normal Schools, from their commencement, and it is believed that it is used, in like manner, in all our academies.

While we rejoice at the change, which has taken place, in this respect, the fact, that there is a single institution of learning, in the peculiar home of the Pilgrims, where the light of the Bible is excluded from the minds of the pupils, is a ground of serious apprehension and regret.

While the Christian world is sub-divided into such a variety of religious sects, it is to be expected that their jealousies would be excited, by sectarian instruction, or, by the introduction of books of a denominational character. And, indeed, as well in the present state of public opinion, as of the enactments of our Legislature, that teacher would act strangely in contravention of his duty, who should attempt to disregard such a well-understood, and beneficial provision of the laws. But the Bible has nothing in it of a sectarian character. All Christian sects regard it as the text-book of their faith. Our fathers brought it with them, as their choicest patrimony, and bequeathed it to us, as our richest inheritance. They imbued their children with its spirit. They founded our Government, upon its principles; and, to render the Government permanent, they established the institution of the Common School, as the nursery of piety.

It is, also, worthy of remark, that while our Legislatures have guarded, sedulously and effectually, our Common Schools, from becoming places for sectarian instruction, they have, at the same time, provided for the instruction of the youth, both in the schools and in the other institutions of learning, in a knowledge of the principles of the Christian religion. The 7th sec. of the 23rd chap. of the Revised Statutes, enjoins it, as a duty, upon all the instructors of youth, that they shall impress upon their minds, "the principles of piety"—and those other virtues, which are the basis, upon which our constitution is founded; and that they shall also endeavour to lead their pupils to a clear understanding of the tendency of the above-mentioned virtues, to preserve and perfect that constitution, and secure the blessings of liberty, as well as to promote their future happiness, and, also, to point out to them the evil tendency of the opposite vices.

It is difficult to perceive, how these results can be accomplished, without a frequent reference to the pages of the sacred volume; and it is equally difficult to imagine what objection can be raised to the study of a book, which is not only the palladium of our liberties, but the very foundation also, of our most cherished hopes.

If it is said, by the use of the Bible in the schools, a wrong

interpretation may be given by the teacher, to any of its passages, the reply is an obvious one, that this would be a fault in the manner of instruction, provided for by the law, and not in the use of the Bible itself. But it may be further replied, that even this danger is guarded against. The spirit of the law is opposed to it; and public opinion, in this country stronger than the law, would, at once, put down the attempt of any teacher, to violate the rights of conscience, by giving to his pupils sectarian instruction. It will be recollected, that the Common Schools are under the charge of committees chosen by the people, who have power to prescribe the books, and to direct the manner and the amount of religious instruction.

If it is said, also, that the Church, the Sabbath School, and the family, are places better adapted than the Common School, for the education of children in the principles of the Christian religion, we reply, that, though undoubtedly it is the duty of parents and of religious teachers, to co-operate with the Common School teachers in their religious instructions, yet it is only in the Common School that thousands of the children in our Commonwealth can be thus instructed. How many are there of those, who swarm in our cities, and who are scattered throughout our hundreds of towns, who, save in the public schools, receive no religious instruction? They hear it not from the lips of an ignorant and a vicious parent. They receive it not at the Sabbath School, or from the pulpit. And if in the Common School, the impulses of their souls are not awakened and directed by judicious religious instruction, they will grow up, active in error, and fertile in crime.

The Board do not propose, indeed, they are unable to suggest any legislation to remedy the evil. It is beyond legislation! Like legislation itself, it depends upon popular opinion; and if that is not awakened to it, the evil is irremediable. But if the community will look back upon the institutions of the Pilgrims, and contemplate the wonders which those institutions have wrought for us; if it will compare the moral aspect of New England, with the most favored features of a nation, where the light of the gospel has shone with less effulgence; or, if it will compare an individual, subjected at an early age to religious influences, his energies aroused, guided and controlled by judicious discipline, and his affections trained and confirmed in habits of kindness and benevolence, with one reared without principle, educated without morals, corrupting youth by his example, and harrassing society by his crimes, it will form, it is believed, a more correct estimate of the unspeakable value of a religious education.

INFLUENCES OF EDUCATION ON COMMUNITIES.

BY WILLIAM RANKIN, ESQ.,

Principal of the Classical School, Deckertown, N. J.

The intelligent traveller, standing on the mountain of Passilippo, beholds a scenery, to which, in the whole world, he scarcely finds a parallel. At his feet westward, is spread out the enchanting vale of Neapolis, embosomed in the lovely margin of which, a spacious bay, studded with sunny isles, and half encircled by shores robed with orange groves, stretches its silvery waters till lost in the expansive Mediterranean; while eastward, and above him, rises mountain turret and towering crag, exhibiting one of Nature's most sublime and beautiful amphitheatres. Still, in the back-ground, and towering above all, with its blackened sides and ever-flaming crater, stands the terrible Vesuvius.

The associations that here crowd the memory of the spectator, are no less interesting than the scenery that meets his eye. In his immediate presence stands the tomb and rest the ashes of that tongue, by which were once made vocal the hills and vales of far-famed Mantua. In the distance once shone the isle of Baiæ, adorned with numerous villas of Roman Senators, and honoured with the academy of Cicero. And there, too, the site of Capua, celebrated as having by its luxuriant pleasures subdued the mighty army of the terrible Carthaginian. On the other hand, and beneath the vast fields of lava, lie, in eternal sleep, the once gay, active and magnificent cities of Herculaneum and Pompeii.

But let our traveller now descend and traverse the streets of Naples, and how is he struck in turning his eye from the glories of the works of God, to the disgrace of that human depravity, with which he is in contact. Squalid wretchedness and abject ignorance

everywhere abound. Thieves and beggars by thousands crowd the streets. The traveller shudders at the thought of taking lodgings in the polluted place, and embarks on the departing ship, and finds peaceful refuge on the dark wave of the Mediterranean.

Select another town, which, in point of interesting location, will bear comparison with that just alluded to. Two distinguished chains of mountains, from different directions, approach within a few miles of the place, and abruptly terminate as if hewn perpendicularly down, leaving a plain of several miles in extent for the site of the beautiful city of New Haven. Here let the reflecting traveller arrive, and two miles distant from the city, stand on the summit of West Rock.

He views far in the east, an extended sheet of water, decked with many a snowy sail, while still beyond a magnificent island forms the blue margin on the horizon, stretching to the right and left interminably. Centrally in this grand picture stands the lovely city. The stranger descends from his lofty speculum, and traverses its streets. It is the hour of prayer. The melodious chime of bells calls worshippers from every quarter. The smooth and spacious green, on which several sacred edifices rear their glittering spires, is checkered in every direction with advancing groups—hoary age, blooming youth, and happy childhood commingle the silent ejaculation—

“The joyful morn, my God, is come,
That calls me to thy honoured dome,
Thy presence to adore;
My feet the summons shall attend,
With willing steps thy courts ascend,
And tread the hallowed floor.”

Let the spectator now institute the inquiry: Why does the city of New Haven strongly attract the virtuous heart, and that of Naples repel it? Why is not the lovely shore of ancient Campania now the residence of an intelligent, enlightened, virtuous and happy population? Why is not the vale of New Haven the very abode of indolence, ignorance, debauchery, theft, and squalid wretchedness?

Who would not unhesitatingly answer, that the spirit of liberal and sound education is welcomed in the one, and completely diffused through the mass of its population; while from the other, with the exception of a few cloistered instances, it is completely excluded? Let it be understood, that education in its extensive and proper sense, is here intended—that education which cultivates and rectifies the whole mind, intellectually and morally.

Reader, are you a patriot? Rest your country's liberty, wealth, honour, and happiness on a sound education. Do you view yourself in the light of a philanthropist? Education, with all that the term justly embraces, is the good Samaritan that pours healing oil and wine into the bruises of the mind bowed down beneath the shackles of ignorance.

But especially, are you a parent? Wish you ardently the best interests of your offspring? Open, then, the windows that admit light into the mind of thy child. God has built that mind for a mansion of knowledge. He has founded it on earth, and designed it to rise above the skies. That mind contains many chambers of resplendent grandeur, and pavilions of immortal happiness; but the key, in a great measure, is committed to thy care, which unlocks and illumines this noble structure. You can withhold the light, and in consequence, it may smoulder in darkness, and crumble into irremediable ruin.

We ought not to despise a man any more for the misfortunes of his mind than those of his body, when they are such as he cannot help; nay, rather, we should pity him the more who is deficient in intellect than he who has lost a leg or arm, the loss of the latter may be supplied by artificial means, the want of the former never can be supplied by any means at all.

GREAT minds are charitable to their bitterest enemies, and can sympathize with the failings of their fellow-creatures. It is only the narrow-minded who make no allowance for the faults of others.

In proportion as luxury increased, the life of man was abbreviated: The seven kings of Rome reigned longer than the first twenty emperors.

SUMMER.

BY MISS CLARKE, OF SIMCOE, TALBOT DISTRICT.

Published by request of a Member of the Visiting Committee of Burlington Ladies' Academy.

Summer, sweet Summer! thou lingerest long;
Oh! haste thee! nor longer forbear;
The gay forest minstrels, with music and song,
Are waiting to welcome thee there.

And Spring has been here with her sunlight and flowers,
And hope in her beautiful eye;
And she told us that thou would'st enliven the hours
When the time of her reign was gone by.

E'en now is she resting on yon distant hill,
As waiting to hear thy glad voice,
And yet, lovely Summer, thou lingerest still;
Oh! haste thee! and earth shall rejoice.

The fair, gentle tints that so softly are seen
Resting lightly on meadow and tree,
Shall be deepened to hues of a far richer green;
When breathed on, sweet Summer, by thee!

And the wreath of young flowerets, so timid and sweet,
That Spring gaily wove as she passed,
By the roses and lilies that bloom at thy feet,
Shall, in beauty and light, be surpassed.

Thus whispered a zephyr, as fondly she strove
The fair one to woo from her dwelling above;
And he fanned her soft cheek with his fairy-like wing,
Laden rich with the freshness and fragrance of Spring.

And quickly she came, borne along on the breeze,
Casting robes of new light o'er the blossoming trees;
Shedding gifts of rare worth in her sunshine and showers,
And painting new bloom on the cheek of the flowers.

And have you not seen her, the fair, smiling guest!
In garments of beauty and joyousness dressed?
And have you not heard the sweet tones of her voice,
As she breathes upon all things and bids them rejoice?

Go, list to the streamlet that wanders along,
So placidly gliding, with peace in its song,
Or dancing for joy in the sun's golden light,
With many a murmur of grateful delight.

The bright little flower speaks of happiness, too:
See its delicate petals, all glistening with dew,
And breathe the sweet fragrance it sheds on the air,
As the incense of love and of gratitude there.

But, lovely Summer! tho' thou beamest now
With joyous smile, so innocent and bright,
A cloud, e'er long, shall rest on thy brow
And shade thy sunny light.

Yes, thou must see thy favorites fade,
With quenched and hueless eye;
Till each on the cold earth is laid,
To wither and to die.

And thou thyself wilt turn away,
And seek some happier clime,—
For pleasure bloometh but a day
Upon the shores of time.

Ah! vainly do we look below
For aught that changes not;
Full many a bitter drop of woe
Is many a mortal's lot.

Hope flings a halo, glad and gay,
Round scenes of future years,
But soon the vision fades away,
And leaves us—nought but tears.

The cup of joy we stoop to quaff,
But there find no relief;
And, while we list, the merry laugh
Is changed to notes of grief.

And better thus—for could we find
Aught, in a world like this,
To satisfy the immortal mind
And give unfading bliss;

We might become too fond of earth;
Might cling to earthly love—
Forgetful of our heavenly birth
And better home above;

Forgetful of the glorious light,
That bathes those mansions fair,
And Sharon's Rose, so pure and bright,
That blooms perennial there.

TRUE GREATNESS—AN INCIDENT.

Chief Justice MARSHALL was in the habit of going to market himself, and carrying home his purchases. Frequently he would be seen at sunrise, with poultry in one hand and vegetables in the other. On one of these occasions, a fashionable young man from the North, who had removed to Richmond, was complaining violently because he could find no one to carry home his turkey.

MARSHALL stepped up, and asking him where he lived, said, on being told, “That is on my way, and I will take it for you.” When he came to the house, the young man inquired, “What shall I pay you for?” “Oh, nothing,” said the Chief Justice, “you are welcome; it was on my way and not of any trouble.”

“Who was that polite old man that brought home my turkey for me?” inquired the young man of a by-stander. “That is JOHN MARSHALL, Chief Justice of the United States.” “Why did he bring home my turkey?” “To give you a severe reprimand, and teach you to attend to your own business,” was the reply.

True greatness never feels above doing anything that is useful; but especially, the truly great man will never feel above helping himself. His own independence of character depends on his being able to help himself. Dr. FRANKLIN, when he first established himself in business in Philadelphia, wheeled home the paper which he purchased for the printing office, upon a wheelbarrow with his own hands.—*Anecdotes for Boys.*

Science and Practical Arts.

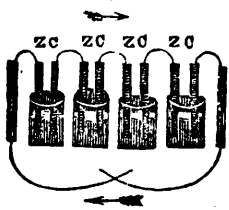
TELEGRAPHS—ELECTRO-MAGNETIC TELEGRAPH.

[Concluded from the last Number, p. 93.]

We have glanced at different kinds of Telegraphic communications ancient and modern—to some of the phenomena of electricity, the rapidity of its travels, the different modes of generating it, the construction of the voltaic pile and galvanic battery, as also of the standards, tubes and wire of the Electro-magnetic Telegraph. We have likewise illustrated what is termed the Galvanic or Voltaic circle, simple and compound, and the process of its formation. We have observed that the *Galvanic Battery* is the *motive power* of the Electro-magnetic Telegraph.

To make our further remarks on this point more intelligible and plain to the general reader, we will in the first place repeat the illustration with which we concluded our remarks last month; namely, VOLTA'S *couronne des tasses*, (crown of cups)—a kind of galvanic battery which is used in many of the intermediate stations of telegraphic lines. This battery consists (as is shown in the accompanying Figure) of a number of glasses filled with acidulated

(Fig. 3.)



water, with zinc and copper plates immersed in them, in the order represented in the figure; Z indicating the zinc, and C the copper plate; the arrows denoting the course of the electric fluid. It will be seen that there is one plate of each kind immersed in the diluted sulphuric acid of each glass; that the wire passes from the copper plate C in the first glass to the zinc plate Z in the second glass, which also contains a plate of copper connected by a wire with the zinc plate of the third glass; and in like manner the copper of the third glass is connected with the zinc of the fourth, and so on to any number—each succeeding cup adding to the force of the electrical current.

Now let a wire proceeding from the copper plate at the right hand of the row of glasses or jars be brought into contact with a wire proceeding from the zinc plate at the left hand of the row of glasses, and the circuit or circle is closed or completed, and the action circulates. The acid having a stronger affinity for zinc than for copper, and acting chemically upon the zinc, (as explained in our last number) produces an alteration in the electrical state of the metal. The *zinc communicating* its natural share of the electrical fluid to the acid, becomes *negatively* electrified; the *copper, attracting* the same fluid from the acid, is *positively* electrified. Thus from Z to C in the first glass to the left, there passes *through the liquid* a positive current, which is carried by the conducting wire from C to the second Z; and at Z's contact with the liquid in the second glass, joins a second charge, and both pass on to the second C, and so on from glass to glass, and around the whole circuit.

But suppose that, instead of completing or closing the circuit by connecting the handles suspended at the right and left of the row of glasses by wires, as exhibited at the bottom of the figure, a person were to make his own limbs and body a part of the circuit by seizing the handles or wire at each extremity of the row of glasses, one in each hand. As the human body is a good conductor of electricity, the electrical current would pass through it, producing convulsive shocks. And if any number of persons were to unite in forming the circuit by joining hands, each person would feel the electric shocks.

Furthermore, suppose that instead of either of these methods being adopted to close or complete the circuit, the wires at the right and left hand of the row of glasses were to be connected with the *ground*, the result would be the same—the earth being as good a conductor of electricity as the human body. Again, (the wire at the left hand of the battery being connected with the ground,) suppose the wire at the right hand was carried on poles or standards, (being isolated from them by non-conducting glass or earthenware tubes or caps) to the distance of twenty, one hundred or five hundred miles, and then brought into contact with the earth, the result would be the same as if the distance were not more than three feet, or three inches. Not even the *time* of making the circuit of five hundred or a thousand miles can be appreciated, since the speed of

electrical fluid, through the earth, as well as along the wire, is at the rate of 288,000 miles, or more than eleven times around the globe, in a second of time—one-third faster than the light itself!

These remarks prepare the way for enabling the reader clearly to understand what is meant by the term *circuit* in the Telegraph—a principle or peculiarity essential to its operations, and on which some of its most remarkable phenomena depend. It will be recollected from what we have above stated, that the first zinc plate Z in the left glass of the row (Fig 3) being chemically acted upon by the acid, and losing its proper share of the electrical fluid, becomes *negatively* electrified. That end of the row of glasses is, therefore, called the *negative pole* of the battery. It has also been shown that the *copper plate C* in each glass, receiving more than its due share of the fluid, becomes *positively* electrified. The right end of the row of glasses, therefore, terminating with the *copper plate C*, is called the *positive pole* of the battery. Now the term *circuit*, as applied to the Telegraph, has reference to the wire, which commences at the *positive pole* of the battery, and, after going any distance from five inches to five hundred miles, returns to the *negative pole* of the battery. The *circuit* is said to be *closed* or *complete*, when the going and returning of the wire are uninterrupted or unbroken; that is, when the wire is neither broken, nor permitted to come into contact, in any place, with any substance that will conduct away the fluid from it. When the wire is broken in any place, or brought in any part of its course into contact with the wooden poles or the ground, by the breaking of any of the isolating glass or earthenware tubes or caps, or otherwise, the circuit is said to be *broken* or *open*; and then the Telegraph will not work. (On the sources of uncertainty in the working of the Telegraph we shall remark hereafter.)

In order to complete and maintain the *current* between any two Telegraphic Stations *two wires* were, in the first instance, thought necessary—the one conducting the galvanic current from the positive pole of the battery to the distant station, and the other conducting it back again to the negative pole of the same battery. But it has been found that this latter office is best, and of course most economically, performed by the *earth* itself! The use of the ground as a conductor of galvanic fluid, for such a purpose, between such distant points as Toronto and Quebec, or Toronto and Boston or New-York, is a mystery indeed; but it is also as unquestionable a *fact* as that of the Telegraphic communication itself. Thus the invisible electrical current passes from the positive pole of the battery through hundreds of miles of conducting wire to the distant station—thence its destination is to the negative pole of the same battery, and its conductor thereto is the *earth*. At each end or station, the wire is carried down to the ground, and attached to a large plate of metal buried there; and the electrical current finds its way through the earth, with the rapidity of thought, from one of these metallic plates to the other.

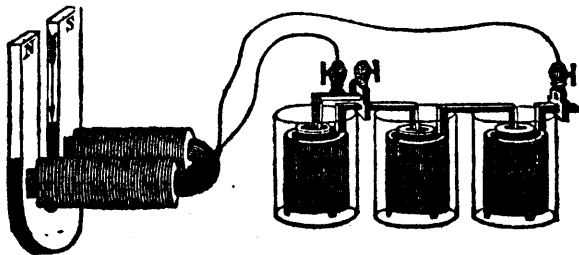
Let it now be observed, that the galvanic battery is placed in the *circuit* thus formed, (forming a part of it) and is the fountain of the electrical current which so mysteriously and instantaneously flows to the distant point of destination and thence back, through the earth, to the place of beginning. The next question is, how is the current thus generated, and conducted throughout the whole of a more or less distant unbroken circuit, applied to practical purposes, and made the medium of communicating between distant points messages of business, intelligence and affection? This is accomplished by another ingenious invention—placing in this *circuit* an instrument called the ELECTRO-MAGNET. Viewing the Telegraph as a mode of communicating thought by writing, the galvanic battery represents the physical power of man by which the operation is performed—the wire—the *arm*—the Electro-Magnet with its needle—the *hand* and *pen*—the Operator, the presiding and directing intelligence in the whole process.

The construction of the Electro-Magnet then, and the principle on which it performs its functions, come next to be explained.

By observing the changes which lightning produces in the magnetic character of the needles of ships' compasses, and by experiments with Leyden batteries, it has long been known that electricity is capable of producing magnetic effects; and electro-magnetism relates to magnetism which is induced by the agency of electricity. The electro-magnet is usually a piece of soft iron temporarily magnetized by a current of voltaic electricity. It is variously shaped,—most commonly in the form of a horse shoe—

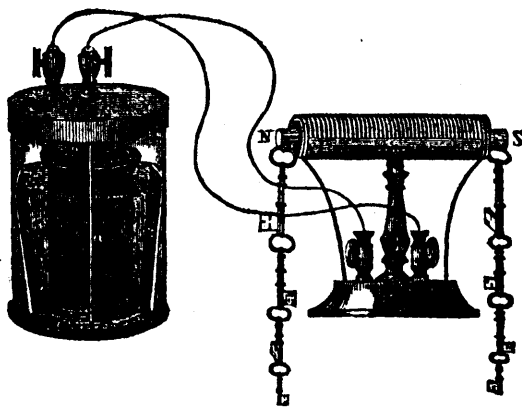
but the principle of its construction and action is the same in all forms and circumstances. The electro-magnet is formed by coiled wire around the iron bar. This coil of wire is technically termed a *helix*—a spiral line, or line in the form of a cork screw. The wire which forms the helix is covered, in the same manner as bonnet wire, with some non-conducting substance, as silk or cotton, in order to prevent a metallic contact of the wires with each other. The galvanic fluid passes through the whole length of the wire in the coil as the conductor; and the power of the electro-magnet depends chiefly on the length of the wire in the spiral coil. Were the wires thus formed into a close coil not covered, the fluid would pass from surface to surface, through the coil in the shortest direction, as through a mass of copper, and its effect would, in a great measure, be impaired. When the magnet is in the form of a horse shoe, or of the letter U, two coils are necessary—one for each prong or leg.

(Fig. 4.)



In the accompanying figure 4, are represented a small galvanic battery of the jars, the wires attached to the poles of the battery, and connected with the helix or coils of wire around the electro-magnet. The bars N, S, are designed to represent the manner in which a piece of steel may be permanently magnetized by the electro-magnet, and do not relate to the purpose for which we have introduced the figure. As soon as the connection between the battery and the electro-magnet by the removal (even the eighth of an inch) of either of the wires, the iron bar in the helix ceases to be magnetized. But the instant the conducting wire is replaced, and the galvanic current restored, the bar is again magnetized.

(Fig. 5.)



This principle may be more clearly illustrated by the accompanying figure 5, which represents a helix or a stand, and a bar of soft iron, N, S, placed within it, connected with the battery by means of screw-cups on the base of the stand—the wire from each end of the helix being connected with the stand also. The instant the connection is thus established between the battery and the helix, the two extremities of the iron bar (N, S,) will become strongly magnetic, and the keys (as exhibited in the figure) or any pieces of iron will be held up as long as the connection with the battery is sustained. But as soon as the connection is broken the bar loses its magnetic power, and the suspended articles fall. Should this connection be established and broken fifty or two hundred times in a minute, the same effects would as often follow. The magnetic power is concentrated on the surface of the iron bar at N and S; and that magnetism is produced by the inductive influence of the galvanic current from the battery following the circuitous turns of the wire around the iron.

Now, as the peculiar property on which the wonderful mechanical agencies of steam depend, is its power of exerting a high degree of elastic force and losing it instantaneously; so the peculiar property of the electro-magnet depends upon its power of instantaneously acquiring and losing this attractive influence.

Suppose now that at the ends or poles of the electro-magnet (made in the shape of the letter U) the end of a lever, suspended at the centre, on a point or pivot as its axis, like the needle of a compass, but moving perpendicularly instead of horizontally. Suppose that the end of the lever were placed in about the eighth of an inch from the ends of the electro-magnet, and prevented by guards from vibrating up and down more than the eighth of an inch—yet kept by a small spring from approaching nearer than that to the surfaces of the poles of the magnet, unless attracted by an influence stronger than that of the spring. When the galvanic circuit with the battery is closed, its magnetic power is in an instant concentrated at the poles or in the faces of the electro-magnet, and the proximate end of the lever is attracted to them, the other end being elevated in a corresponding degree. When the circuit is broken, the magnetism of the electro-magnet is gone in an instant, and the end of the lever attracted to it rises by the force of the spring. If the circuit is closed or broken in rapid succession, the lever exhibits a corresponding rapid vibration—the intervals of the lever remaining up or down being identical with the length of time the circuit is broken or closed. The same effect is exhibited whether the electro-magnet is separated three feet or three thousand miles from the galvanic battery. The circuit is closed and opened by means of a key touched by the thumb or finger.

Now the delicately vibrating lever here supposed is the pen-lever of the Magnetic-Telegraph; and the principle on which it is used by means of the electro-magnet is the basis of the great American invention—the principle on which Morse's Electro-Magnetic Telegraph is constructed. We cannot enter into the details of the various parts of the machinery employed. Our object is to elucidate the principle on which it is based. The telegraphic alphabet consists of dots, short and long lines, which are made by a blunt point attached to the pen-lever—being made long or short according to the length of time the pen-lever is pressed against a piece of paper drawn under it by machinery at an uniform rate—and the motions of the pen-lever being regulated by the Operator, who breaks and closes the circuit with as much ease as the music master touches the keys of a piano. We will conclude with the following account (taken from the 21st edition of *Parker's Philosophy*) of the working and Alphabet of Morse's Telegraph—the only kind of Telegraph used in Canada:

"An electric-magnet is so arranged with its armature, that when the armature is attracted it communicates its motion to a lever, to which a blunt point is attached, which marks a narrow strip of paper, drawn under it by machinery resembling clock-work, whenever the electro-magnet is in action. When the electro-magnet ceases to act, the armature falls, and communicating its motion to the lever, the blunt point is removed from its contact with the paper. By this means, if one of the wires from the battery is attached to the screw-cup, whenever the other wire is attached to the remaining cup, the armature is powerfully attracted by the magnet, and the point on the lever presses the paper into the groove of a roller, thereby making an indentation on the paper corresponding in length to the time during which the contact with the battery is maintained, the paper being drawn slowly under the roller.

"An alphabet of signs or symbols, is formed by indentations of the paper varying in length, which is easily read by those connected with the telegraph. Thus, the letter *e* is represented by one short mark thus -; the letter *o*, by two marks thus - -; the letter *a*, by a short and a long one thus - -; the letter *f* by a short, a long, and a short one, thus - - -; the figure 1 by a short, two long, and a short one, thus - - - - . By such an arrangement all the letters and the numerals are represented by the telegraph." A simple contrivance connected with the machinery causes a bell to strike when the telegraph commences its operation, and thus gives warning to the attendant.

"It has already been stated that the motion of electricity exceeds in velocity even that of light, and that its velocity is equal to 288,000 miles in a second of time. The invention that thus enables man to communicate with his brother man, with a rapidity that sets time and space at defiance, deservedly ranks as one of the greatest ever achieved by human ingenuity."

* The following table presents a view of Morse's Telegraphic Alphabet:

A - -	B - - -	C - - -	D - - -	E -
F - - -	G - - -	H - - -	I - - -	J - - -
K - - -	L - - -	M - - -	N - - -	O - - -
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Literary and Scientific Intelligence.

The Royal Society of England—Its Rise—Singular Coincidences, &c.—The association of gifted men, which afterwards became the Royal Society, rose into being simultaneously with many similar institutions, in other parts of Europe. These were not copies of each other, but originated in the kindred sympathies of their several founders. Why such societies should have sprung up in the seventeenth century, and not earlier, or later, is a question not to be answered by reference to any single cause. It will not solve the problem, to say that Bacon was born at a certain epoch, or Galileo, or Newton. The birth of those and other great men, is as much part of the phenomenon to be explained, as the explanation of it. Neither will the invention of printing, nor the outburst of the Reformation, supply more than a part of the rationale. What we have to account for is this:—Mankind stood for ages, with closed eyelids, before the magnificence of un-ideal nature, or opened them only to gaze at her with the eyes of poets, printers, and mystics. They saw wondrous visions, and clothed nature with splendid vestments, which they wove for her. All at once they bethought themselves, that the robes which God had flung over the nakedness of the material world, might be worth looking at, and might prove a more glorious apparel than the ideal garments which man's imagination had fashioned for the universe.

The sleep of centuries was broken in a day. The first glances at the outer world were so delightful, that the eye was not satisfied with seeing, nor the ear with hearing. Men longed to extend their grasp beyond the reach of the unassisted senses. Within a few years of each other, the telescope, the microscope, the thermometer, and the barometer, the air-pump, the diving-bell, and other instruments of research, were invented and brought to no inconsiderable perfection. The air, the earth, the sea, the sky, were gauged and measured, weighed, tested, and analyzed.

We will attempt no other explanation of the sudden, universal, and catholic recognition of the interest and importance of physical science, which characterized the seventeenth century, than this—that mankind, as a whole, is possessed of a progressive intellectual life, which, like organic life, is marked at intervals by sudden crisis of permanent expansion. The seed shoots forth the germ. The petals blow into the flower; the chrysalis bursts into the butterfly. The boy starts into the youth; his thoughts are elevated, his desires changed; and so the whole race, in a brief interval of time, is lifted to a higher intellectual level, and its speculations directed into new channels.

The aloe buds, thorns, and leaves only for ninety-nine years, and we have to wait till the hundredth comes, before the flower blooms. The flower is not an accident of the hundredth year, but its complement and crown. Had the thorns not protected the leaves, and the leaves elaborated the juices during the ninety-nine barren years, the century would not have been crowned by the flower. Yet why the aloe blooms in its hundredth, rather than in its fiftieth or its tenth year, is not explained by the acknowledgment.

The Royal Society was one of the choicest buds of this blossoming of the European intellect. Its beginnings were some two hundred years ago, about 1645, when "divers ingenious persons" met weekly in London, to make experiments and discuss the truths they taught. "We barred," says Dr. Wallis, one of their members, "all discourses of divinity, of state affairs, and of news, other than what concerned our business of philosophy."

About the year 1648-9, some of their company removed to Oxford, upon which, the society divided itself into two. The one half, provided with a new tail, remained in London, the other, furnished with a new head, thrived at Oxford. It was afterwards a matter of dispute which was the better half, but we need not discuss the question. The halves came together in London, and after Charles the Second's return, "were, about the beginning of the year 1662, by his Majesty's grace and favor, incorporated by the name of the Royal Society." It had no fixed title before its incorporation. Boyle spoke of it as the "Invisible College." Evelyn wrote of it as a "Philosophic Mathematic College." Cowley called it the "Philosophical College." Only sickly infants are christened in haste. It was an earnest of the Royal Society's longevity that it had long been weaned, and was out of leading-strings, before it was named.—[From the British Quarterly Review.

Death of the Celebrated Authoress, Miss Edgeworth.—MARIA EDGEWORTH has terminated her earthly career. Our gifted countrywoman, after a few hours illness, breathed her last on Monday morning, at Edgeworthstown House, the birth-place of this distinguished Authoress—the scene of her most precious literary labours—and where the closing years of her life were passed in tranquil retirement. There is no alloy

about the fame of Miss EDGEWORTH. Her works are written in a style the most popular and sound. She endeavoured to teach to Irishmen the lessons of persevering energy, honest pride, and self-reliance; and in addressing Irishwomen, her object was to cherish and extend those domestic virtues by which our country women are distinguished. She far surpassed all her contemporaries in style, in imagination, and in that classic beauty which formed the distinguishing characteristic of her works, which shed a lustre on her country, and obtained, and will always retain, a European reputation. Miss EDGEWORTH died in her 83rd year, on the 21st of May, at Edgeworthstown, Ireland. She was the daughter of the distinguished Educationist, RICHARD LOVELL EDGEWORTH, Esquire.

The Gorgeous Family of the Orchidaceæ—an Epiphyte-House.—We consider an Epiphyte-house to be the most natural of floricultural artificialities. There are charms in it for which we look in vain elsewhere. An ordinary conservatory, however vast in extent, with its long and lurid regiments of red pots, in spite of the florists' flowers, or horticultural curiosities, which may blossom there, is but a dismal place, a great plant-cage after all. But the orchid-house is quite another thing. Even the magnificent palm-house at Hackney retains, in comparison, but few attractions. But come to the orchid-stove. Here is nature in a conservatory. Up above the head are old stumps of trees all straggled over with wonderful parasites; cocoa-nut shells casting forth now a feathery vegetation, a miniature copy, mayhap, of the splendid parental crown, but by another plant, and now flowers and stems, and serpentine roots of the most varied and outlandish aspect; or beyond, bundles of fagots rising from the low-spanned roof, ornamented with pendants of living green, and flowers of burnished gold. Oyster-shells are the curious receptacles of others, and, dangling within reach by a wire, display string after string of vegetable pearls. And beyond still the air is full of bits and clumps of wood, of seared and tortuous branches, each, and in endless profusion, pouring down such a flood of sweet odours, rejoicing in such gorgeous raiment of many colors, as would almost induce the belief that the fairy gardens of Eastern romance, with their transporting perfumes and jewel-bearing vegetation, were no dreams of imagination. Then along the ground. What a scene for an artist-loving fantastic subject! What a paradise for a miniature nature-loving Chinese! Gnarled and decapitated trunks, rugged and stern, occupy the foreground; up their fierce and repulsive sides how tenderly and lovingly the green creepers steal! how they hide the rough warts and cover the grim chasms and shaggy stems with the softest leaves and brightest flowers! Further back are rocky precipices, terrible to a caterpillar, yawning over gulphs dreadful to a wood-beetle, a hundred inches high, a hundred inches deep. Beyond still, an ancient elm stands out against an horizon of green leaves; its once brawny arm, amputated at the shoulder, has broken out at the "stump" into all sorts of grotesque excrescences, and where a mighty limb once grew, shaking defiance at the sky, odd-looking leaves, funny bulbs, and painted beauties now luxuriate. In the distance, a tangled thicket of roots, stems, flowers, and leaves of tropical aspect, fill up the picture.—[From "The Orchids," in the Eclectic Review.

Very Ancient and Curious Map.—There is a very singular and curious old map preserved in Hereford Cathedral, England, called the "Hereford Map." The sovereign who issued the original commission under which it was executed was the Roman Emperor, either JULIUS CÆSAR or AUGUSTUS. The Latin author, ÆLIIUS, mentions the three Geographer-Commissioners. The map itself is a rich record of errors upon various topics—in geography, in natural history, and, above all, in ethnology. In it a single stream connects the Atlantic, or North Sea, with the Black Sea; the Black Sea itself is a mere river; the Niger rises near the Atlantic in a lake, and runs far south of the Nile, an inland river both ways; the Mediterranean is clustered with islands from Gibraltar to Sicily, and one of them half blocks up the straits; the Pyrenees stretch from the Mediterranean to Normandy; Ireland is divided in twain by a strait from east to west; and Jerusalem is in the centre of the old world! To these, among many mistakes, another is to be added, which is more innocent but not less gross, made by the monkish draftsman. The three quarters of the world to which the map is limited are marked by illuminated names. Asia is correct; but Africa stands in the place of Europa; Europa in the place of Africa; an error that no gilder of our day could possibly commit, so distinct are the two constituents, and their white and black people, now in all men's minds. In natural history, this map presents us with the mermaid in the Mediterranean, the unicorn in Africa, flying dragons every where; and all exact prototypes of what now exist only in coat armour; whilst real animals—bears and monkeys—little known to our ancestors, are distributed about the earth with as little regard to truth as was felt in forming those creations of fancy. In ethnology, it carefully registers the headless men with their eyes in their breasts, and the four-eyed, ever-waking Ethiopians.—[From "The History and Construction of Maps," in the Eclectic Review.

Platina Metal—Its Value and Importance.—This metal was formerly more valuable than gold. But the platina mines of Russia have furnished such an abundance of the ore, that it is now next to gold in value. It is a metal of a whitish silvery colour—the heaviest, the most difficult of fusion, the most ductile, and the most flexible of the known metals, having a specific gravity of 21.5, and capable of being hammered into leaves, or drawn into wires, of extreme tenuity. Its hardness is intermediate between that of copper and iron; and though very infusible, it is malleable, and capable of being welded at a white heat, either one piece to another, or to a bit of iron or steel. It is not in the least affected by the air or water, and it is not attacked by any of the pure acids; but is dissolved by chlorine and nitro-muriatic acid. In beauty, ductility, and indestructibility, it is hardly inferior to gold. When a perfectly clean surface of platinum is presented to a mixture of oxygen and hydrogen gas, it has the extraordinary property of causing them to combine, so far as to form water, and often with such rapidity as to render the metal red hot. Platinum was discovered about 1741; but it attracted little notice until the mode of purifying it, and rendering it malleable, was discovered by Dr. Wollaston. It is found in the metallic state in Brazil and Peru; at Antioquia in South America; in Estremadura, in Spain; and latterly in considerable quantities in the Uralian mountain, and in California. Its appearance, in the rough state in which it is imported, is that of small grains or scales, of a metallic lustre, darker than silver, and extremely heavy. In this state it is combined with palladium, rhodium, titanium, iron, gold, or other metals. The particles are seldom larger than a pea, but pieces have been found as large as a hazel nut; and in 1831, a mass of native metal was discovered in Demicloff's gold mines in Russia, weighing upwards of 20 lbs. The perfection with which vessels of platinum resist the action of heat and air, of most of the acids, and of sulphur and mercury, renders them peculiarly valuable in many chemical applications; so that, notwithstanding the high value of the metal, which is between four and five times its weight of silver, it is now much employed for crucibles, retorts for the distillation of sulphuric acid, mirrors for reflecting telescopes, by gunsmiths, and others. Its property of being welded, either one place with another, or with iron and steel, admits of many useful applications in the arts. From its scarcity and indestructibility, it has been proposed to use it for coinage; and we believe coins of the respective value of 3, 6, and 20 silver roubles are now current in Russia.

Spar.—In England, ornamental masonry appears to have been carried on longest in Derbyshire, which county is singularly rich in mineral productions. The objects originally made of spar were urns, vases, columns, and obelisks; but generally they were solid lumps of stone, and from their great weight most inconvenient to move about. But later works, besides being copies of the most approved forms of the antique, are manufactured very thin and light, so that a taper placed within displays the most extraordinary and richest colors in the mineral world. Apart from its splendid veins and hues, this substance is valuable from its being peculiar to this country. A prodigious waste of this stone was once carried on when abundance could be obtained from the mine; but now it is extremely scarce and expensive, the price having risen from £14 to £60 per ton, and even larger sums have been given for very fine specimens.—[Builder.

Restoration of the Statues of the Pantheon, Paris.—M. DAVID, (d'Angers,) the sculptor, who executed the frontispiece of the Pantheon, has offered to repair gratuitously the figures which were mutilated during the insurrection of June, 1848.

Votes for Literary and Scientific Purposes by the House of Commons for the year 1849.—The following votes of supply were agreed to:—£10,000 for the expenses of the School of Design; £2,006 for the salaries and allowances granted to certain professors in the universities of Oxford and Cambridge; £4,000 for the expenses of the Universities of London; £7,470 to pay grants to Scottish Universities, formerly defrayed from the hereditary revenues of the Crown; 800 for the Royal Irish Academy; £300 for the Royal Hibernian Academy; 6,000 for the Royal Dublin Society; 3,100 for the Royal Belfast Academical Institution and for salaries of theological professors at Belfast; £36,278 for new buildings, fittings, &c., at the British Museum; 1,500 to enable the Trustees of the British Museum to defray expenses incurred in procuring antiquities for the Museum; 18,000 to defray the expenses of the geological survey of Great Britain and Ireland, the Museum of Practical Geology, London, and the Museum of Irish Industry, Dublin; £5,000 to defray the expense of magnetic observatories at Toronto, St. Helena, the Cape of Good Hope, and Van Diemen's Land, and for observations and services carrying on under the direction of the Astronomer Royal and Colonel Sabine; and 2,800 for decoration of the pedestal of the column in Trafalgar-square to the memory of Lord Nelson.

Floating of the Tubular Bridge over the Menai Straits.—This great engineering achievement was accomplished yesterday with the most extraordinary eclat. Unfortunately the morning opened most unpropitiously with a high south-west wind and heavy driving showers, but as the sun moved towards the meridian the wind dropped, the rain discontinued, and the weather, as well as everything else, worked well for the experiment. The scene as early as six o'clock presented a very busy appearance, multitudes of men depositing the buoys, and shipping the enormous cables from the London and Manchester platforms of the works. The signals, consisting of different coloured flags, under the direction of Mr. Stephenson, were placed on the different capstans for the guidance of the process employed in navigating the great tube on the Anglesea shore, and at other points. Early in the morning, the tube was lowered three feet upon its piers, so as to enable her to start earlier and take advantage of the tide at high water. The towers for supporting the tube are of a like magnitude with the entire work. The great Britannia tower in the centre of the straits is 62 feet by 52 feet at its base upon the rock; its total height from the bottom, 230 feet; it contains 148,625 cubic feet of limestone and 144,625 of sandstone. It weighs 200,000 tons, and there are 387 tons of cast iron built into it in the shape of beams and girders. Its province is to sustain the four ends of the four long iron tubes which will span the straits from shore to shore. The total quantity of stone contained in the bridge is 1,500,000 cubic feet. The side towers stand at a clear distance of 460 feet from the great central tower, and again, the abutments stand at a distance from the side towers of 230 feet, giving the entire bridge a total length of 1849 feet, the date of this present year of grace. The side or land towers are each 62 feet by 52 feet at the base, and 190 feet high. They contain 210 tons of cast iron. At 3 o'clock, the spectators, by thousands, had taken their place upon the piers; the tubes and shores on either side, and the straits for a mile in length, presented a vast amphitheatre of human beings. The pilots, to the extent of 200 or 300, took their stand on the pontoons, to ply the gigantic tackle. As many more stood ready for action on the capstans. The cables, six inches in thickness, and of league-long lengths, were attached to the steamers that were to have the towing of the tremendous freight. Multitudes of yachts, small boats, and other crafts, filled and gaily decorated, passed up and down the stream, and all eyes were fixed with mingled feelings of confidence and fear on the gigantic fabric, upon which stood Mr. Stephenson and Captain Claxton. The utmost excitement ensued on the first signal, the sudden springing up on the Anglesea side of the flag and a shrill strain from the trumpet of Capt. Claxton from the top of the tube, a hint to the pilots to take the tide, and pipe all hands for the exploit. This was responded to by a loud burst of enthusiasm from the seamen, whose efforts, united to those of the steam tugs, told upon the screws and tackles, and upon the hitherto motionless monster, which then glided very slowly and amid intervals of increasing cheers and salutations, without injury or jar, and with a majesty that could only be compared to that of a mountain moving on the waters to the site of its final resting place.—[Times' Correspondent.

Dissemination of Literature in London.—If the march of intellect be not rapid, it is not for want of schools and teachers. Private academies for both sexes number 851, district and parochial schools 129, British and Foreign 62, National 7, and collegiate institutions for granting degrees 50. The teachers of dancing amount to 55, of drawing 13, elocution 4, languages 54, mathematics 9, music 251, navigation 3, and writing 18. Literature is disseminated by 421 printers, 760 publishers and booksellers; and books are preserved and beautified by the skill of 281 bookbinders—to all of whom, and to the entire writing community, materials are supplied by 620 stationers. Lastly, this newspaper will pass into the hands of the reader through the agency of one of 235 newsvenders.—[Daily News.

German Bookmaking.—According to a moderate calculation, ten millions of volumes are printed every year in Germany. There are upwards of a thousand German authors' names in the semi-annual catalogue of the Leipzig book fair. It is computed that the number of authors now living in Germany, who have published one or more books, exceeds fifty thousand.

Electric Light for Railways.—M. LE MOTTE, a Frenchman, has been experimenting on the Great Western line with a new electric light which, being attached to either end of a train, diffused its rays with such extraordinary brilliancy as to render it visible for more than two miles through the thickest darkness of night.

Extraordinary Consumption of Gas in London.—The gas produced for the use of the city of London amounts annually to about 500,000,000 cubic feet, while the gas annually produced for the use of the metropolis, exclusive of the city, amounts to about 2,700,000,000 feet.

The Stowe MSS.—Lord ASHBURTON has bought the Stowe MSS. for \$32,000.

Editorial Notices.


The conclusion of the article on the **ELECTRO-MAGNETIC TELEGRAPH**, on pages 108, and 109, left us no room for the insertion of several figures of the different kinds of *galvanic batteries*; or to state that in preparing the article we have consulted the *London Encyclopedia*, (Art. Telegraph;) *Mirror of Nature*, translated from the German of SCHUBERT; SILLIMAN'S *American Journal of Science and Arts* for Jan. 1848, art. *Electro Telegraph of Prof. MORSE*; VAIL'S Description of the American Electro Magnetic Telegraph; CHAMBERS' *Elements of Chemistry and Electricity*, edited by Reid and Bain, and PARKER'S *Elements of Natural Philosophy*. These two last mentioned excellent works are published by A. S. BARNES & Co. of New-York. We are indebted to the obliging courtesy of these gentlemen for the illustrative Figures, which are taken, together with parts of the descriptions of them, from *Parker's Philosophy*—the best elementary work of the kind for Schools with which we have met—so clear in its definitions, so lucid in its arrangement and illustrations, and so enriched with comprehensive and valuable notes.

The Annual School Reports for Upper Canada, for the years 1847 and 1848, have just been printed by order of the House of Assembly. A limited number of copies has been placed at the disposal of the Chief Superintendent of Schools, who will furnish a copy to each District Council and Superintendent. We regret that the same course has not been adopted in this Province that has long been pursued in the State of New-York—the printing of a sufficient number of the State Superintendent's Annual School Reports, to furnish every School Section throughout the State with a copy. These Reports are the practical expositors of the system of public elementary instruction, with which the managers of schools in every Section ought to be acquainted. The furnishing of them with an annual report is but a small token of acknowledgment for their year's unremunerated service, while it would enable them to add to the efficiency of that service. In the absence of copies of these reports for the several School Sections, we will insert them (excepting the extensive statistical tables) in the next two numbers of this Journal—a course which the Hon. HORACE MANN was accustomed to pursue, inserting the text of his annual school reports in the *Common School Journal* which he edited.

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