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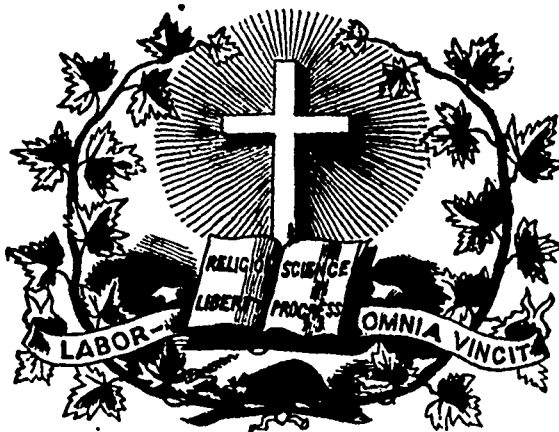
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TABLE OF CONTENTS.

<p>Drawing as an Element of Advanced Industrial Education 149</p> <p>Grammar for Little Ones..... 151</p> <p>Great Mistakes..... 151</p> <p>Conservatism in Spelling..... 151</p> <p>Teachers Conventions..... 152</p> <p>Lecture by Dr. George Ross before the Medical Faculty McGill University..... 153</p> <p>University Intelligence..... 156</p> <p>Ladies Educational Association 156</p> <p>OFFICIAL NOTICES : Erection and limits of school Municipalities--Appointments of Commissioners and Trustees-- School</p>	<p>Trustees--Board of examiners 157</p> <p>POETRY : The Bald-Headed Tyrant.. 158</p> <p>Report of Committee on Schools of Art. Importance of the Study of Design..... 158</p> <p>MISCELLANY : University Libraries in Germany..... 161</p> <p>The Art of Hospitality..... 161</p> <p>Extremes meet..... 162</p> <p>Early rising..... 163</p> <p>History in Schools..... 163</p> <p>Spectacle of the Heavens... 164</p> <p>Rest--Repose..... 164</p> <p>ADVERTISEMENTS : School Teacher wanted..... 164</p> <p>The Journal of Education.. 164</p>
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Drawing as an Element of Advanced Industrial Education.

BY C. B. STETSON.

A paper read before the Technical Section of the National Teachers' Association, at Baltimore, July 13, 1876.

The demand for advanced industrial education, which has grown rapidly of late years, must continue to grow for years to come, in every department of human industry. This is evident from the general tendency of civilization, from the fact that brain is counting more and more, while brawn is counting for less and less, in nearly every kind of labor. The construction of buildings, of machinery, of ships, and of bridges, the working of mines and the cultivation of the soil, and all the better class of manufactures call for a liberal education of its kind, no less than do law, medicine, and theology. The call, it may be repeated, is already urgent for large numbers possessing what may be vaguely termed advanced industrial education. What is this? The present paper proposes to consider one of its chief elements.

INDUSTRIAL VALUE OF DRAWING.

Whether we consider the technical instruction required by men, or by women, for success in industrial pur-

suits, we shall find drawing to be the most essential single element of such instruction in all its grades,—the lowest and the highest. The truth of this assertion any one can substantiate for himself, by personal inquiries among the more intelligent of the men and women engaged in the different industries, and by reading the official reports of the various commissioners who have been appointed from time to time during the last twenty-five years, by European governments, to investigate the subject of technical instruction. It is true that a knowledge of chemistry, for example, will be found more essential in some employments than a knowledge of drawing; yet when the different employments are taken as a whole, it will be at once seen that drawing must be conceded the first place in industrial or technical education. This might seem a reckless assertion, were it not fully sustained by the very extensive investigations which European governments have made, and whose results, having been published, may be read of all men.

THE COMPREHENSIVENESS OF DRAWING.

Neither architecture, sculpture, nor painting, can get on without drawing. For only one of these—painting—is color an absolute essential. Hence it is that architecture, sculpture, and painting are so frequently spoken of as the "arts of drawing."

Under architecture may be grouped, so far as general principles of drawing are concerned, all kinds of construction, apart from building, as machinery, locomotives, ships, bridges, fortifications, etc. For a like reason, under sculpture may be grouped stone cutting for decorative purposes, wood-carving, varieties of metal-working, all ornament in relief, modeling for the purposes of pottery, glass manufactures, etc. And when color is employed for decorative purposes, as it must be upon a flat surface,—cloth, for instance, if to be decorated,—the color (except in case only an even tint is laid on) must conform to some pattern predetermined by drawing; and this, whether the color be applied in flat tints or according to the principles of chiaroscuro. Thus it happens that every object made by the hand of man, if its form is of any consequence, is indebted, with rare exceptions, to drawing, for its form, or its decoration, or for both.

Drawing not only expedites construction, in all cases, but oftentimes construction is absolutely impossible without drawing. In order to the greatest expedition and economy, there must not only be professional draughtsmen to make the original drawings, but the workmen must know at least enough of the principles on which the drawings are made, to be able to work from them understandingly and without constant supervision.

CULTIVATION OF THE TASTE.

What has just been said of drawing refers to it only as a help in construction, regardless of whether the object made be beautiful or ugly. Now, there is no one who does not prefer the beautiful to the ugly, or what he thinks to be beautiful to what he thinks to be ugly. Beauty has a commercial value which cannot be easily overrated. Instruction for industrial purposes must, therefore, aim to cultivate the taste as it applies both to the form of the object and to its decoration. Though the latter adds nothing directly to the usefulness of an object, yet it often adds so much to its market value that almost everything now made receives more or less of ornament. The taste can be better developed by means of drawing than by any other one thing.

A refined and intelligent taste in respect of objects that appeal to the eye is next to impossible without some knowledge of drawing. One may like or dislike, but little more. There should be good taste, it may be observed, on the part of the consumer as well as producer. Indeed, it is a truism that the taste shown in the manufactures of a country never rises, except in special cases and for special reasons, above the taste of the people,—of the home consumers.

DANGER OF NARROW VIEWS.

But what is drawing? Is it something fixed and determinate, or something vague and nebulous, which each may define to suit himself? One may well be excused for asking such questions in this country, where he finds such divergent views held by persons who, having but slightly examined the subject and got a glimpse of one of its many aspects, nevertheless think they know all about it.

Drawing, when regarded in both, its artistic and industrial applications, resembles mathematics in comprehensiveness. It would be quite as reasonable for a person who had mastered arithmetic only to claim that he knew all about mathematics and its applications, as for a person who had learned to draw from the solid only to claim that he knew all about drawing. From nothing else does drawing suffer so much in this country, and will continue to suffer so much the next ten years, as from the very narrow views held by so many persons who think they understand all about its scope, its practical and artistic applications, and its value as an educational discipline. It is to these persons that large numbers, who know nothing about drawing, look for leadership. When the blind lead the blind, there should be no ditches in the path; but in dealing with instruction in drawing, one has special need of good vision. There are dangerous pitfalls on all hands.

Let us consider some of the general characteristics of drawing. With these the details, which are too numerous to be considered on the present occasion, must all harmonize.

DRAWING TWO DIMENSIONS.

One of the first things which should be noticed is the great fact that all varieties of drawing may be reduced to two class: representation of only two dimensions—length and breadth; and representation of the three

dimensions—length, breadth, and thickness. A clear understanding of the general difference between these two things will help one greatly towards a clear comprehension of the whole subject.

When only two dimensions are drawn, there can be no representation of thickness, of relief, of solidity. Consequently all perspective effects, all light and shade, and all color, when applied according to the principles of *chiaroscuro*, are out of the question. No devices for suggesting solidity, for the purpose of carrying the eye below the surface of the paper, are properly in order. Lights and darks may be indicated by half-tint, or flat tints, showing that the surface is raised or depressed in parts; and colors may be applied in flat tints, as is usually done for the decoration of woven fabrics, of flat walls and ceilings, and even in the representation of the human figure in stained-glass windows. In a word, when only two dimensions are drawn, all true pictorial effects, everything of the nature of *chiaroscuro*, are among the impossibilities. Hence the drawing of two dimensions compared with the drawing of the three dimensions, is a very simple affair; yet it is of almost endless application in the different industries.

It takes for its basis the figures and problems of plane geometry and their applications. Construction of every kind,—building, machinery, furniture, sail-making, and so forth,—requires a knowledge of such drawing. It is also in connection with the drawing of two dimensions that nearly all the principles of design, applied in determining the forms of objects, or their decoration, are best learned. Not only what should be the due proportions of objects, and what the principles to be observed in flat ornament, when only lines and conventionalized forms are used, but many of the principles which good taste require to be observed in relief decorations, can be taught in this connection. And right here it is that instruction in the great decorative styles of different ages and nations properly begins. Classic art can no more be neglected than classic literature.

When only two dimensions are represented, it is evident that flat copies, like prints, are the proper things; indeed they are often the only copies which are possible. Even when relief copies are used, they must be treated as though they were flat. The copies should be of the very best, since the development of the taste for the beautiful in the outline and proportion of the objects and in their decoration, is one of the prime ends to be sought in this kind of drawing. But the learner should by no means, be limited to drawing from copies; he should be often exercised in the production of original design, both for objects and ornament. He thus acquires facility in making intelligent applications of whatever principles he may have learned, and learns to draw and to design, at the same time. Indeed, original design is the best proof that one understands the principles of design, as original composition in the best proof that one understands the principles of grammar and rhetoric.

The very great industrial value of drawing two dimensions has now been shown in a general way. Its educational value is also very great. Yet there are not a few persons, who, regarding themselves as specially wise in matters which pertain to drawing, cry down all drawing that does not carry the eye below the surface of the paper,—that does represent the three dimensions.

DRAWING THE THREE DIMENSIONS.

When we come to representing the three dimensions,—length, breadth, and thickness,—then perspective and all the other effects of *chiaroscuro* are in order, or not, according as we desire simply a pictorial result, an end in itself, or to make a drawing for the guidance of

workmen. Here he will be well to make a note of, the decided difference between the two modes of representing solidity for the two purposes named.

When the three dimensions are represented for artistic or pictorial purposes, the drawings are made from actual objects, or else imaginary objects are drawn as though they were actually in existence and before the eye. In neither case can the drawings be used for the purposes of construction, except in a merely incidental way. Drawing from the solid is only indirectly of service in the industries, but that indirect service is very great.

When the three dimensions are represented for the guidance of the artisan, the drawings, instead of representing what already exists, represent an object which is to be made. That the object may be made from the drawings, they must represent its inside as well as its outside, its rear as well as its front. The object must be shown in parts, and not as a whole, and each part must be drawn to a scale. Of course there can be no perspective,—none to the effects of chiaroscuro.

Such being the radical difference between the two modes of representing solidity,—the one for a pictorial, the other for an industrial purpose,—that it is not a little astonishing to find persons, even in this country where ignorance of drawing is so great, who hold that, even for industrial purposes, drawing from the solid, with all the difficulties of chiaroscuro, is the kind of drawing which should be specially taught in the public schools. In their opinion all other kinds of drawing may be safely ignored, or should at most receive but slight consideration. For a moment contrast this opinion with the lesson taught by the Centennial Exposition. If you examine all the manufactured products there displayed, you will not find one that was made from the perspective drawing. Some of the more elaborate decoration, however, will show effects of chiaroscuro that can be learned only by drawing from the solid and from natural objects.

Drawing from the solid, as a part of advanced technical or industrial education, must by no means be ignored. It affords an admirable discipline for the hand and eye; it trains the imagination to realize solid form in space; it increases sensibility for delicate gradations of light and shade; and so it must always be regarded as an essential element of technical as well as purely artistic education. It is only necessary to see that it occupies its legitimate place. As to the general course which instruction in this kind of drawing should take.

To be continued.

Grammar for Little Ones.

MAKING WORDS.

When we add *er* to the end of a word, it sometimes makes it mean one who does the deed, or who works the work.

Thus a man who can hunt is a hunter, and a man who can sing is a singer. A miller is a man who works in a mill, and a farmer is a man who works his farm with his men and horses.

A man who keeps anything is a keeper; if he keeps a shop he is a shop-keeper, and if he keeps an inn he is an inn-keeper.

When I sleep I am a sleeper, and when I eat I am an eater; when I walk I am a walker, and when I read I am a reader.

Father and mother say that I am a player more than a worker. It is better to be a lover than a hater; and it is better to be a well-doer than an evil-doer.

But when we add *er* to others words it has quite an other meaning. When we add *er* to deep the word is deeper; and deeper means more deep. In the pretty brook that runs by our door, the parts where it runs fast are not very deep, but the still pools are deeper. The mill dam is deeper than the pools of the brook, and the well is deeper than the mill dam. As the well is deeper than all the others we call it the deepest.

We say the pools are deep, the mill dam is deeper, but the well is the deepest of them all. The word deepest is made by adding *est* to the word deep.

In the same way Ann is smaller than I am, and my little brother is smaller still. I am taller than Ann is, Ned is taller than I am, Mother is taller than Ned, and father is taller than mother. He is the tallest of all.

—*Monday Morning.*

Great Mistakes.

To set up our standard of right, and judge people accordingly. To measure the enjoyments of others by our own. To expect uniformity of opinion in this world. To endeavor to mould all dispositions alike. Not to yield to immaterial trifles. To look for perfection in our own actions. To worry ourselves and others with what cannot be remedied. Not to make allowance for the infirmities of others. To consider every thing impossible which we cannot perform. To expect to be able to understand everything.

Conservatism in Spelling.

BY GEORGE F. CHACE.

It is alleged that the orthography of the English language is illogical, inconsistent, and difficult to remember. Radicals advocate a spelling reform which shall remove these faults. Assuming that the multitude will then learn to spell, they proceed to indicate the means of reform.

Admitting the allegations to be, in a measure, true, I deny the feasibility or the desirability of radical change. When a child is born, it inherits the constitution, and temperament of its parents, and in a lesser degree, of its more remote ancestors. Careful training may foster what is good, check what is evil,—may, to a certain extent, control the physical, moral, and intellectual growth. To attain the best results, even thus far, implies an intelligent, unrestrained, unopposed guide, religiously obeyed. But training cannot wholly eradicate constitutional tendencies. Training cannot transform ugliness into beauty, deformity into symmetry. Training will not make an idiot become a Plato. Barring accidents, a child is intelligent or stupid, comely or ugly, to some extent virtuous or vicious, according to his ancestry. His parents and teachers must take him as he is, and make the most of him. A sculptor could design a better physical man (Adam accepted) than ever breathed the breath of life. Adam was made a "little lower than the angels." Humanity of to-day has inherited the accumulated imperfections of numerous generations of ancestors.

The law of language does not differ from the law of life. Given a few roots, certain laws of combination and sound, and a language could be constructed perfectly logical and consistent,—a complete machine. But language is not a machine; it is a growth, and liable to all the accidents of growth. Its formation has depended upon the wants, the virtues and vices, the harmonies and discords of mankind. You may prune and manure your

trees as much as you like. Their beauty, strength, and fruitfulness still depend upon the soil, the stock, and the weather. An adequate genius, with given materials, might build a speech for the English speaking people; but the result would not be the English language. *That* is a fixed fact, and reforms cannot overstep certain limits without attacking the very constitution.

Before the days of printing, many irregularities in spelling occurred, which have since disappeared. It was wise to drop the *k* from *musick*, *physick*, etc., because it never had any business there. It is well enough to drop *u* from such words as *honour*, because it then becomes its Latin prototype, *honor*, and at best has only a cousinly resemblance to the modern French form *honneur*. It may be tolerable to write *theater*; instead of the "logical" and "consistent" *theatre*; for the multitude neither know nor care of its origin from *theatron*. So they first mispronounce *theatre* as if it ended in "ter," and change the spelling to suit bad orthoëpy. moreover, there is no reason in the nature of things why *ter* is any easier to remember than *tre*. Before learning the "powers" of letters, a five-year-old would as soon pronounce *c-o-w* "cat," as anything else.

Must the scholar who sees a logical consistence, an etymological history, in many anomalies of English orthography, give up his consistency because some ignoramus, or even some scholar, has a poor memory? Let the forgetter buy a dictionary and accept the situation. A bad memory is an unfortunate defect, just as much as lack of mechanical skill, or of physical strength. Must the skilled mechanic throw his tools away because a bungler cannot make a watch? Must the athlete chop off his right arm because it fatigues a consumptive to drive a nail?

Some people are fond of saying that George Washington was a bad speller. Was being a bad speller what made him "Father of his country"? Then he has more patriotic sons than we had supposed. We are told that words should be spelled as they sound. As they sound to whom? To the ignorant, who have only sound for a guide? Why do the latter write "plaze," "plese," "plas," anything but "please"? Wonderful consistency! As they sound to the learned? How shall they form a system out of the heterogeneous elements of the English language? How wonderfully agreed orthoëpists are as to the sounds of words! As well might you expect the child of an Octoroon mother and Chinese father to grow up a full-blooded Caucasian.

Again, is the inconsistency of sound in "plough" and "cough" any worse than in "plow" and "blow"? What is the use of the silent "gh"? What is the use of the silent *ent* in French *ils aiment*? How shall we explain *ai* (ä) in *aiment*, *ai* nasal in *pain*, which the boarding-school miss burlesques *pang*, *ai* (ê) in *faisant*? Is the English the only inconsistent language? Students of comparative grammar understand these things and can explain them. Must the fruit of ages be destroyed because some cannot enjoy them? Must the mountain forests be cut away to raise saplings upon the prairies? I believe in reform; but let it be a real reform; a banishment of vulgarisms, a dropping of useless, unmeaning irregularities in spelling or diction.

Here is a place for conservatism. Unchecked radicalism leads to revolution and anarchy. I do not suppose my protest will weigh much with modern radicals. I am not Mrs. Partington. I shall not attempt to mop out the Atlantic ocean. But when I see the stormy flood coming, I will put on the weather-strips, and, as long as possible, keep the door barred.

The trouble with learning to spell, or learning anything, as far as the rising generation is concerned, lies

not in the subjects taught. Ignorance does not exist because, teachers are not well trained, faithful, and scholarly, nor from ill-appointed schools. It exists (I write in no misanthropic spirit) because the present generation of children, carried on the intellectual shoulders of their teachers, reared upon dime novels, uarsing bottles, and "soothing syrup," lacks brains and industry.—*New England Journal of Education*.

We take the following from the *Montreal Gazette* of the 29th September, and recommend it to teachers for perusal.

Teachers' Conventions.

It is pleasant to learn that the class of persons who enter the Normal School for the purpose of preparing themselves for the position of teachers is yearly improving. In native intelligence, in literary acquirements and in aptness for the profession to which they intend to devote their lives, the pupil teachers of the present are far in advance of those who were accustomed to present themselves for admission some ten or fifteen years ago. This important revolution is mainly owing to ability, energy and zeal in the discharge of their duties of the gentlemen who form or have formed the staff of professors in that establishment. When the present Principal entered on his career of usefulness in the McGill Normal School nearly twenty years ago, education was at a very low ebb in this Province. Very great difficulty was experienced in the obtaining of qualified teachers for even elementary schools; the persons who had the direction of the schools as Commissioners were, in many cases, but poorly fitted to discriminate between good teachers and bad; parents were deplorably apathetic on the subject of education, and the attendance of pupils in many districts was painfully irregular. Under such circumstances it was no easy task to set about a reform, and it was still harder to carry out the reforms which were necessary. It was required first to create an enthusiasm, a real love for education for its own sake among a certain number of the population, to induce young men and woman to give time, and industry, and money to the acquisition of learning and of the method by which instruction may be best imparted to others. In doing so, some, perhaps many of them, were abandoning the opportunity of making a speedy competency for themselves in branches of labor wherein work met with a juster and higher reward. For, inadequately as, in many instances, teachers are paid at present, they were much worse paid in the years of which we are speaking. The old system, now, we hope, almost abolished, of "boarding round," then generally prevailed, and this precarious and shifting mode of life was regarded as equivalent for a portion of the mere pittance which constituted the teacher's salary. Schoolhouses were ill-built, ill-ventilated, and seldom, in any respect, adapted for the purposes which they were intended to fill.

Not only, as before intimated, was the attendance of the scholars annoyingly and injuriously irregular, but the scholastic session varied in different districts according to the means, occupations or caprices of the trustees or those for whom they acted. In fact, the position of the teacher was a very uncomfortable one. He was the servant of the whole community, yet the whole community was unable or unwilling to pay him what would afford him a decent maintenance. Then, there was no proper classification of schools. Occasionally one small room served for academy, model and elementary school combined. In this, as in almost every part of the old sys-

tem, chance prevailed over method. A teacher "came along" and was "hired," if his looks pleased his patrons. If he proved unsatisfactory, the school was closed till another candidate presented himself, or, more frequently, herself. In most places the bad or indifferent teacher pleased as well as the superior, and, as may be imagined, those of the former class were vastly in the majority. The man or woman of good education found some more profitable and better appreciated use for it. If a district happened to be favored for a term with a well qualified teacher, there being no sufficient pecuniary inducement for his continuance, he soon resigned his charge and an inferior person took his place, and undid what he had been doing. This is no fancy picture. It was just the state of things which existed when the Normal School was established for the purpose of training teachers. It was then seen that the want of not the will but of the way had been the cause of the previous low state of education. At once a large number of young people of both sexes availed themselves of the advantages offered to them, and, at the close of the first year of work, there was a general call throughout the country for Normal School teachers. The pupils of that year were the first of a succession which has since supplied our schools with properly qualified teachers, and the reputation of the institution has ever since been increasing. Its importance, as a factor in the welfare and progress of the Province can hardly be over estimated. Our present educational status compares favorably with that of most civilized nations. Compared with that which existed twenty years ago, it is something to excite both our surprise and our gratitude. And we may say its usefulness is only just beginning to be felt.

In Lower Canada to-day we have a body of teachers of all grades, of which we ought to be proud, and which forms a solid basis for any forecast of the population which is hereafter to possess the land. For, as the teachers are, so will be the people. It is often complained that the teacher's profession is not regarded with that respect which is due to it, and, indeed, there is some reason for the complaint. Those who devote their lives to the forming of the minds of a growing people ought to hold a rank in the popular affection and esteem second to none. On them it depends how the places which we now fill will be filled hereafter; whether the land which we love will be a land of knaves, of sluggards, of *roués*, or a land of honest, industrious, noble men, doing their duty to God and to their fellows. The teacher, therefore, ought to have the sympathy and the support of the whole community. Especially ought parents, as far as lies in their power, to co-operate with him in his efforts to arouse the intellectual and moral energies of the young people committed to his care. They ought, instead of making difficulties, or adding to those already made, to exert themselves, wherever possible, to smooth them away. And in how many ways they can do so, if they only take the trouble!

We hope these remarks will be opportune in view of the approaching convention of teachers to be held in this city. These meetings have already been the means of doing much good by giving occasion for the discussion of matters connected with the teachers' work. But it is of the utmost importance that the public should take an interest in them. They are, in fact, as much interested in education as the teachers themselves, and the more they evince this interest the more they encourage and strengthen the teachers and add to the efficiency of education and the welfare of the taught.

Medical Faculty of McGill College.

LECTURE BY DR. GEORGE ROSS BEFORE THE FACULTY ON THE OPENING OF THE SESSION.

Dr. Ross delivered the following able and interesting lecture before the class in medicine on Monday morning, 2nd October: *Gentlemen,*—

The introductory lecturer of Westminster Hospital last year very truthfully remarked that he was sure both speaker and students would much prefer a day's shooting to either giving or hearing an introductory lecture. This year the lot has unfortunately fallen upon me to perform that duty, and I cannot say that I have accepted the honor with feelings of unmixed gratitude, but must endeavor to accomplish the task as best I may. To those of you who are for the first time here as students of this University it is my pleasant privilege to offer, on the part of this Faculty, a hearty welcome. To those who having been, are returning here once more, we beg to say that we are glad to see you all again, and trust you come filled with the determination to continue the prosecution of your studies with renewed zeal and interest. We do not for a moment suppose that the long vacation since last session has been to you simply a continued rest or interlude from study. On the contrary, we would believe that much of it has been spent in furthering your enquiries, and extending your knowledge of the subjects entered upon during the earlier portion of your curriculum. Some of you, indeed, we know have devoted much of this time to following the practical courses originated this year for the first time in our University in the form of a summer session. And here I would remark that the institution of this summer session for practical courses and special series of demonstrations, was felt by the Faculty as imperatively called for, and I feel that the appreciation accorded it, as shown by the unexpectedly large attendance, proves that its introduction has filled a want which was beginning to be felt. The number of subjects included in the study of medicine has been for some years back steadily increasing. The standard of proficiency demanded in any of them has also been continuously raised. Now, the effect of all this has naturally been to magnify to a large extent the amount of technical knowledge it is absolutely necessary to obtain in order to pass the required examinations. To accomplish this necessitates the employment of much time in the purely didactic teaching, with lectures and weekly examinations; and thus, against his will, the student finds himself to some extent obliged to give all his energies to the attendance on these and the mastering of their subject-matter to the exclusion of other more practical and therefore more interesting and ultimately instructive and truly educational subjects—those I mean in which he himself is the actual observer, receiving his knowledge directly from the application of his own senses, such as practical physiology, practical chemistry, practical clinical work, ophthalmology, &c. The time of the student now during the winter session is every moment so occupied by the acquirement of what he soon will need for the satisfaction of his examiners, that what does not immediately bear on this is only too apt to be relegated to a later season, and then perhaps come ultimately never at all. And it is well to remember that science begins with the careful observation of facts and ends with the systematic statement of what is observed, and this is the order and the way in which the student is most likely to be allured into studious habits and into a scientific frame of mind. Gentlemen, it does not require that I should expand into any panegyric upon the profession of medicine. Your presence here to-day of itself, is proof sufficient that you deem that noble profession one worthy to receive the devotion of your life. You are not indeed mistaken: the profession of medicine affords to its votaries—those at any rate who are true and faithful to her teachings—a sure reward for all the toil and trouble they may take to enquire into her mysteries. It is in its essence a combination of science and of art. The science, like all science, is illimitable—lays under contribution all true knowledge in whatsoever department it may have come to light. The art is continuously progressive, always improving and endeavoring to furnish the means of keeping pace with the scientific requirements. Here, then, surely is a field large enough to satisfy the most ambitious for the employment of his talents and the occupation of his time. And then, consider the subject matter. What is that thus engages the attention of so many master minds of every community who

are always found enrolled within our ranks? Nothing less than the study of man himself—man, in all his relations, social, moral and intellectual—as well as purely physical. It is the study of the development of that noblest work of God—who was actually made in the image of his Creator—of his development traced from the microscopic maternal ovum to the perfect creature in all his pride of physical perfection and towering mental superiority. It is the study of the beauty, uniformity, ingenuity and marvellous applicability to intelligent purpose of every separate portion of his wonderful frame. It is the minute examination by cunning mechanical contrivances into the very minutest recesses of every atom of every structure of which these parts are composed. The study of the chemical composition of all these varied tissues and fluids, the study of the changes taking place in this complex body as long as what we call life endures—the laws which govern changes and control function, and ultimate in causing death; and after death the study of the appearances caused by prematurely reverted vital laws or found as a result of the great and universal law of finality. This constitutes the study of medicine proper, based upon a due understanding of anatomy, physiology and chemistry. Did the world so exist that simply men and women were born, lived and died with constitutions perfect and minds and bodies obeying always the healthy laws of nature, the end being simply brought about by a gradual change in the structures and organs of the body—such as what we call old age—I say if this were the case, then would there never have arisen the necessity for medicine or physicians. But this is not so and never will be. If it were, the studies of physiology and anatomy would then be followed simply for the obtention of knowledge and truth, and not with the view, as now, of making such knowledge subservient to an ulterior purpose towards our race. In the earliest records of the human race we find evidences that disease with all the pain and suffering it entails was not unknown. Besides, therefore, studying as mere *dilettanti*, the mysterious workings of the human body through simple thirst for knowing, it is a matter of the most vital importance to all mankind to have these mysteries understood and explained. The existence of disease has led to the development of a system of therapeutics, or means of cure, medicinal or otherwise—and to accomplish this, we further require our armamentum or *Materia Medica*, which furnishes us with the necessary means for the accomplishment of that end. You should never forget that the chief end and aim of medicine is to cure and to relieve. Lamartine has well said, “*La médecine guérit quelquefois, soulage souvent, console toujours.*” Depend upon it, the public will never tolerate us or pay us fees merely to stand by the bedside of those they love as mere scientific observers, or a sort of Greek chorus, for although there be times when the highest wisdom is to hold our hand lest we rudely quench the struggling spark of life, it far more often happens that we can do much either to cure or relieve pain. But to do so we must learn all we can, and must ever be learning. Again, “Prevention is better than cure.” That trite and well-worn adage is undoubtedly to be the coming watchword of the medical profession. You will at once perceive that I refer to sanitary science. It is not new. The Code given by Moses contains admirable sanitary directions. But sanitation, *i. e.*, the endeavor to preserve health, so that we shall not have disease to cure—long fell into disregard. Of late years, however, we all know what energy has been applied towards this most useful of all the useful branches of medicine. It is necessarily to medicine that the people must look to be taught the means for carrying out this desirable object. Medical men know more of diseases than other people do; they not only know much about the remedies that have to be employed, but they of necessity know much about the ways in which they may be prevented. Are they not then bound to use their knowledge for the good of mankind? Are they not bound to make that knowledge as perfect as they can? Sir Wm. Jenner, in a recent utterance, said: “No one acquainted with the present state of the Science and Art of Medicine will for a moment question that, to prevent disease, is its first and most important aim.” And likewise, Sir Wm. Gull; “It is enough for us that diseases prevail to stimulate our best efforts for their prevention, without our asking a question beyond.” Besides, think for a moment what has already been accomplished in this way. Look at the discovery of vaccination, the preventive of small-pox, the most terrible and fatal plague that ever appeared on the face of the earth. Ignorance and prejudice still exist against the reception of this inestimable boon—notably in this unhappy city of our own. But light must surely

come some day to the darkened minds of the dupes of the Coderré school. A year ago the German Parliament passed a law making vaccination and re vaccination compulsory throughout the Empire. Let us hope that this will give us soon the unexampled spectacle of an entire country freed from this horrid pestilence by the wisdom and foresight of its rulers, guided by the teachings of sanitary science. The day will shortly come when every one of you whom I now address will be in a position to help in procuring the passage of a similar law in this country, and it will be your duty to do so, a duty you owe to the memory of Jenner. Again, think what the science of Preventive Medicine has done for scurvy, that decimator of the armies and navies of the world. It is virtually gone. Typhus fever has also almost disappeared, and we have a right to hope the day is not far distant when enteric fever will share the same fate. This Faculty do not include this branch amongst those compulsory to the student, and in doing this we have the support of the practice followed by nearly all the British Universities. It is well that this fact should be stated, because a recent attempt has been made to discredit our curriculum on that account. The ultimate end of your study is to obtain a well-grounded knowledge of the three great divisions of Medical Science and Art—*Medicine Surgery and Midwifery*. They constitute the triple structure upon which you are to build, and it is to be erected on a triple foundation. Anatomy, Physiology and Chemistry are the three corner stones on which the erection is to be based. *Materia Medica*, Medical Jurisprudence and Hygiene are in effect based on and compounded of other sciences. Could you but have presented to you at once all the details of the work upon which you are about to engage it would indeed appear huge, colossal, impossible of attainment. Fortunately, you cannot thus grasp at once the entire range of subjects which you will have to traverse. But separate portions being successively laid before you, you will be able to seize them one by one and finally end by possessing more than at first your most sanguine anticipations would have induced you to anticipate. Timber to timber, stone to stone, and brick to brick, must be gradually with toil and patience put together, the entire structure of your knowledge. Do not, then, allow yourselves to become faint-hearted at the load of labor that presents itself to view, but only let its contemplation make you more earnest and determined to make good use of every moment at your disposal. I do believe that you need but little urging to work. But there are different ways of doing this work as every other. Done in one way the energies will be found to have been frittered and wasted, and the result to be comparatively small, whilst carried on after a different method a much greater result will surely be achieved by a similar expenditure of force. Work applied to scientific pursuits differs much from that in letters pure. It has been well said that “learning and knowledge in Science, as in Life, are distinct: whereas, in the world of letters, learning and knowledge are one.” In medicine you will quickly find that your books and your teachers are guides only; you cannot depend on them exclusively. New problems in disease, caused by a never-ceasing change in the circumstances acting on the organism will speedily necessitate your lodging for yourselves. The best teaching you can have is that which leads you to educate your reasoning powers instead of stultifying them by artificial tricks of memory, or other similar devices, which leave in the mind a verbal existence only instead of establishing therein some definite image. A recent periodical thus clearly puts this point: “A good or bad memory is a good or bad understanding. The faculty of recollection, or the power of recalling a piece of knowledge when it happens to be wanted, is chiefly a matter of *method*. It is useless throwing detached facts into the mind like loose pebbles into the sea. That is the way to lose them. Each point must be studied in detail, and when this is done, a host of subsidiary facts and conditions will be discovered connecting it to other facts of memory with which it should be habitually associated. These secondary qualities and properties form the strings of thought by which nature has ordained that the lessons she teaches shall be recollected. Artificial memories are miserable substitutes for the natural connecting links of knowledge thus provided.

If instead of wasting precious time and equally precious brain-power drivings things into his memory, the student will devote an equal amount of energy to the full and exact comprehension of his work—for example, the facts and circumstances that determine the number, shape, and directions of the ridges on

a bone, or a foramina by which it is perforated, the course and relations of an artery, the number and distribution of the branches it gives off—he will not only have the subjects fixed more permanently, but he will acquire so much collateral information in this natural process of study that presently he will find himself making unexpected progress. In short, it is good policy to leave the contingency of remembering alone and to concentrate the whole attention on the present duty of learning, with the warning consciousness that nothing is really learnt which is not thoroughly understood." Medicine is advancing daily, and in such advance "the ultimate court of appeal is observation and experiment, and not authority," and the sooner you educate yourselves to observe clearly and carefully, and to draw correct inferences from your observations, the more self-reliant you will become, the less liable to be turned hither than thither by every new fangled idea in medical doctrines, and the less servile a follower of some dominant theory or captivating teacher. "L'homme," says Paschal, "est visiblement fait pour penser; c'est toute sa dignité, et tout son mérite, et tout son devoir est de penser comme il faut." Thus the more the didactic lecture system is supplanted by the constant concurrent employment of practical demonstrations and investigations in which the student himself is the active worker, the more true to its real purpose will the teaching be. To enlarge this sphere of education in the tendency of all progressive establishments for the instruction of students of medicine. In this College a large field is opened out to you by the ample opportunities afforded in a carefully-conducted dissecting-room—a laboratory for practical chemistry—courses of practical microscopy, and a large hospital, where clinical work is much insisted upon. And here I would like to express a hope that before long our students may also be found in possession of an efficient physiological laboratory, an object which the present requirements of a complete medical education absolutely demand. Indeed it is not too much to expect that the Introductory or next session shall contain an allusion to this addition as a then accomplished fact. Your aim then should be not to learn servilely for the mere purpose of knowing so much, but you learn so that you may be by so much the better educated. Even so, the absolute handiwork of your profession must never be neglected. The habit must be acquired of being able to use your hands and to use them well. Without this, when brought face to face with actual disease or accident, all your knowledge is in vain. A surgeon once pithily said of one of his dressers, "He has learnt everything; he can do nothing." He alone is learned who reduces his learning to practice, and practical skill without learning degrades our profession to the level of the days of barber surgery and mediæval medicine. I need hardly say that it is only in his hospitals that a student can acquire this manual dexterity. Frequency and regularity in attendance at the hospitals cannot be too much insisted upon. Care, attention, and application to the work going on there cannot be too much commended. It is often quite possible to forecast the probable future success as practitioners of medicine of the individual members of any class by an observation of their daily conduct in these respects. Trousseau calls the clinique the cope-stone of medical study. I do not consider that I detract in any way from the relative importance of any of the other branches, if I permit myself to add a few more words to you on the subject of clinical study, in which I am myself more immediately engaged. Frequent practice in hospitals wards, we have said, is absolutely essential for obtaining familiarity with surgical manipulations. So also similar, though different practice is equally essential for acquiring the ability to institute a practical diagnosis. The first requirement for an accurate diagnosis is to learn to recognize morbid signs. This is what you have to learn to be able to do, and it is practice alone, the constant exercise of one's own individual faculties, his sense of sight and hearing and touch and smell, which will ever make him proficient in the art. To be able to recognise morbid signs you must accustom yourselves to be about and amongst sick people, constantly examining, enquiring and observing. Book-learning alone can never suffice to enable you practically to interrogate patients, to know and appreciate healthy and morbid physical signs and sounds—to handle and intelligently use our aids in physical examinations, the stethoscope—to estimate peculiarities, mental and physical, of various individuals—to ascertain the true action and therapeutical value of various drugs—to be familiar with the pathological appearances presented by the human frame diseased. All these and a thousand other things

can be acquired by experience alone, and to enable a student to obtain this experience he must frequent his hospital and must study medicine clinically. "When you are young," said the great Trousseau, "Let your fields be the hospitals and the clinics, and when your knowledge has increased let the hospitals and clinics still be your fields of industry. By pursuing this plan you will attain expertness in your art, knowing what science teaches and having the power within yourselves of originating." In former days didactic teaching had not been systematized, experimental investigations, morbid anatomy and reasoning therefrom were hardly dreamt of, but observation alone was trusted to obtain a stock of medical lore. To illustrate which, and to contrast with the education of the present day, I may quote for you the following passage from a book more than 200 years old, entitled "The Accomplish'd Physician, the honest Apothecary and the Skilful Chirurgeon." It says:—"First, it's most necessarily requisite our young student should be perfectly instructed in the Latin and Greek tongues, being the universal keys to unlock all those arts and sciences, and no less a grace to the future physician. Secondly, being thus qualified for a student, he ought to apply himself close to the study of philosophy, for which Oxford and Cambridge may justly challenge a pre-eminence above other Universities. But because, according to the first master, Hippocrates, art is long and life is short, he ought to engage his diligence, to absolve his philosophical course in two years at least, and in the interim, for his recreations and diversions, enter himself scholar to the gardner of the physick garden, to be acquainted with the fetures of plants, but particularly with those that are familiarly prescribed by practitioners, to prevent being outwitted by the herb-women in the markets, and to enable him to give a better answer than it is storied once a physician did who having prescribed maiden hair in his bill, the apothecary asked him which sort he meant. To other replied, some of the locks of a virgin." Thirdly, Supposing our student to have made sufficient progress in philosophy, he may now pass to Leyden, and enter himself into a Collegium Anatomicum. A proficiency in that part fits him for a Collegium Medigium Institutionum, and afterwards a Collegium Practicum, and then it's requisite he should embrace the opportunity of visiting the sick in the hospital twice a week with the Physic Professor, where he shall hear him examine those patients with all the exactness imaginable, and point at every disease and its symptoms as it were with his finger, and afterwards propose several cases upon those distempers, demanding from every young student his opinion and his grounds and reasons for it, withal requiring of him what course of physic ought to be prescribed." He then advises the student to live a year with an apothecary to learn compounding, to sojourn another year with a chirurgeon, so as to see him dress his patient's wounds, and thus to acquire that art also. He must then visit Paris, Boulogne, Montpellier and Rome, and see the practice of the great physicians there; by which, he remarks, one will be raised far above those vulgar ones who have never felt the cold beyond the chimneys of their homes. Of this travelled and accomplished physician it is finally observed: "The vulgar will then be able to discern the difference between him and the ordinary churchyard physicians, who by their sordid deports and dangerous practices make it their business to ease the blind people of the weight in their pockets, and plunge them into worse diseases." Now, gentlemen, I think I have spoken enough about work, let me say a word about its lawful opposite—rest. You, above all others, should remember that brain-work as well as all kinds of physical work or manual labor requires for its accomplishment destruction of matter. The one, therefore, no more than the other, can be continuous—the attempt to make it so, or nearly so, must surely and inevitably lead to failure. Do not then fall into this error—it is one only too often made. Regulate your hours of study, so that they shall not interfere with a rational amount of suitable exercise and needed repose. Regularity and steadiness at your work will always enable you to do this. The arrangements of the curriculum may appear to you in many respects unreasonable. They are not perfect. But bear in mind that the parts which seem to you to be faulty have objects which you may not now perceive. Patiently endeavor to make the most of what appear to you its useless provisions. Your patience will often be tried by having to listen to what seems out of place accounts of departments of knowledge as yet quite unfamiliar. Do not "cut" lectures because you do not see their value. Endeavor to attend them regularly and to carry away as much as you

can, and you will find your subsequent work in other subjects as well as in that department rendered easier. There are two kinds of students who are apt to suffer from overwork—one is the extra diligent student, working hard and striving, it may be, for a prize. To him we would say—be careful, the last straw breaks the camel's back. There is a limit beyond which you cannot safely go. The other is he who, having let slip precious hours as the session has glided swiftly by, wakes up at last to the alarming consciousness that he must prepare to meet his examiners. To any who feel conscious of an innate tendency to slothfulness or procrastination we would say—be diligent from the outset, and then at the end there will exist no necessity for that excess of work against which we now would warn you. Work therefore, but also rest, and be sure your efforts will be crowned with success. Manner is probably more looked to in the practising physician than in one of any other profession, and naturally so, because being frequently from the nature of his calling intimately and confidentially associated with persons themselves of refined and cultivated manners, anything less on the part of a medical attendant is necessarily criticised, and is obstructive to his success. Aim, therefore, to cultivate during your pupilage kind, genial and considerate conduct towards each other, and towards all, which will surely mould such an habitual demeanour as it should be your desire to possess. Believe me, the age for Abernethian asperities is not the present—nor suppose that it is an indication of a virtuous and independent mind to speak curtly, gruffly or unsympathizingly to the sick. On the contrary, a kind word is always in place, and is sure to carry its own reward. I would conclude, gentlemen, by once more bidding you all a cordial welcome, expressing a hope that this session will witness a continuance of the same mutual cordiality and confidence which has always hitherto characterized the relations of the teachers and classes of McGill University.—*Montreal Gazette.*

University Intelligence

The following is the award of scholarships and exhibitions at the examinations held in McGill College, September, 1876:—
SCHOLARSHIPS (tenable for two years)—Science.—Graham, J. H. *; Donald, J. T. * Classics and Modern Languages—Ross, J. (1)
EXHIBITIONS (tenable for one year)—Second year.—McLure, W. *; Eadie, R. *
 First year.—Hunton, S. W. * [Ottawa Collegiate Institute]; McKenzie, W. A. * [Upper Canada College]; Bull, H. J. * [High School, Montreal]; Lafleur, P. T. (2) [High School, Montreal]; Yarnold, F. M. (3) [Port Perry High School]; Darey, J. H. (4) [High School, Montreal].

* Scholarships or exhibitions given by W. C. McDonald, Esq.

(1) Given by Charles Alexander, Esq.

(2) Given by T. M. Taylor, Esq.

(3) Endowed by Mrs. Jane Redpath.

(4) Given by the Governors.

Ladies Educational Association.

Yesterday afternoon, 28th Sept., the opening lecture of the season, in connection with the Ladies' Educational Association, was delivered by the Rev. J. F. Stevenson, in presence of a large audience. It was a thoughtful, scholarly and interesting address, upon Women and education. He spoke of the advantages of Education, and showed that women had a right to be educated. Naturally, our humanity was narrow in its views, and especially was this the case with women. There was a necessity for us all to be more broad in our ideas and conceptions of Truth. Too many of us, in our searches after Truth, were like the chicken, which, when it had obtained a grain of corn, ran about flapping its wings as if it had got everything. It was the tendency in life. We obtained possession of a grain of Truth, and then were apt to bore people, and become a nuisance to them. It was not because this fragment of Truth was not true, it might also be important, but the trouble was, we did not understand its proportions, and were unconscious of the vast well of knowledge upon which we had to draw. Education was a cure for fanaticism, and narrowness.

We had to study faithfully and thoroughly. He spoke of one Truth leading to another, illustrating this point by a reference to the study of Botany, which he was glad to see was included in the course. By its study one not only became acquainted with the plant itself, but with many other things in connection with nature's schemes. Truths were to be regarded not only as equally true, but of unequalled order and proportion. Education not only influenced the intellect, but had its effect upon the whole human being. It gave patience instead of rashness, as in the case of a high strung boy, when he had one fact, he was ready to post off to the ends of the earth in search of another. But when he acquired the power of concentration he was master of himself, and when he became able to master himself, as the Scripture said, he was greater than he that taketh a city. Self-mastery, self-governance, self-guidance were the final purposes of all education. Women's education had to be put upon a broad basis. He would point out one of the special advantages of the education of women, and in doing so would give expression to one broad thought that one of the advantages of educating woman was that she might be able to take her place as a completely and entirely developed human being. Woman had the same right to be educated as man. What intrinsic reason was there why the power in woman's heart and intellect should not be drawn out? Why take a thing of beauty, a woman's mind, and say it should not have all possible culture? There was no beauty in feminine ignorance. Education was a source of refined, delicate, exquisite pleasure, for which woman had a special adaptability. Take the joy which accompanied the faithful study of language. The student would hunt down a word to its source just as keenly and appetizingly as the huntsman hunted his game, but with a keener feeling, the result being a fuller knowledge of the force of all words. Then the obtainment of a fact in the science of Geology, what an endless source of amusement was it not? There was an infinity of fact in Truth. As Dr Dawson would say, a mere fragment of rock, would give to a thoughtful person days, weeks and months of study. In its consideration there was first the rock and then the entire physical universe. Who would say then that the obtainment of knowledge was not better than tea, coffee and scandal? Who would say it was not superior to an acquaintance with the fashions and with the accuracies of feminine dress? Was a man who gave all his time to fastening his neck-tie happier than he who gave himself to study? The daily and hourly study of literature, science and art opened up exquisite pleasures and placed the student upon a pinnacle of delight as compared with ordinary enjoyments. He proceeded to enlarge upon the necessity there was for women being cultured as being the framers of social life. Man was ruled by the character of his home. Was it not then of the utmost importance that his moments of leisure should be spent in an ennobling and purifying atmosphere? He believed it would be found that in the majority of instances men whose life had been at a high pitch of culture had attained it by the aid of thoughtful and cultured home atmosphere. Sometimes in his career as a minister, he had thought, and it was a sad thought, that many men had not attained what they might have done if they had not been held back by those at home who drew them down. Why should this be? Why should not women be the noblest and purest, and most elevated of their husband's or brother's companions? Women must be educated, because a great part of the work of education was entrusted to them. A large proportion of the early and elementary education was given by women who had the governance of children in their first years. He instanced the power of women over the most unruly boys, as for instance in a Sunday School, where the males could do nothing with them. It was then essential that those who were to be the educators of those who should come after us should be themselves educated. Why should not there be obtained in the earliest years of childhood, that which was often left to later years to acquire? It was Leibnitz, he believed, who had opened up this subject in his "Regions of Unconscious Thought." Sir William Hamilton too, and Dr. William Carpenter in his "Unconscious Cerebration" had recognized that much thought was going on without our being thoroughly aware of it. The latent processes, the root thoughts whence emanated all the rest, came out of the thoughts of which we were not conscious. This unconscious thought, it might be, was laid for us in the early months of infancy. He had often thought that the greater part of education might take place before one was three or four years old. If so woman, of all others, was a most

powerful educator, and must necessarily have a sound, thorough and many sided education. He concluded by reviewing the different branches of the season's course, each of which he commended in appropriate terms.

A vote of thanks was passed to the lecturer, after which the meeting was closed.

The lectures of the Association commence on Monday.

OFFICIAL NOTICES.



Department of Public Instruction.

Quebec, 27th September, 1876.

ERECTION AND LIMITS OF SCHOOL MUNICIPALITIES

His Excellency the Lieutenant-Governor has been pleased, by an order in council, dated the 13th of July last, (1876), to make the following changes, namely:

County of Hochelaga, Village of Outremont.—To detach from the school municipality of Cote des Neiges, in the county of Hochelaga, the territory known as the Village of Outremont, and to erect it into a distinct school municipality under the said name, and such as it is already erected for municipal purposes.

County of Nicolet, Sainte Sophie de Levrard.—To erect into a school municipality the new parish of Sainte Sophie de Levrard, in the county of Nicolet, with the same limits as those assigned to it by the proclamation of the twenty third day of April one thousand eight hundred and seventy five;

And by another order in council dated the 19th day of September instant, 1876.

County of Témiscouata, Notre Dame des Sept Douleurs.—To erect into a distinct school municipality that part of l'Île Verte, county of Témiscouata, heretofore forming part of the parish of Saint Jean Baptiste de l'Île Verte, and now erected into a civil canonical parish under the name of "Notre Dame des Sept Douleurs."

County of Montmagny, Montmagny (village).—To erect into a school municipality the village of Montmagny, in the county of Montmagny, by given to it the same limits as those already assigned to it for municipal purposes.

LIMITS.

To divide the school municipality of Saint Clement de Beauharnois into two, one to be called the municipality of the town of Beauharnois, with the limits which are assigned to it by the Quebec Statute, 38 Vict. chap. 77, and the other the municipality of Saint Clement, which shall include the residue of the former municipality of Saint Clement de Beauharnois.

APPOINTMENTS OF COMMISSIONERS AND TRUSTEES.

Montreal, Catholic.—Alderic Ouimet, esquire, M. P., continued in office.

His Excellency the Lieutenant-Governor has been pleased, by order in council, dated the 17th day of August, 1876, to make the following appointments of school commissioners and trustees, to wit:

COMMISSIONERS.

County of Rimouski, Notre Dame du Sacré Cœur.—The Reverend Chs. Guay, Messrs. Paschal Parent, Pierre Parent, Joseph Pineau, junior, and Frs. Xavier Nadeau.

County of Two Mountains, Saint Placide.—Messrs. Ephrem Baby and Benoit Lalonde, vice Messrs. Zéphirin Raymond and Pierre Vaillancourt, going out of office.

And by another order in council dated the 19th of September, 1876.

County of Richmond, Danville.—Messrs. George Short Carter, Augustus Edward Lee, William Honeyman, Joseph Lord Goodhue and Michael Lynch.

And by another order in council of the same date.

County of Ottawa, Wright.—Mr. Patrick Grace, continued in office, and Mr. John Connors, vice Mr. Moyse Petrin, whose term of office has expired.

County of Beauharnois, Saint Clément.—Messrs. Ls. Ant. Bertrand, Charles Boyer, Toussaint Lemieux, Octave Daoust and Michel Leduc, junior, in as much as the municipality was not erected in time to allow of an the election.

County of Bonaventure, Paspebiac.—Messrs. Jean Albert, junior, and Joseph Roussy, vice Messrs. Samuel Loisel and Eloi Joseph, gone out of office.

And by another order in council dated the 20th of September, 1876.

County of Beauce, Jersey.—Messrs. William Martha, Joseph Stafford, John McIntyre, John Hagnard and Joseph Poulin. New municipality.

County of Charlevoix, Rivière Portneuf.—Messrs. Cryseuil Desbiens, David Tremblay, Urbain Trembay, Germain Larouche and Epiphane Tremblay. New municipality.

County of Two Mountains, Saint Joseph.—Mr. Frederic Derome, vice Mr. Pierre Lalonde, as no election took place.

County of Dorchester, Saint Malachie.—Mr. Praxède Lacroix, vice Mr. Théodore Dutil. Election irregular.

County of Gaspé, Magdalen Islands.—Rev. Chs. N. Boudreau and Mr. Alexandre Cormier, vice Messrs. Léon Poirier and Simon Richard going out of office. No election having taken place.

County of Gaspé, Anse à Valcau.—The Honorable Thos. Savage, continued in office. No election having taken place.

County of Hochelaga, village of Saint Jean Baptiste.—Mr. Ferdinand Corheil, continued in office, and Mr. Jérémie Poirier, vice Mr. F. X. A. Coutu. No election having taken place.

County of Jacques Cartier, Côte des Neiges.—Mr. Zéphirin Boyer, junior, vice Mr. Félix Prud'homme, the latter residing no longer in the municipality.

County of L'Assomption, l'Assomption.—Mr. Noel Rivest, vice Mr. Narcisse Etu, deceased and not replaced by election within the time required.

County of Pontiac, Bryson.—Mr. Jules Saint Jean, vice Mr. Andrew Neville. No election having taken place.

County of Quebec, Stoneham.—Mr. Patrick Cavanagh, vice Mr. Thomas Martin, resigned, and Mr. Michael Dunn, continued in office. No election having taken place.

And by another Order in council of the same date.

County of Lotbinière, Saint-Sylvestre.—Messrs. Thomas McCaffrey and Antoine Lemieux, continued in office. The election not having taken place within the time fixed by law.

County of Laprairie, Saint Constant.—Hubert Boyer, esquire, vice Mr. Hormisdas Barbeau, who by reason of his advanced age could not accept the office.

SCHOOL TRUSTEES.

His Excellency the Lieutenant Governor has been pleased by order in council, dated the 19th day of September instant, to make the following appointments, namely:

County of Bonaventure, Hope.—Mr. Pierre Lecourtois, vice Michel Parisé, gone out of office.

County of Bonaventure, Cox.—Mr. Maxime Joseph, vice Mr. Alexis Dugay, gone out of office.

His Excellency the Lieutenant Governor has been pleased, by another order in council, dated the 5th of June, 1876, to associate Peter S Murphy, esquire, of Montreal, to the Council of Public Instruction, vice L. L. L. Desaulniers, esquire, resigned.

BOARDS OF EXAMINERS.

His Excellency the Lieutenant Governor has likewise been pleased, by order in council, dated the 20th of May, 1876, to appoint Damase Rossignol, esquire, M. D., of Kamouraska, member of the board empowered to grant teachers' certificates for the district of Kamouraska.

And by another order in council, on the 17th of August, 1876. To appoint as members of the board of examiners for Rimouski.—The Very Reverend Edm. Langevin, Vicar General, Messrs. Arthur Prisque Letendre and François Magloire Derome, vice the Reverend P. Winter, resigned, the Rev. Mr. Guilmette, absent, and Mr. J. M. Hudon, deceased.

POETRY.

The Bald-Headed Tyrant.

BY MARY E. VANDYKE.

Oh! the quietest home on earth had I,
 No thought of trouble, no hint of care;
 Like a dream of pleasure the days flew by,
 And Peace had folded her pinions there,
 But one day there joined in our household band
 A bald-headed tyrant from No-man's-land.

Oh, the despot came in the dead of night,
 And no one ventured to ask him why:
 Like slaves we trembled before his might,
 Our hearts stood still when we heard him cry;
 For never a soul could his power withstand,
 That bald-headed tyrant from No-man's-land.

He ordered us here and he sent us there—
 Though never a word could his small lips speak—
 With his toothless gums and his vacant stare,
 And his helpless limbs so frail and weak,
 Till I cried, in a voice of stern command,
 "Go up, thou bald-head from No-man's-land!"

But his abject slaves they turned on me;
 Like the bears in Scripture they'd rend me there,
 The while they worshipped with bended knee
 This ruthless wretch with the missing hair;
 For he rules them all with relentless hand,
 This bald-headed tyrant from No-man's-land.

Then I searched for help in every clime,
 For peace had fled from my dwelling now,
 Till I finally thought of old Father Time,
 And low before him I made my bow.
 "Wilt thou deliver me out of his hand,
 This bald-headed tyrant from No-man's-land?"

Old Time he looked with a puzzled stare,
 And a smile came over his features grim,
 "I'll take the tyrant under my care;
 Watch what my hour-glass does to him.
 The veriest humbug that ever was planned
 Is this same bald head from No-man's-land."

Old Time is doing his work full well—
 Much less of might does the tyrant wield;
 But, oh! with sorrow my heart will swell
 And sad tears fall as I see him yield.
 Could I stay the touch of that shrivelled hand,
 I would keep the bald-head from No-man's-land.

For the loss of Peace I have ceased to care;
 Like other vassals I've learned, forsooth,
 To love the wretch who forgot his hair
 And hurried along without a tooth,
 And he rules me, too, with his tiny hand,
 The bald-headed tyrant from No-man's-land.
 —(Harper's Magazine for September.)

THE JOURNAL OF EDUCATION.

QUEBEC, OCTOBER, 1876.

We have received a copy of the Report of a Committee appointed 9 November 1875, for the purpose of gaining information in regard to the Schools of Art established in the Cities of Boston and New-York. This Report is made to the members of the Council of Arts and Manufactures of the Province of Quebec, and we think it right

to give the following extracts therefrom showing the great utility and benefit to be derived from "Schools of Arts" several of which have been established in various parts of this Province.

Importance of the Study of Design.

An error generally fatal to the workman of whatever kind is to believe that he must, or, at least, that he may without inconvenience, remain in his ignorance; that his handiwork, a certain routine, a very limited amount of knowledge purely practical, effectively fill the place of conceptions of intelligence and protect him sufficiently against all competition. Although we put ourselves on guard against mere theories, we believe that there is no more salient danger than this complacent security of certain working classes, which, for some years past, has been at the bottom of all the strikes and of those intervals of idleness so disastrous for workmen's associations or corporations, and for commerce and industry at the same time. Intelligent labour is rarely without employment; crises affect it little. Stagnation is never total or universal. In a moment of depression, the little commerce which is transacted is that of merchandise produced according to the best laws of taste and wholesome economy, the price of raw material being otherwise equal. So also, a master seldom sends away his most skillful employees; the evil weighs only upon the less experienced, those who can be easily procured. Moreover, technical education to the advantage of the artisan is the prize of liberty, and even a necessity of the organisation of modern society.

In England in the time of Elizabeth, the Statute of Apprenticeship decreed that "No person should for the future exercise any trade, craft or mystery at that time exercised in England, unless he had previously served to it an apprenticeship of seven years, as least; and," adds Adam Smith, "what had before been the by-law of many particular corporations, became, in England, the general and public law of all trades carried on in market towns."

In France, the duration of apprenticeship varied according to towns. At Paris, the number of years of apprenticeship was generally five; but no person could become foreman or employer, in the greater portion of the industries, without having served five years more as journeyman, with the title of Companion. The author above-cited, Adam Smith, in his work, "Wealth of Nations," observes that "The policy of Europe occasions a very important inequality in the whole of the advantages and disadvantages of the different employments of labour and stock, by restraining the competition in some employments to a smaller number than might otherwise be disposed to enter into them. The exclusive privileges of corporations are the principal means it makes use of for this purpose."

As the question of artistic ability greatly interests industry, and it is of supreme importance not to be deceived as to the means to be taken to impress upon it a seal of superiority, it is not, perhaps, out of place to recall in what terms the same economist combats the system formerly pursued in Europe; for if we are convinced that this system is vicious, it is necessary, nevertheless, to find a substitute, and the solution of the question which the Council of Arts has proposed to this Committee becomes more easy; there will be no longer any reason for hesitating as to the urgency of the means to be taken for forming skillful artisans:—

"The institution of long apprenticeships can give no security that insufficient workmanship shall not fre

“quently be exposed to public sale. When this is done, “it is generally the effect of fraud, and not of inability; “and the longest apprenticeship can give no security “against fraud. Quite different regulations are necessary “to prevent this abuse. The stelling mark upon plate, “and the stamps upon linen and wollen cloth, give the “purchaser much greater security than any statute of “apprenticeship. He generally looks at these, but never “thinks it worth while to enquire whether the workman “had served a seven years apprenticeship. The institu- “tion of long apprenticeships has no tendency to form “young people to industry. A journeyman who works “by the piece is likely to be industrious, because he “derives a benefit from every exertion of his industry. “An apprentice is likely to be idle, and almost always is “so, because he has no immediate interest to be other- “wise. In the inferior employments, the sweets of “labour consist altogether in the recompense of labour. “The boys who are put out apprentices from “public charities are generally bound for more than the “usual number of years, and they generally turn out “very idle and worthless.

Whatever may have been the influence of modern economists on the relations between master and apprentice, it is no less true that these conditions are considerably changed, as well in Europe as elsewhere. The workman has seen his favourite dream realized, the liberty of work, in this sense, at least, that the law is no longer at hand to protect the monopoly of working corporations and embarrass individual effort. But instead of the workshop, which the apprentice no longer follows but to acquire dexterity of hand, something else is necessary to be substituted for the lessons of long apprenticeship. Accordingly public schools and gratuitous courses of study, have been instituted. The secrets of the arts and industry have, in these courses, been revealed to those who frequented them. At first the progress of the new system has been, perhaps, but little felt; education, in fact, is a seed of which the germination is slow and of which the fruit does not ripen in a year. It required generations to convince Europe that it was necessary to give the workman an education corresponding to the kind of industry which he desired to follow, and to instruct him with reference to this industry especially. According to the acknowledgement of publicists who have given their attention to this important question the various governments of Europe recognise the fact that national supremacy must in future depend more and more on industrial supremacy. “Immediately after the war with France,” says Professor Langl, “the authorities of the various industrial towns of Prussia were called upon by a circular issued by the Ministry of Commerce and Industry, to follow the example of France in the organization of Drawing and Industrial Schools; and their attention was directed to the industrial importance of these schools and to the fact that they form the true basis of the wealth of France.”

England itself, in the year 1851, at the time of the universal exhibition at London, apprehended the importance of the movement inaugurated in France. That Exhibition showed that England was behind her rivals with respect to products susceptible of artistic treatment, and whose commercial value is, by this means, considerably increased. Profiting by defeat, England cast aside her former policy as to instruction, which was simply a *laissez-faire* policy, and set herself vigorously to work, in the hope that artistic instruction applied to industry might be reduced to rational methods, might be treated according to recognized principles, and determined no longer to abandon this kind of instruction. “We cannot make artists, nor even good designers by

dozens,” said recently an English writer. “But we can “encourage the teaching which will bring to light “whatever ability there is hidden in this country and “make all necessary preparations for that purpose. We “can exercise to a certain degree, by elementary design, “the eye and the hand of youth in the primary schools “of our cities, sufficiently, at least, to allow them to “distinguish, in a certain measure, forms and colours, “what is graceful and well-proportioned, what is harmonious and conformable to the laws of taste, from what “is not so. Even from a utilitarian point of view, this “instruction is important to the workingman, because it “enables him to understand and communicate ideas and “views as to matters connected with his trade, by means “of the pencil, and because it forms his eye and hand “for the most delicate operations of his trade, and “enables him, when the necessity occurs, to make “diagrams and drawings of machines. It is not “necessary to dwell on the importance of forming “skilful designers and of assuring in this way a “character of beauty as well as force and honesty in “workmanship,—in a country, which to succeed in its “trade counts so much on the industries of the weaver, “the dyer, the printing of textile goods, pottery, porcelain, metal works of all kinds, &c.”

Germany, whose industrial products are some times so exquisite and find so advantageous a place in foreign markets, has Schools of Art in her principal cities, and sometimes in cities of secondary importance with regard to population. Austria, since her defeat at Sadowa, has entered resolutely on the way that leads to the improvement of her industry by means of industrial education. The Vienna Exposition had for its chief object, it appears, to stimulate the Austrians by putting before their eyes what industrial education had effected in foreign countries. “But,” writes Mr. S. R. Koehler, the movement in “favor of art-industrial education is by no means limited “to England, France, Germany, and Austria; it pervades “all Europe,—the small states as well as the large. Even “Russia forms no exception; with the last eleven years “she has established various art schools modelled after “the English, and it is said that they have greatly stimulated and improved the national taste. There is, “indeed, but one opinion throughout Europe as to the “importance of art-industrial education, and as to the “wisdom of making it universal. In this connection it is “well to note that the methods adopted by England for “promoting this education are generally imitated. Even “France, so long the leader of the world in matters of “art, has of late been taking lessons of her neighbor “across the Channel.”

With respect to the efforts made by Russia to introduce industrial education, Professor T. C. Archer, attached to the Museum of Sciences and Arts of Edinburgh, having been present at the Polytechnic Exposition of Moscow in 1872, wrote: “Group No. 16 may be represented as a manufactory of ornamental plate in silver and silver gilt. Besides a splendid display in what may “be termed the show-room, there are two very roomy “and well fitted up workshops, in which the artisans “may be seen working in the richly wrought and “characteristic Slavonic designs, which are so notable in “the plate produced in Moscow by the great firms of “gold and silver smiths. The schools of art established “about eight years ago, on the model of those at South “Kensington, have, under the direction of Mr. Bowtloffski “greatly stimulated and improved the national taste, “and have especially led it to accept the pure Slavonic “models, of which the imperial treasury in the Kremlin “contains such an abundance of the best examples.”

It was after having investigated the causes of the supe-

riority of the countries of Europe in the matter of industry that the United States arrived at the conclusion that the only way to sustain foreign competition was to spread artistic taste among the masses, as well consumers as producers. A citizen of Boston, who takes a lively interest in the Schools of Art in his locality, Mr. Clark, pointed out to us how opposed it was to the interests of the industrial population of the United States to export raw cotton to England for the purpose of importing it again to the United States under the various forms that it receives in the English workshops. The American consumer, in fact, pays first, to the profit of a foreign nation, the expense of exporting the raw material to England, then the cost of fabrication in the English factories where the cotton fibre is converted into a variety of tissues which the art of the manufacturer can enrich with designs that increase its commercial value. What is true of the exportation of American cotton to England is equally true of some of our own raw products, such as wood, flax, from which we do not gain all the profit that we could if our population had the means and the special knowledge necessary to give the raw material the forms under which manufacture can present them to commerce for application to the needs created by civilization. Nor must it be lost sight of that the value of any product whatever is determined as much and more, perhaps, by the market of the entire world as by the local market, and that the Canadian manufacturer is forced into competition with foreign manufacturers. This state of things is the result of modern progress, especially of steam locomotion and the establishment of telegraphic communication. The competitor, though absent and invisible in Canada, exists nevertheless, and at distances which modern science has wonderfully shortened. The tariffs may, to a certain degree, embarrass competition and protect an indigenous industry which is enjoying the timid attempts of infancy; they may prevent, in certain cases, the amateur from procuring an article of vertu, a beautiful object of foreign production, but they will seldom force him to buy an indigenous commodity which offends the laws of the beautiful. "There is but one effective way," says a man who has given much attention to the question with which we are dealing, "for a country to struggle against foreign competition in its own market: it is to display as much taste and ability in its own manufacture as the foreigner does in his." The great French economist, Colbert, who by no means hesitated to make protective tariffs, said, more than two centuries ago, "Taste is the most skilful of all the trades."

Without allowing ourselves to be led into a kind of ideas that every one can contest, since no one holds the future in his hand, may we not here, in passing, throw out a reflection which has, at least, the merit of a hope the realization of which would be a true cause of congratulation to humanity. For the Western World, our century was born in the midst of wars; the battle-field was its cradle. The governments, constantly anxious for the morrow, were almost continually directing their attention to the proper means of assuring their existence against aggressions from without and to maintain their territorial integrity. Has this state of uncertainty at last ceased, at least for a considerable time? We might be induced to believe so, if we judged by the efforts that these governments are making, especially for some years past, to instruct the people in the arts of peace. Well, let the countries of Europe and the United States, with which we have commercial relations, devote to industry the half of the energy and activity of which they shewed themselves capable when they had a war in prospect, and the superiority of their products will be such that

we shall be the tributaries of their industry during half a century longer. In a race for stakes, indifference is a false calculation, and, as far as progress is concerned, to remain stationary is to remain behind.

In Canada the cry has often been raised that we must encourage industry, that we must protect our manufactures so as to retain with us our population and elevate the standard of public health. A nation of manufacturers, however, is not a thing that can be improvised in a day. Certain preliminary conditions are necessary, through the whole extent of the country, without which all legislation will remain a dead letter, every effort will be barren of result. One of these conditions is the instruction of the people in the direction of industry; the creation of special schools where the workingman may procure the knowledge which he needs to practice his trade. The workshop in a new country, may furnish to the workingman what is necessary for his daily subsistence; progress in industry is intimately connected with the development of intelligence and the constant acquisition of new knowledge.

We will terminate this first part of our report by quoting to you a passage from a book published by Mr. H. Krusi, Professor in the Normal School of Oswego, N. Y.:

"Besides the importance of design as a means of education, the knowledge of design is also of great practical value in many of the circumstances of life. The knowledge of design is indispensable for complete success in almost all the trades. He who can reproduce his ideas by the aid of the pencil, rises to the front rank in his profession. He traces as well as executes, and naturally takes his places as leader and director. The carpenter who designs well becomes a foreman, and often enough, an architect. The mechanic who designs, in many cases, becomes a successful inventor. To know how to draw is frequently a great help to the farmer; he can thus make the plan of his house, adapt it to its surroundings and to the various uses which it is to serve. Design enables him to describe the particular vegetation, of which the name is unknown to him, and the kind of insects which destroy his harvests. He fashions his tools and implements, and communicates his thoughts to others in a multitude of cases where ordinary language would be powerless.

"In the various kinds of manufactures the workmen who have an aptitude for design and who draw skillfully are always in demand. For engineering and architecture the knowledge of design is indispensable to him who desires to practice in a professional manner. Even to those who are engaged in the learned professions, design may be useful for various kinds of research; and it always offers a source of amusement during leisure hours."

Value of Merchandise.

(Extract from a work by Professor KOENIG.)

"Manufactures involving skill and taste are more desirable than rude ones, because, in the first place, they command a higher price in the market, if we regard only the time and labor bestowed upon them. Brawn against brain in any field of labor never did successfully maintain itself. What can be done by a machine, or by an animal, that is, by mere brute strength, we never esteem as we do work that can be done only by the mind. While, therefore, the rude laborer earns his dollar the dexterous laborer earns two, and the skilled laborer three. Yet it costs just as

" much to support in health and comfort the rude laborer as it does the one who is skilful and artistic.

" In the second place, rude manufactures not only have the preference of the consumer against them, but transportation also puts them at a disadvantage. Every one must pay for getting whatever he produces to market : and the real market in which he sells is the place whence come the products he receives, directly or indirectly, in exchange for his own. Hence the rude laborer who exchanges his products for the less bulky products of the skilled, artistic laborer must contribute the most towards effecting the exchange. By way of illustration, take a Geneva watch that has cost the producer two hundred and fifty dollars by reason of its skilful workmanship; suppose five dollars to be the expense of getting it to market; then transportation adds two per cent. to the original cost of the watch. But transportation would add twenty per cent. in the case of a twenty-five dollar watch. Again : take a Turkish rug that has cost the producer five hundred dollars by reason of its beauty, and another rug of the same weight, that has cost the producer only ten dollars; call the expense of transportation five dollars for each; one per cent. is added to the original cost of the rug in the first instance, and fifty per cent. in the second. Bolder contrast might be named, but these are enough to illustrate the fact that transportation even for great distances can but slightly affect those manufactures which are the most desirable. In a word, it costs but little to transport skill and taste, but much, comparatively, to transport ignorance and raw material.

" In 1873, according to the statement of the American Consul at Basle, the watches sent from Switzerland to the United States were valued at \$2,520,104 at the point of shipment. To pay for them it would have taken in Illinois, say, 5,000,000 bushels of corn. Now, as each party must pay, by deducting from the home price, for getting his own products to market, at what a disadvantage transportation, in the suppose case, would have placed the Illinois farmer! The Swiss, making no allowance for distance, would have paid no more for corn coming from Illinois than for the other corn coming only from France. Little wonder, then, that the Illinois farmer converts his corn into pork and lard, so far as possible, before sending it across the Atlantic, that he may put into his own pocket the difference in transportation. Again : in 1873 the United States imported embroidered goods from Switzerland to the value of \$2,095,234,—a call for 4,000,000 more of Illinois corn. Again, the same year and from the same country we imported silk and silk goods to the value of \$5,224,116,—a call for 10,000,000 bushels more of Illinois corn : making, in round numbers, 19,000,000 bushels of corn which would have been necessary, had the payment been made in corn, as supposed, to pay for three kinds of skilled, artistic manufactures obtained from little Switzerland alone in one year. Though without a port, yet has Switzerland by means of her skilled, artistic manufactures secured for herself a commerce larger, when compared with her population, than that of any of her continental neighbors. This astonishing feat she could not have accomplished with rude manufactures. Cost of transportation alone would have prevented.

" In the third place, skilled, artistic manufactures are more desirable than rude manufactures, since they give a better population. The population is better, because it is more intelligent, intelligence being the prime condition of manufactures. It is better because it is more prosperous, has more money to spend in the procurement of all that is essential to the comfort and

" embellishment of life. Churches, schools, farmers, gardeners—all share in the prosperity of the educated, thrifty artisan. Compare the city of Worcester, Mass., full as it is of skilled workmen of all kinds, with a city whose manufactures are rude, and the difference between the two will arrest the attention of the most casual observer."

There would be little to change in the preceding extract to make it applicable to Canada. Who would dare to deny, for example, that, in our exchanges with foreigners, our woods play the part of the corn crops of Illinois? Nevertheless, wood is susceptible of a large variety of uses, and in some cases already, has been subjected to the processes of manufacture. Let this industry receive in this country all the development of which it is susceptible, and not only shall we have created work for our population, consequently wealth for our country, but we shall have also found the secret of preventing the rapid destruction of our forests.

MISCELLANY.

University Libraries in Germany.—The *Illustrirter Kalendar* publishes the following statistics of the contents of the university libraries in Germany : The library of the Berlin University contains 115,000 printed volumes and 40,000 charts. The University of Bonn contains 180,000 volumes, several hundred manuscripts and a large collection of maps. The University of Breslau has 340,000 volumes of books and 2,900 manuscripts. The Erlangen University has 110,000 printed volumes and 1,900 manuscripts, besides 50,000 treatises, 10,000 autograph letters and a collection of designs and engravings. The Freiburg University contains 250,000 printed volumes and 500 manuscripts. The Giessen University has 150,000 printed volumes and 1,265 manuscripts; that of Gottingen 400,000 printed volumes and 5,000 manuscripts; that of Griefswald 70,000 volumes; and that of Halle 100,000 volumes and 1,000 manuscripts.

The University of Heibelderg has 300,000 volumes, 70,000 treatises, 3,000 manuscripts, 1,000 charts, a collection of maps and another of engravings. The University of Jena has 100,000 volumes, and that of Kiel 150,000 volumes and several hundred manuscripts. The University of Konigsberg 220,000 volumes, in addition to about 50,000 double copies of books for the purpose of exchange. The University of Leipsic contains 380,000 printed volumes and 4,000 manuscripts. The University of Marburg has 120,000 printed volumes, but very few manuscripts. The University of Munich contains 293,500 volumes, 17,500 manuscripts, 3,600 portraits and 3,200 medals. The University of Rostock has about 140,000 volumes; that of Tubingen 230,000 volumes, 60,000 treatises and 2,000 manuscripts; and that of Wurzburg more than 200,000 volumes and 2,000 manuscripts. The library of the Strasburg University is said to contain 300,000, of which 5,400 relate to the history of Alsace, and about 500 manuscripts.

The *Illustrirter Kalendar* adds that the library of the Vienna University contains 211,220 volumes and 83 manuscripts, and that the library of the Basle University contains 100,000 printed volumes, 4,000 manuscripts and 180 charts.

The Art of Hospitality.—The Art of Hospitality should be as devoid of art as possible, and is well summed up in the following :—

Welcome the coming guest ; welcome him with a few simple, pleasant easy words, without ostentatious cordiality, without gushing declarations of friendship ; without paralyzing his arm by an interminable shaking of hands ; without hurry or flourish or due anxiety to have his trunk carried up to his room, or sandwiching between every sentence an anxious appeal to make himself at home ; an appeal which usually operates to make one feel as much away from home as possible. Constantly taking it for granted, on the part of the host and his family, that one is uncomfortable, and that they must hurry about and take all the responsibility and self-helpfulness from the guest, thus depriving him of credit of common sense, is something

worthy of indignation; all the more so because politeness forbids the least sign of impatience. It is ill-bred, it is not decent. It is insulting to the guest; and he would serve him thereafter without ceremony. And yet how many of our well-meaning, and, in most cases, well-bred people fall into the error that unless they are constantly on the alert, and establish a kind of espionage over their guest, and watch his every movement, lest he should brush his coat or take a seat for himself, they will be wanting in courtesy. The art of hospitality consists in putting the guest at his ease; and this does not mean telling him to be at his ease. It consists in making him forget that he is a guest, and not in constantly pushing the fact before his eyes. And it also consists in leaving to him the exercise of his senses, and of responsibility, at least, so far that finding what he needs at his hand, he may help himself.

Extremes Meet.—There is a saying among men of business that the two worst paymasters are those who pay too soon and those who pay too late; that is, that extremes meet, and the excess of a virtue is as disastrous as the actuality of a vice. And so we find it in more things than the eager advance which throws the books awry, or the tardy settlement by which the business calculations of the firm are deranged. Take the two extremes of neglect and care for children as one illustration; do we not come to precisely the same result in the ruin of health and character, if the manifestation of that result is as different as the method by which it is attained? The child who is brought up as if it were an exotic in a hothouse—who is not suffered to go out in the heat or the cold, the damp or the wind; who must not run because it will overheat itself, nor drive because of the draught; for whom riding is dangerous, as the horse might run away, and all rough games are forbidden, as it might get an ugly knock; who wears furs into May, and is well swathed in flannel during the dog days; who goes to bed for a pricked finger, and is nursed for a head cold as the neighbour's child next door would not be nursed in a fever; who must not eat this, and may only eat that, and whose most irrational fancies in the way of choice and refusal are attended to as the infallible signs of healthy instinct; who is not to be contradicted nor thwarted, denied or disappointed; all of whose ways must be rolled smooth, its niche lined with cotton wool, its roses free from thorns, its life rendered exceptional and planned on a basis entirely different from that of other human lives—what is the end of it all but enfeebled health, flaccid muscles, inability to bear or to do anything unusual or unpleasant, and the most entire and intense egotism all through? No other result can come about from a manner of bringing up which leaves out of sight the educability of the body and the strengthening of the faculties by use, which is founded on the idea that happiness and indulgence are synonyms, and that to learn the practice of self-restraint and self-sacrifice must needs mean to be moped and melancholy.

The neighbour's child next door is brought up on totally different principles. As soon as it can walk it begins its little career of independence, and to get it out of hand and let it find for itself is the chief desire of those charged with its due care and fit development. It is early initiated into that kind of stoicism which learns to take wounds and bruises, tumbles and troubles, quietly, for it finds but the roughest kind of surgery when surgery of a kind is absolutely necessary, and no shadow of sympathy. The line marked out for its education is "hardening," and the principle is pushed to the extreme. Out in all weathers—damp clothes not regarded, and wet feet laughed at as a good joke; the falling snow and the burning sun encountered with the same indifference; nothing short of absolute prostration by an illness with a decided name ensuring the smallest amount of nursing, and all the smaller ailments of catarrh, headache, indigestion, and the like entirely ignored; suffered to eat everything, hedgerow trash for the one, and the stickiest of "stick-jaw" puddings for the other; buffeted and tyrannised over, snubbed, jeered, worked, and under the harrow generally:—we have as the result a constitution ruined by want of care in the tender years, those years which make or mar the future; indifference to others' sufferings because of familiarity with its own; the knowledge that the world is a battlefield where you must either give knockdown blows or receive them, where you must conquer or be conquered, and thought and care and compassion for others are all out of place, and impediments in your campaign, that is—a selfishness as intense as the selfishness of the

over-indulged. But the difference is that the one is passive and the other active. The one is the selfishness of inability to bear what is unpleasant or to forego what is pleasant; the other the determination taught by neglect to get what it wants, no matter who wants, no matter who suffers, having learnt by its own experience that heaven helps only those who help themselves, and that the weaker go to the wall, while the strong take the crown of the causeway.

Extremes of overwork and underwork in service and offices come exactly to the same thing in the end, for the amount of work done and the character of its doing, and also its quality. The overworked, by reason of pressure, can give only that superficial brush over ugly places which keeps things fair to the eye, however hateful in truth; the underworked, for want of pressure, wax fat and idle, and put off to hours indefinite even the little that is laid on them; whereby it comes about that when that little is perforce done it is done in a hurry and nearly as superficially as that for which the best will in the world cannot find enough time. The faculties which are worn out in overwork rust out by insufficient work; and here again the circle is complete by the meeting of extremes, and the whole round of wrong is traced in broad and unmistakable lines enough. Extremes of cowardice and rashness end in the same thing too—the certainty of running into danger and not getting out of it again. Cowardice, afraid of every step, meets rashness which does not look beyond. The one forbears to take the leap out of imminent peril by which all would be saved—the other jumps without looking where, and jumps into an abyss; this lets himself be destroyed for want of courage to risk a sprained ankle in trying to save himself—that dashes himself to pieces for want of so much rational fear of consequences as would make a man sure of his landing-place before he takes his spring. The coward dares not but buy when stocks are low for fear they will go lower still, and dares not hold when the downward current has set in for fear the tide will never turn; the rash, sure of that turn to-morrow, buys straight off for the account, and when settling-day comes round burns his fingers so that they are never able to be healed again. The coward is afraid to advocate the plainest truth against the popular opinion of the true and plain; the rash thrusts every kind of untenable heresy down the throats of the strictly orthodox, then wonders that the reaction which his excess creates does as much harm as the advocacy of professed partisans on the other side. The coward will accept brickbats without a murmur, and submit to all sorts of indignities whereby tyranny is encouraged and the wholesale respect due to humanity is disregarded. The rash will not bear the unavoidable rubs of life by which the player at bowls must look out for rubbers, but flings stones at shadows, and therewith sows a crop of armed men that pursue him to his hurt. At either end of the scale the two extremes meet at the same point; and meanness of soul which bears injustice and oppression with bent knee and drooping head has no different effect on a man's life from that excessive "spirit" which will not bear the necessary pains of humanity. In either case the man is overpowered; whether he submits without striking a blow for self-defence to the attacks of his oppressors, or invites his enemies to attack him by reason of the demonstration that he has made against them.

How often has not the extreme of love passed into the extreme of hate, and sometimes, if more rarely, the other way? What changes in political creed, in religious sentiment have carried men from one extreme to the other—from Calvinism to Unitarianism; from Romanism, where everything was believed, to free thought, where everything is denied; and from the fiery current of ultra Radicalism to the absolute stagnation of the Conservative Rip Van Winkle. Again, when very strict and virtuous people go wrong, how often they go wholly to destruction, not stopping half-way like so many others, but fulfilling the whole round without a break. Hitherto they have been noted for a prudence that was prudery—a virtue that was extra to nature; now they go headlong down the broad road, and keep none of the terms with propriety which even those whom once they would have spurned as children of evil think it good to keep. Where even the more than shaky have some regard to appearance, and put on the drag for form's sake, the ultra virtuous gone over to the sinners go at a hard gallop down the hill—that terrible *descensus Avernii*! and finish their journey at the bottom the quickest of all. So, the drunkard turned temperate, becomes a teetotaler who vilifies the man who was never a drunkard and yet is not a teetotaler; for the sinner turned saint is sure to be as extreme as the saint

who has lapsed into sin. The man who has known the most poverty, if he becomes rich, despises those of his brethren who are still needy and unprovided, with even more disdain than does he who never knew the want of superfluities, and whose purple is without a rent or a stain; the City scrivener knighted feels prouder of his tinkling cymbal than the duke does of his silver trumpet, and the extreme of vulgar arrogance matches the extreme of highborn pride. So the world goes on; and for the most part mankind gives itself up to these extremes, and finds it wise to show a fine contempt for the golden mean and the middle way by which the unexaggerated guide their thoughts and direct their steps. But, just as frozen mercury burns the skin like hot iron, so do extremes on either side, and on any question, for the most part lead to evil and end in pain; and the *tulissimus ibis* is now as ever to be found *in medio*.—(From the Queen.)

Early Rising.—Why is it that folk who like to do a thing are not content to do it, and leave others, unadvised, to act for themselves? Why should they insist on putting everybody into their pint measure, and condemning all who happen not to fill it exactly? This peculiarity is conspicuous in social habits, in the routine of every-day life. The man who confines himself to two meals in twenty-four imaginings he has cause of grievance against the man preferring three or four meals. The woman who enjoys society and travel feels uncharitable towards the entirely domestic stay-at-home body.

In nothing is this trait more observable than in getting up in the morning, about which people differ so very widely. They who choose to lie late are amiable enough towards those who believe, from a queer sense of hospitality, that they ought to welcome the dawn; that the dawn would be distressed unless they should cooperate with it, and keep it in countenance for its premature coming. But the early risers are not so kindly or so tolerant. If not positively inimical to the late lier, they greatly disapprove of him wholesome countenance against his habit.

Can any one tell why the mere fact of being up at or before daylight yields to a man an assurance of a moral superiority? What specific and shining virtue is there in leaping out of bed and dressing one's self in the dark? What crown of honour is conferred upon the fellow who, unable to sleep in the morning, bounces up betimes to advertise such incapacity? These be subtle questions, and their answers inhere in the mysterious root of things. But there can be no question that the habitually early riser conceives that the Ten Commandments are conserved in him, in addition to an ample system of ethics. When he appears at breakfast, he is very likely to ask those at table when they rose, feigning ignorance on a point on which he takes particular pains to be informed. Having been told that they rose at six, or seven, or eight o'clock, he invariably announces, with grand gusto, "Why, I was up two hours before any of you!" Then he proceeds to patronise in a very lofty manner, the inferior mortals who are not ashamed to confess that they have no prejudice in favour of getting up in the middle of the night. Nor is he content to enjoy this exalted triumph once, twice, thrice, or twenty times. Every morning he plumes himself anew, puts the same question, and each time adds to his moral worth and personal consequence.

What offence is there in sleep, that to protract it in the morning should be visited upon us so severely? Casuists have informed us that man is always sinning, except in sleep, which should therefore be ardently encouraged, whether before or after dawn. Do the Seven Sleepers typify the Seven Deadly Sins, or does the early riser design to bamboozle our theology? We suspect the latter, for he is an incomprehensible, wholly inconsistent person, who obviously thinks that his matutinal self-levation should atone for any and all other defects whatsoever. It is not sleep, but sleep in the morning to which he is hostile. He is fond of saying that we cannot be in bed too long before midnight, or too briefly after daybreak. And then there is some sort of iniquity appertaining to the bed. He himself will frequently get up at four or five o'clock, and, after dressing, descend to the library or sitting room, throw himself on the lounge, and be dozing in five minutes. He does not feel any shame for this either, although at breakfast he will be ready to hector his sons or brothers-in-law, who were at the same time innocently asleep overhead for being irredeemable sluggards. It is noticeable that the early riser often compensates himself for his greeting to the dawn by frequent naps between that hour and his regular bed-time. He gets up, but only to lie down again; he is not up for all day, nor is there

need of it, in his judgment, after he has performed the one important duty.

The whole matter lies in this: it is good for persons to rise early who want to do so, or who have something to occupy them, but they who have no necessity, and enjoy sleeping, ought to be privileged to lie abed without discredit or condemnation. This is rank heresy we are aware, but we are averse to fanaticism even on this time-honoured subject. There are virtues altogether independent of the hour of getting up, and some men who have slept late have gone to their graves with blameless records, and left large estates for their kindred to quarrel over. To get up merely for the sake of getting up is not of necessity a saving grace, and vices might be named—it is true they are deep and dark—which it will not expiate. Late sleepers have so long been bullied and persecuted that they would seem to have earned indulgence. The inexorable early riser should compassionate them at last, and permit them to go to perdition, if they will, on downy beds of ease. Even if they be resolved to rush upon destruction from hair mattresses, let them rush, while he may seek absolution for non-interference by getting up for six months at two o'clock in the morning.

It is well not to be beguiled by saws and counsels on the subject. Most of them had their origin in a distant era, and under conditions totally different from those now existent. Our remote ancestors went to bed early because there was nothing else to do. Their descendants of to-day go to bed late and get up late for very much the same reason. Country folk seek their pillow from sheer fatigue, from weariness, from want of mental stimulant. City people avoid their pillow, for at dark their recreation begins, and the joys of the night are poetic and manifold. The latter half of the nineteenth century is an age of gas-light, of midnight suppers, of nocturnal pleasures, of turning night into day. He who goes to bed early cannot see the realities or the ghosts of the time, and to rise early would subject him to a splendid isolation, besides fitting him ere long for a sleep in the cemetery.—(From the N. Y. Times.)

History in Schools.—There is hardly any department of education which has attracted more attention of late years than history. A generation ago it was almost wholly neglected. Boys were expected to learn the main outlines of Greek and Roman history; but the development of modern nations was ignored, even that of England being only superficially studied.

Two theories of the proper mode of teaching history are now frequently discussed. One is that a particular period should be selected for study, not the whole history of a people or of the race. The other theory favours exactly the opposite course. The ground of the former is that if too wide a field is gone over it is impossible to interest young students. Their attention, it is insisted, is distracted by the mass of facts they must master, and as a rule they forget almost as quickly as they learn. On the other hand, a special reign, or a special series of events, may be examined with tolerable minuteness, and it is possible to form some degree of intimacy with the figures that stand prominently forward on the foreground. There is undoubtedly some force in this contention: but it overlooks one fact—that no historical period can be perfectly understood if taken apart from all other periods. Every one ought now to be familiar with the idea of the continuity of history. The best recent historians object even to the venerable distinction between ancient and modern history, on the ground that although it may be of service in marking profound differences, it gives the impression that there was at one time an absolute break in human progress. It is impossible, they urge, to point to a date when what is called ancient history stopped and modern history began. Each shades into the other, and the earlier have left their traces in every important element of the later developments. For a like reason an energetic historical school has long protested against the custom of treating the Norman Conquest as the true starting point of the history of England.

The chief blunder hitherto made in teaching the history of a nation or race has been the attempt to impress on the minds of pupils far too many dry facts. Most men and women remember with horror the lists of dates they were expected to learn at school: and they may be excused if they do not see any very great benefit that sprang from this overburdening of

the memory. What is really needed is not an enormous number of details, but an intelligent comprehension of the broader aspects of history—a general view of the direction of progress, of its leading stages, and of the great forces by which it has been effected. In no other way is the imagination touched by the subject and curiosity awakened and sustained. At the same time it is to the individual element that attention should be chiefly directed. We all know that in the long run general causes are even more effectual in producing change than the influence of individual minds; but these causes can always be most forcibly suggested by the study of individuals. Luther did not really produce the Reformation in Germany; but acquaintance with his character and activity forms by far the best introduction to the study of that vast movement or series of movements. The age of Louis XIV. is not summed up in him, but it is most readily understood if its main facts, so far as France is concerned, are grouped around his name. The difficulty is that in using the foremost name of an age in this way, ordinary schoolmasters are apt to overlook everything with which it has no direct connection. Yet nothing is more certain than that history should include a reference to all the deepest elements of national life. It is not less important to understand the work of Michael Angelo than of Pope Julius II, or the works of Shakespeare than that of Queen Elizabeth. Politics, literature, art, and all other great departments of activity exercise more or less indirect influence on each other; and when the whole movement of a people is studied, none should be left out of account. So long, however, as they are not the object of special study, they can of course be presented only in general outline.

There is one reform in the teaching of history which is urgently needed; and that is its intimate association with geography. At present, maps are too often not referred to in connection with history, and when they are the reference is usually only to maps of the world as it is now divided. This is the source of endless blunders. A boy, for instance, hears of Saxony in the twelfth century; he at once thinks of the Saxony of to-day, and the chances are that he never quite gets over the confusion. Even when no absolute mistake results from the existing system or absence of system, it neglects an obvious mode of making the mind retentive. Every school in which history forms part of the course ought to be provided not only with maps, but with a series of historical maps; and not a town or boundary should be named without instant reference to its position. If this was done history itself would be more intelligently learned, and geography, now one of the dullest of studies to young people, would receive fresh interest. It will be all the better if, when geography is the direct subject of study, it should be illuminated by as many allusions as possible to historical associations.—(From the London Globe.)

Spectacle of the Heavens.—I had occasion, a few weeks since, to take the early train from Providence to Boston; and for this purpose rose at two o'clock in the morning. Everything around was wrapped in darkness and hushed in silence, broken only by what seemed at that hour an unearthly clank and rush of the train. It was a mild, serene midsummer's night; the sky was without a cloud, the winds were hushed. The moon, then in the last quarter, had just risen, and the stars shone with a spectral lustre but little affected by her presence; Jupiter, two hours high, was the herald of the day; the Pleiades, just above the horizon, shed their sweet influence in the east; Lyra sparkled near the zenith; Andromeda veiled her newly discovered glories from the naked eye in the south; the steady Pointers, far beneath the pole, looked meekly up from the depths of the north to their sovereign.

Such was the glorious spectacle as I entered the train. As we proceeded, the timid approach of twilight became more perceptible; the intense blue of the sky began to soften; the smaller stars, like little children, went first to rest; the sister beams of the Pleiades soon melted together; but the bright constellations of the west and the north remained unchanged. Steadily the wondrous transfiguration went on. Hands of angels hidden from mortal eyes shifted the scenery of the heavens; the glories of night dissolved into the glories of the dawn. The blue sky now turned more softly gray; the great watch stars shut up their holy eyes; the east began to kindle. Faint streaks of purple soon blushed along the sky, the whole celestial concave was filled with the inflowing tides of the morning light, which came down from above in one great ocean of radiance; till at length, as we reached the Blue Hills, a flash

of purple fire blazed out from above the horizon, and turned the dewy tear drops of flower and leaf into rubies and diamonds. In a few seconds the everlasting gates of the morning were thrown open, and the lord of day, arrayed in glories too severe for the gaze of man, began his course.

I do not wonder at the superstition of the ancient Magians, who, in the morning of the world, went up to the hill tops of Central Asia, and, ignorant of the true God, adored the most glorious work of his hand. But I am filled with amazement when I am told that in this enlightened age, and in the heart of the Christian world, there are persons who can witness this daily manifestation of the power and wisdom of the Creator, and yet say in their hearts, "There is no God"—Edward Everett, at the inauguration of the Dudley Astronomical Observatory.

Rest—Repose—Sleep.—One needs rest from cares, watchings, and mental excitement quite as much as from manual labor. Indeed, brain work is much more exhausting than mere bodily work. One may set his physical machinery in moderate motion, and keep it in vigorous action, with brief stops to lubricate or feed, day in and day out, without exhaustion. Manual laborers, who do not dissipate, are invariably sound sleepers; while the writer, teacher, speaker, and thinker, is liable to wakefulness, owing to his greater mental activity.

The laborer needs rest, food, and sleep to restore him; while the thinker needs these, and also a period of mental repose before sleeping, to establish equilibrium between body and brain. His mind must not be kept on a stretch. The mental bow must be unbenched, or even his sleep will be fatiguing instead of restful and restoring. Watching night after night with the sick, and sleeping in snatches, is unsatisfactory. Besides, the duty of vigilance obliges the watcher to carry his or her patient constantly in mind, and this wears one out.

When possible, we should so shape our course as to take enough out-of-door fresh air and physical exercise to bring all parts of our physical and mental machinery into harmonious action and give the whole ample time for rest, repose, and recuperation. Sound sleep is 'nature's sweet restorer.' Let us make sure of this, even though our food be insufficient. Good sleepers seldom go crazy. Poor sleepers are liable at any time to break down, get off the track, commit indiscretions, become irritable, seek to injure others, commit suicide, or culminate in a lunatic asylum.

No exact rule as to the time one should sleep can be given. One is satisfied with six hours; another wants eight; and another ten. Children should sleep from one-half to three quarters of the time. Adults may do with less. Very few under eat; very many under sleep.

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