

TECHNICS.

If in the treatment of the preceding subjects the influence of the teacher had to be either directly pointed out or indirectly seen by inference, in the following series of chapters under the general head of *Technics*, another class of workers in the educational field will have their labors and responsibilities more prominently considered. There are the various officials operating in the capacity of school boards, boards of trustees, boards of education, and superintendents.

In times past, the success in anything not connected in some way with church or state, depended mostly upon individual effort, judgment, pluck, popularity, or good fortune. Society, however, with the assistance of state-craft, legislative enactments, mutual agreement, or the pressure of public opinion, has been gradually widening the field, regulating and systematizing what was left before to individual enterprise. This tendency finds intensified expression in the agitation of the Socialists of our day. As its ultimate consequences, Socialism, would absorb all the chances for individual self-activity, and combine them into one huge crystallization of society; a tyranny in comparison with which the reign of a Nero or of a Genghis Khan would be a paradise. Socialism, and its twin brother, Infidelity, are engaged in a work of destruction. Destruction of faith in the certainty of heaven leads to destruction of faith in the divinity of man.

There is a beautiful medium, a line across which the beam of the scale may oscillate seeking to find equilibrium. But equilibrium in its absolute sense will never be reached in this

stage of existence. The social questions agitating the nations in our day will find their final solution in the Order of Enoch to be established when the Prince of Peace shall come to reign on earth a thousand years, and Satan be bound that he may no more sow the seeds of discord into the hearts of the children of men.

The cause of education has been, is, and will be for some time to come, subject to all these influences. It is the duty of the guardians of the school to throw around it such moral and legal protection, to render it such substantial and intelligent support, and to provide it with such available facilities, as will enable it to perform its mission among the people, namely, the moulding of the minds of the rising generation for the comprehension and execution of life's responsibilities.

The work of school authorities is of a nature, requiring a degree of integrity, intelligence, and devotion, that is as yet little appreciated by the generality of the people. This is manifest by the indifference with which the claims of partisanship are acceded to, or with which persons, ill-qualified by character, intelligence, and disposition are chosen to these important offices. Some wide awake communities in Utah have emancipated themselves from this slothful spirit, striking out along new lines, and choosing men for these offices that will labor with well advised and wisely directed zeal for the greatest good to the greatest number.

But even the best organized boards of education are as yet, in the most instances, defective in one particular, which ought to be rectified in future at every election; that is, the absence of lady members. One half of the school population belongs to the female sex, and therefore women are entitled to representation in every board of education. The prevailing defect in this regard finds its explanation only in the prejudices of the past.

President Brigham Young, with the foresight characteristic of him, selected a lady as one of the members constituting the first Board of Trustees of the Brigham Young Academy, at Provo, in 1875. This arrangement has not only been kept up ever since, but has been followed by most of our Church boards of education. It is to be hoped soon that no one will be found who would not grant so just a recognition of the female sex. The generous support, wise counsel, and gentle influence of women are factors that our schools stand much in need of today.

The first item of consideration for all boards of education is the question of *Finances*.

CHAPTER I.

FINANCES.

THE sources from which the funds at the disposal of an educational board may spring, are various. They may be derived from taxation, tuition, endowments, voluntary contributions, proceeds from sale or rent of properties, from individuals, from entertainments, concerts, lectures, etc.

Upon the proper handling of these funds, as regards receiving and disbursing, depend not only the successful maintenance of the respective institutions, but also public confidence in them.

All business matters must be conducted on business principles which recognize no other authority than a strict accounting. Not only should complete statements of such accounts, endorsed by properly qualified auditing committees, be ren-

dered, at specified times, but they should also be open to the inspection of any one whom they may concern. The neglect of this important point has been, in many instances, the cause of retarding the progress of education among the people.

It must be acknowledged, that in far too many instances, the funds for school purposes have scarcely been commensurate with the requirements of the occasion, and a degree of economy had to be practiced that seemed to verge on parsimony.

There is a species of economy that is reprehensible, having not a single extenuating feature about it, and that is the "Cheap John" principle followed by some school authorities. They make a teacher's engagement depend upon the lowest bid, or provide a school with furniture and utensils upon the "makeshift" plan. The evil of such a course does not consist merely in the fact that the pupils in such a school can not make as good progress as more favored ones do, but that they are too often injured beyond reparation, physically, morally, and intellectually.

On the other hand, school authorities are often suddenly seized with a spasm of grandiose enterprise. They devise the plan of a magnificent school building with towers, halls, stair cases, porticoes, stone fronts, etc., lavishly expending the funds on hand and borrowing from the future. A majority of the taxpayers are worked up to the point by the plea that the building will be an ornament to the city, attract well-to-do people to settle in the place, and by other reasons just as irrelevant to real educational interests.

After the costly edifice is erected and furnished, it is found that the treasury is bankrupt, and the authorities are obliged to cut off a term or two from the regular school year. The consequence is that first class teachers go elsewhere, and second rate teachers, or such as happen to make it convenient

to accept positions on half-time, have to be taken instead. Sometimes it is even found, that the fine building is too small to accommodate all the children of school age, and great numbers have to stay at home. The necessary accommodations had been sacrificed to a fine show.

FREE SCHOOL SYSTEM.

Much controversy has been indulged in over the question of free schools. Without recapitulating all the threadbare arguments that have been brought forward against the system, or attempting to refute them anew, I shall content myself with alluding to the chief argument opposed to the idea, in order to show its tenuity. It is said, that it would be unfair to compel any man to pay for the education of somebody else's children.

If a necessary degree of education for every child were to be classified with other necessities of life, as for instance, food, clothing, shelter, etc., the want for it, would become a subject of charity, as in the case of the wants mentioned. But education in any of its stages should never be degraded to the condition of being indebted to charity, as such a condition would defeat, on the start, one of the chief aims of true education—development of self-reliance and independence. Every free and honest character returns an equivalent, and, if possible, more than an equivalent for everything he receives.

Yet there are too many people in this world who are financially unable to educate their children, or perhaps are too ignorant, careless, or opposed to obtaining an education, to make it safe for society to trust to individual effort.

The old saying, that a stream can not rise above its fountain, finds its most fitting application in a country like ours. Here the masses of the people constitute, so to speak, a great reservoir from which all the channels of public life diverge.

If that great central mass is morally and intellectually at a low level, what altitudes of intelligence, virtue, patriotism, prosperity, and higher aspirations can be reached and vivified by its outlets?

Individual efforts for the amelioration of the masses like the mission of John the Baptist, "serve to prepare the way," but the pathways of such lovers of their race are often strewn with the thorns of martyrdom. Such noble efforts can become effectual only through their general recognition and adoption by the people.

Society and state have three great enemies to struggle with, viz: ignorance, poverty, and vice. These are the causes of all the miseries that effect the body politic. To reduce them as far as possible, to a minimum, and to fence them in so as to prevent them from spreading and exercising their pernicious influences to the detriment of the general weal, must be always the aims of the philanthropist, philosopher, and statesman. The most powerful agent at their disposal is education in its complete and truest sense.

There is a general education continually going on by means of the daily press, literature, associations, lectures, etc., but when the foundation of a sound education in early youth is lacking, the superstructure can never be more than patchwork, an education without system, coherence, consistency, or reliability; for the agencies just mentioned are themselves fluctuating and unreliable, being the products rather than the cause of any given state of society.

Society, therefore, has to dig more deeply for the bedrock upon which to build its edifice of prosperity and progress. Next to the fireside, this bedrock is the public school system. All classes of society are concerned alike with the conditions of the fireside and the school, for these factors are inseparable in their sympathies. Neither can suffer or prosper without a corresponding reflex upon the other.

This is the reason why the question of free schools concerns not only those classes which, speaking from a mere financial point of view, would be directly benefitted, but also those whose support would seem to be a sacrifice.

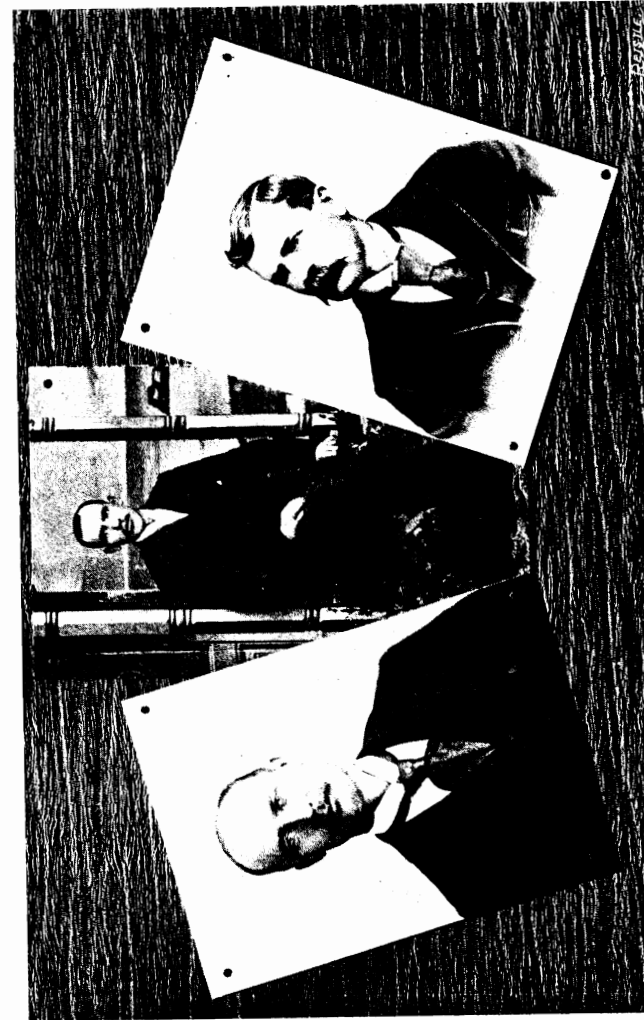
The financial point of view is, however, an exceedingly superficial one from which to decide the justice or merits of the system. The benefits accruing from the general diffusion of knowledge, sound principles, and good habits, among the people are so all-pervading that even the most favored families in the land become the recipients of them. This is true to such a degree as to make an increase in the school taxes an insignificant item in comparison with the general advantages derived from the free school system.

Granted, for the sake of argument, that all are agreed in regard to the advantage of the free school system, there is yet a point of considerable discussion even among some of its most fervent advocates, and that is as to whether compulsory attendance should be part of the school law.

I am unequivocally for compulsory attendance.

The objection is raised that compulsory attendance interferes with personal free agency of children, and infringes upon the rights, and lessens the authority of parents.

All this can be answered at once by the uncontrovertible argument, that the free school system without compulsory attendance would place all the responsibility and burden upon one side and the enjoyment and benefits on the other, without equitable distribution of both. The state or community on the one side would be duty-bound to support and keep open the school for a stipulated time, but, on the other, every one would have the right to avail himself of its benefits, when or how long it might suit his purpose or inclination, or not at all. This would result mainly in the attendance of only such as would have gone to school anyhow, free school or no free school, but a great portion of those whom it was especi-



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ally desired to reach, would either stay away entirely or drop off on the least pretext.

Wherever this kind of free schools has been tried it has proved a failure, so that either the free school system had to be abandoned, or compulsory education adopted as part of the system.

Every fireside has its rights, foremost among which is the sanctity of the family altar. Thousands of people would defend this right with their life's blood. Nor would they tolerate the least infringement upon it.

With the adoption of the free school system, and its indispensable concomitant, compulsory attendance, there arises, however, the danger that many families, sincerely devoted to their particular religious belief, may not find sufficient assurance against sectarian and infidel influence being brought to bear upon their children, contrary to faith inculcated at the fireside.

Knowing the influence which every experienced teacher can exercise over his pupils, even in the most technical studies, I admit that this apprehension is not entirely groundless. Many teachers have been known not to make any secrets of their particular proclivities and to sow, insiduously, seeds that have produced a harvest of evil tendencies in many lives.

School authorities must therefore be conscientious and wide-awake guardians of this public trust; they must be open always to any complaint in this respect, and take steps to remedy the evil in such a way as the gravity of the occasion may require.

SYSTEM OF FULL OR PARTIAL TUITION.

If spoken of in connection with public schools, this system must be considered a remnant of the primitive educational

conditions prevailing before the free public schools became a recognized factor in the affairs and interests of a nation.

Private and denominational schools, if not in possession of large endowments, or enjoying the support of private donations, are necessarily dependent upon tuition for support. Tuition in such cases assumes the nature of a contract between the school authorities and the pupils or their legal guardians. This may be regulated by grade, length of attendance, number and kind of studies, and other specifications.

Many high schools, academies, colleges, and universities, operate under such favorable conditions that they are enabled to charge a merely nominal entrance fee, or perhaps some small amount annually for library purposes. Some have even established stipends for deserving students.

Full or even partial tuition is open to many serious objections. It is unwise in that it prevents many children from attending school altogether, or a great part of the time, as their parents are either unwilling or unable to pay the tuition. When the further fact is taken into consideration that many ignorant people show more concern for the good condition of their cattle, horses, and pigs, than for the cultivation of their children, it is not to be wondered at that the payment of tuition is often looked upon as something to be put off as long as possible, or to be avoided in some way or other.

It is unjust. When added to this lack of appreciation, which the teacher must always face, the collection of the tuition is also left to him, as it used to be in the early days of Utah, the humiliations to which teachers were sometimes subject, were not only injurious to their pockets and feelings, but are degrading to the cause of education itself.

No unendowed school, professing to be up to the requirements of the times, can be self-sustaining by tuition alone, unless its charges are placed so high as to exclude all poor

children from entering. The sooner, therefore, the last vestige of this mode of carrying on public schools disappears from the land, the sooner will the people enter into the full enjoyment of the blessings of a thorough general education.

ENDOWMENTS.

Whether originating in vanity, ambition, qualms of conscience, or in motives of real philanthropy, endowments to institutions of learning are unqualified, lasting, and ever reproducing benefits to humanity. Without them very much of the prestige which the present era of civilization enjoys over all others, could not have been reached. This statement has not only reference to the large endowments, amounting to millions, of a Girard, a Johns Hopkins, a Stanford, a Rockefeller, and others, by which whole universities, colleges, etc., were established, but also to endowments for single chairs, scholarships, libraries, laboratories, cabinets, buildings, grounds, or to small sums of money, all of which contribute their share to the great work of human progress.

The blessings accruing for such endowments come not only from their material value, but also from the inspiring and ennobling influence which they exercise. They demonstrate the fact that the materialistic tendencies of the age have not yet succeeded in obliterating entirely the appreciation of the higher aims of humanity. They furnish to growing intelligences ever-present object-lessons, inspiring a gratitude which seeks expression in a career that shall repay humanity the benefits received through such endowments in the days of youth.

The author is acquainted with an incident in the life of a rich man, to whom was suggested the idea of endowing a certain educational institution that he might perpetuate his name with honor among the people. He did not, however,

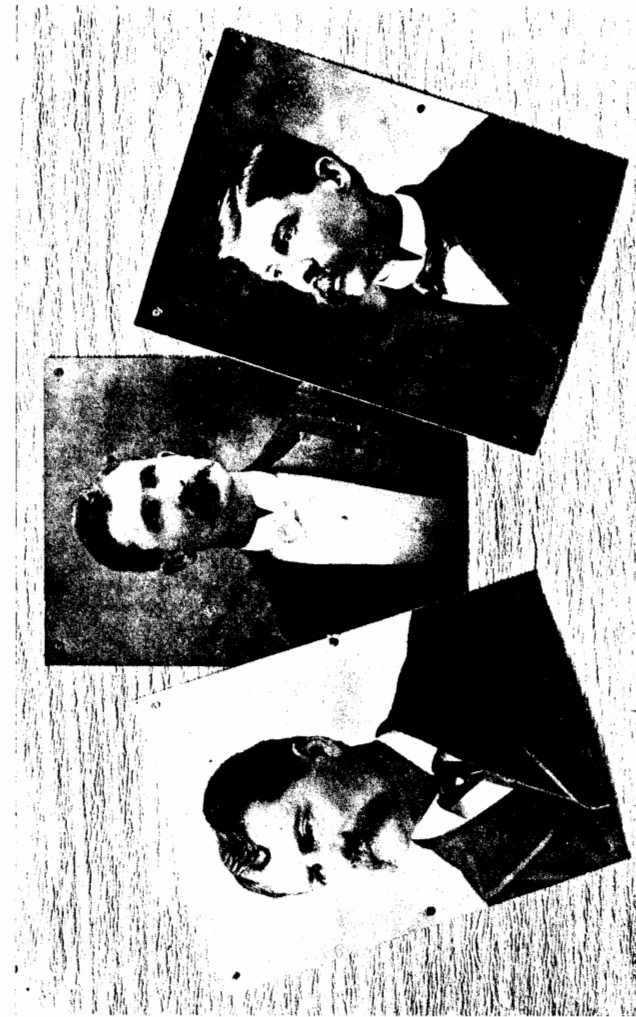
possess that magnanimity of soul which would have enabled him to make what would have been to him a comparatively small sacrifice, and so died without following the suggestion.

It is quite a common custom in Germany and adjacent countries, for citizens to arrange for so-called "Freitische," or free meals for poor students, to be taken either at a common boarding house, or with the family. This custom, notwithstanding some objectional features, has been the means of materially assisting many worthy young people in finishing their studies.

Although American students would, perhaps, consider an offer of this kind too humiliating for acceptance without rendering some equivalent in the shape of service, intelligent and benevolent citizens could find many ways by which similar assistance could be given to deserving students without doing violence to the praiseworthy feelings of self-respect of the latter.

Another, perhaps smaller, but no less acceptable and valuable contribution to the cause of education, consists in the presentation to schools, of books, rare specimens to cabinets and museums, apparatus, charts, models for physiological and scientific demonstrations. All these are testimonials of the interest which private citizens take in the cause of education, and are within the reach of almost every man and woman.

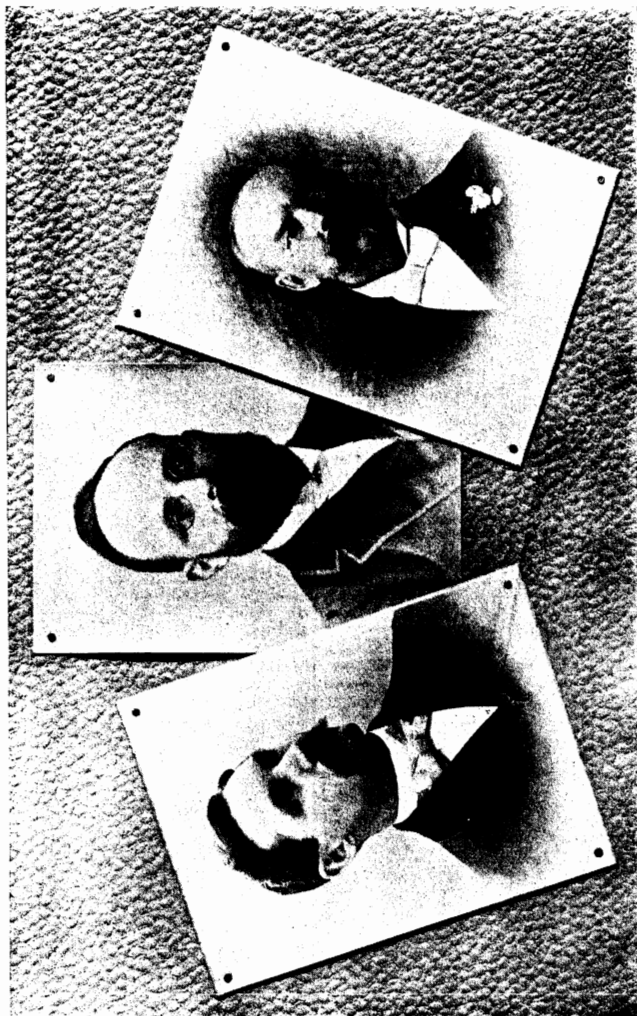
It is the custom in some countries of the old world to have coats of arms, ships, tablets, and memorials of various kinds, hung up in churches, to perpetuate the names of certain individuals or families of the parish. This venerable custom, though very limited as to its usefulness, could be greatly improved upon in our country by families making useful donations to public schools, thus perpetuating their names for future generations, and letting these presentations be signs of a covenant in behalf of themselves and their descendants,



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to be true forever to the cause of human progress. Thus one more bond in the great union between school and fireside could be formed.

CHAPTER II.

SCHOOL BUILDINGS.

A SCHOOL building, in the proper sense of the word, can be a school building and never anything else. Just so far as this point is lost sight of, and the design takes other purposes into consideration, to that extent the fitness of the building for its real purpose is lessened and a corresponding inconvenience created. If the violation of the principle just stated caused only inconvenience, the case would not be so bad. Inconvenience may be measureably circumvented by judicious arrangement in school plan and program. But, all other things being equal, it would be impossible to meet the requirements of modern education in such a building to the same extent as could schools more favorably domiciled.

There are several leading points which school authorities ought to take into consideration before deciding definitely upon the erection of a new school building. The first one of these is

LOCATION.

In too many instances the only consideration in regard to the location of a school building is the price. Wherever, within the district, grounds can be obtained at the lowest rate, there the school building will be erected. However

legitimate and proper financial considerations may be, they constitute only one of the factors to be taken into account.

It also happens occasionally, that the location of the building is decided upon in compliance with the special interests or convenience of influential citizens.

Another very reprehensible policy is the erection of a number of small buildings scattered throughout the town, in order to bring the school as near to every man's door as possible, instead of having one or two large school buildings wherein the various grades can be under the supervision and direction of experienced principals.

Some communities are visited by epidemics among children oftener and more severely than others. In such cases the causes have often been traced to the location of the school house either near a swamp or cesspool, exhaling malarious effusia, or by a spring or well impregnated with unclean substances.

There are also school houses located at such inconvenient places that children can reach them, especially in winter, only after long exposure to storms and colds. Their feet cold, shoes, stockings, and clothes soaked, and the school house exposed to fierce winds howling around it, many children, especially girls, contract diseases, that too often produce decadence and premature death.

School authorities should be careful that buildings be as far removed as possible from dangerous places, as for instance, railroad crossings, depots, precipices, stone quarries, or other places where accidents are liable to occur at any moment. A terrible landslide in one of the cantons of Switzerland, which came very near burying a school house with several hundred children, taught the authorities the necessity of removing their school to a place of greater safety.

An indispensable requisite for a successful school is quietness. The location of the school, therefore, ought to be in

a quiet neighborhood, where the turmoil of public thoroughfares, the clanking of forge hammers, the sound of running machinery, and the shrieking and thundering of passing trains, may not distract the attention and disturb the exercises of the pupils.

SIZE AND ARCHITECTURE.

It has been the cause of much gratitude to our Heavenly Father to notice the multitude of children that enliven even the smallest settlements of our people. In consequence of this characteristic, the question of suitable accommodation for our ever-increasing school-population is assuming an importance that outweighs all other considerations of public weal.

There are "school houses and school houses;" any variety of them, from the log school house with a large wood stove and a collection of different joints for a pipe suspended by wires from the ceiling, a rotten floor and patched windows, to fine buildings with porticoes, towers, and stone fronts. But, it appears, that the size of all of them has been calculated according to the number of children of school age, at the inception of the movement for their erection, without taking into consideration the rapidly increasing number of school children in every community. In consequence of this oversight, most of our school houses are not only over-crowded at certain seasons of the year, but prove actually inadequate to the school population, and great numbers entitled to the rights of the school room, have to be turned away.

Allowing space for about one-fifth more than the number of the school population at the time of starting a building, will usually meet the requirements of a community for some time to come. The general rule for floor space is four feet square for every pupil in each class-room. Class-rooms at that rate should be constructed to hold from sixty to seventy

pupils at the utmost. This would provide sufficient space for teachers' desk, recitation benches, and aisles. Department rooms for each grade are indispensable, to which may be added an office for the principal, a teachers' consultation room, a library, and cabinet, according to circumstances.

The height of school rooms should be about fourteen feet. If lower it would not furnish sufficient cubic space for fresh air in crowded rooms, especially when the windows may have to be kept closed on account of cold or stormy weather. If higher, the acoustics of the room become correspondingly difficult for speaking and hearing.

All apartments of the building, including passages, and stairs, should allow an easy and quick exit without interference of one pupil with another.

The architecture of a school building has been the cause of much controversy and contention in many communities. There are some leading principles governing the erection of school buildings, especially in reference to the common schools, principles which authorities would do well to instruct their architects to observe in making designs. These principles are, durability, appropriateness, simplicity, and good taste.

As long, however, as motives of speculation, vanity, and ambition, are suffered to intrude themselves in the conception of a building that in itself should constitute an object lesson to the rising generation, any attempt at realization of these principles might as well be considered the dream of an idealist.

Assuming, for argument's sake, that plenty of means are at the command of a board of education, such happy circumstance should not justify them in violating any of these standard rules of school architecture.

There ought to be no feature or part of the building without a specific purpose of utility, no ornament without signifi-

cance. Indeed, there should be no pretentious display of useless ornamentation at the sacrifice of substance and solidity.

Geometrical symmetry is no more the only requisite of tasteful architecture than a strict compliance with the laws of counterbase alone is good music. Every ornament should symbolize some principle connected with the purpose of the edifice.

I remember a painted cornice in a certain school house representing dragons in fanciful arrangement along the ceiling. A more discordant and inappropriate design of ornamentation for such a place is scarcely to be imagined.

Inseparable from the main buildings are the surroundings. They should consist in playgrounds and separate back yards for the two sexes.

Every observing person knows that premises, kept clean and respectable under proper supervision, are treated with a certain degree of reverence by the most reckless urchins, while, on the other hand, untidy and neglected surroundings are looked upon by those mischievously inclined as legitimate objects to play their pranks upon.

Playgrounds covered with clean and dry gravel or sand, having benches under shady trees, here and there a few shrubs and flowerbeds, and the whole enclosed by a substantial railing, are incalculable incentives for good manners and decent behavior, and as such assist materially in the maintenance and discipline in school.

But as to the backyards. How often has the author been considered a crank on his educational tours of inspection in days gone by, when, on his arrival at a school house, he invariably went first to inspect the backyards and outhouses. Finding them, in some instances, either wanting altogether, or of an unspeakable description, his heart sickened at the contemplation of the physical and moral conditions that must

inevitably ensue among the school children from such criminal neglect.

Not only does the suppression of bodily necessities, enforced upon sensitive children by the absence of suitable accommodations, too often become the cause of serious and lasting disorders, especially among young girls, but the influence of untidy, obscene, or not sufficiently separated out-houses casts its blighting and debasing shadow over the immortal souls of susceptible youth.

LIGHT.

"Let there be light!" was the blessing with which the Creator consecrated this world as a habitation for His sons and daughters during their sojourn in this state of mortality, and "Let there be light!" should be the maxim in every school and fireside.

What is the cause of so many children, even of tender age, going around with spectacles? Young people of both sexes are seen with these appendages in ever-increasing numbers not only in our larger cities but in localities where such phenomena were unthought of a decade ago. It cannot be on account of fashion, or for the sake of vanity, for there is neither a particular beauty nor convenience connected with this habit, nor can any satisfaction be derived from this open confession of the crippled condition of the most prominent of all the senses, a confession which should really appeal more strongly to our sympathies than the crutches of the lame or halt can do. This statement seems startling only through the fact that the frequency of the habit has blunted our sensibilities in regard to it.

No reference is made here to dudes who with their mon-ocles endeavor to sharpen their physical vision, their mental one being hopelessly obscure anyway. Sympathy would be

wasted in their case, as they are happy already in their self-admiration.

Among the many causes at work to produce the real or imaginary necessity for wearing spectacles, is the condition of light in school-rooms and homes. In the case of the former, it appears, that only at a comparatively recent date, the light question has received that consideration in the construction of buildings and arrangement of rooms, which the importance of the subject demands. In the case of the latter, nothing but incidental attention has been paid to it as a general thing thus far.

The greater number of our school buildings, especially those of the primary grade, are open to severe criticism in this respect. Some of them are so constructed that the pupils have to face the light, as the windows are only at the front side, or the light comes from opposite sides, or from the right side only. These are the worst situations and most injurious to the eyesight. The degree of their injurious effects ranges in the order named. These and minor evils of construction may be modified to some degree by frosting the windows in order to distribute the light more evenly throughout the room, or by arranging the blinds, but all these contrivances can never fully rectify the original mistake in construction.

The best light would be that coming from windows in the ceiling, but as that would be impracticable in the most of instances, the next best would be by elevated windows, the sills of which are to be above the heads of the pupils. Where this could not be done, let the blinds be arranged so as to cover the lower instead of the upper parts of the windows.

Parents also, would do well to remember these precautions during the home-studies of their children, and see that not only good lamp shades are provided for them, but the light at all times be sufficient by elevation above the eyelids.

The too frequent and in many cases premature adoption

of spectacles is a serious mistake and should be undertaken only on the advice of an experienced oculist.

Teachers and parents ought to unite their efforts to protect the eyesight of young people against injury. Each individual has a focus of his own, to determine which is the duty of every faithful teacher. The arrangement adopted in some of our leading educational institutions, of letting every student pass an optical examination to find his focus and to instruct him in regard to its observance, should be followed in every school.

It is to be hoped that legislative enactments will regulate these matters by and by.

TEMPERATURE AND VENTILATION.

These two, inseparable though they are in the performance of their mission, are brought, nevertheless, under unfavorable conditions or, by injudicious management, into serious conflict with each other.

Physical comfort in school and family circles is one of the requisites for the successful development and exercise of all physical and mental faculties.

As mothers seek with anxious solicitude for an interpretation of the language of fretfulness in their babes, in order to remove the cause, so should teachers be on the look-out for signals of distress or danger from among the pupils. Such signals are given by nature in regard to temperature, by drowsiness in hot weather, or in ill-ventilated rooms, or by coughing here and there in the room during spells of cold weather.

The temperature of a school room should not be suffered to fall below 60° Fahrenheit, nor rise above 70° Fahrenheit. It should be nearer the former in warm weather, and the latter in cold weather. A thermometer should be in every school room, and some one be appointed to make observa-

tions from time to time during school hours, so that the temperature may be kept at a normal status.

Heating by steam is the best mode for schools. There are many inconveniences connected with heating by stoves. The most objectionable feature of the latter mode is the unequal distribution of temperature. While often in winter more than a tropical temperature pervades the immediate neighborhood of the stove, the heat decreases at an "inverse ratio to the square of the distance," as astronomers would express it, until the furthest removed corners of the room are making acquaintance with the climate of the frigid zones.

It is a hygienic law that the lower parts of the body should be kept comparatively warm, but the head and adjoining parts correspondingly cool. This law cannot find a complete recognition by stove-heating, which does not reach the feet of the pupils stuck away under the desks and seats, while it surrounds the heads with a heated atmosphere.

Many chronic complaints creating a great susceptibility for epidemic diseases, and resulting frequently in premature death, are traceable to this inefficient mode of heating.

The improvements in this line are, therefore, not among the least triumphs of modern civilization.

During cold weather many people mistake the animal heat, emanating from a big crowd in a close room, for the equivalent for a fire in a stove. Foul air is not only a poor but a very injurious substitute for a warm but healthy atmosphere.

This fact necessitates the calling into requisition the further factor mentioned at the head of this chapter, viz: ventilation. Fresh air is indispensable to life and health under all conditions, and its supply ought to be secured by the best contrivances within the reach of schools and homes. The blood running through the veins of man, requires constantly the purifying process of oxygen, which substance is supplied

to the lungs by inhaling. Exhaling is the process of throwing out the carbonic acid that has been formed in the lungs by a combination of oxygen and the carbon in the blood. This carbonic acid is a poison, accumulating in close and crowded rooms very rapidly, causing nausea, headache, and drowsiness, as first symptoms of its evil effects upon the human system. These symptoms, if unheeded, quickly develop into more serious attacks, and may cause death.

Where flumes with ventilators can not be had, doors and windows are the only other means through which the necessary circulation of fresh air can be effected.

Draft, that pernicious counterfeit of ventilation, ought to be guarded against by every teacher with careful solicitude. All windows should be so arranged as to permit a hoisting of the lower and a lowering of the upper parts. If only one part can be made moveable, it should always be the upper one, so that the current of air may pass above the heads of the persons in the room. Transoms should be adjusted in such a manner as to force the instreaming air toward the ceiling and describe a curve with the convex side upwards and thus become assimilated to some extent with the prevailing temperature of the room.

CHAPTER III.

FURNITURE.

THAT the teacher makes the school is true in every sense of the word, but, all other things being equal, the teacher, with good appliances, will more easily perform his task and accomplish more good, than the one who has to struggle with all kinds of inconveniences.

Besides the school building with its various parts and requisites, as spoken of already, there are several other indispensable items whose greater or lesser completeness and appropriateness contribute largely to the whole tenor and progress of a school, or may retard it as the case may be. The first of these items is *furniture*.

Without reviving the memories of those primitive conditions of early school times during the pioneer period of our people, when almost anything to sit on was good enough for a seat in school, and desks, when there were any at all, had to be constructed out of any piece of lumber that happened to be lying around loose—I proceed at once to the present state of affairs in regard to school furniture. I am proud to record the praiseworthy efforts of school authorities and people throughout these mountain regions in supplying the school with furniture of the most improved style.

This had to be accomplished, however, in many instances under heavy financial difficulties, which only the earnest devotion of our people to the cause of education could enable them to sustain.

Although the comfort and physical requirements of the pupils are the first points of consideration in the selection of

school furniture, experience is calling the attention to the inestimable value which the influence of a respectable school outfit exercises over the minds of the youth.

At the re-opening of one of our church schools, the visitors found it furnished with new desks, carpets on the floor, washstands supplied, walls papered and decorated, and even the backyards clean and neatly arranged. One of the visitors regretted that all these "fine things" would soon be spoiled. The young urchins, he thought, would scratch, whittle, and deface everything. The principal, overhearing the remarks, pledged himself to have the furniture preserved to a reasonable extent during the school year, inviting his visitors to call again at the close of the year. He was taken at his word forty weeks later at the closing exercises. Not a mark was visible on the walls around the premises, not a scratch on desk or seat, not a rent in the carpets, no damage to anything except the unavoidable signs of wear and tear produced by a crowd of about 300 children.

This commendable condition was the result of the teachers calling to their assistance the natural regard in the heart of every child for that which is beautiful and pleasant, and they thus succeeded in training their pupils from despoiling things that are good.

Every boy and girl is inclined to take good care of clothes, playthings, tools, or utensils of any kind so long as they are new, clean, and in good condition, but recklessness or indifference in their use increases in proportion to their soiled or dilapidated condition.

Many parents might take note of this principle to great advantage; not only will dilapidated, and untidy household articles be entirely ruined much quicker than "nice" ones, but that they also exercise a demoralizing influence upon the character of the children.

Slovenliness in these outward things reacts invariably upon the mind.

Hence, whether in school or at the fireside, untidy surroundings are accompanied by disorderly conduct as well as loose principles and habits.

CHAPTER IV.

UTENSILS.

AN enumeration of a complete school outfit would be as unnecessary, so far as information to school authorities is concerned, as it would be uncalled for in this work. In the case of the former, all educational publications are filled with advertisements of supplies from furnishing houses, and the choice from among them has to be regulated more or less by financial considerations. The aim and purpose of this work, direct the author along other lines.

Whatever blackboards, maps, charts, or mathematical, geographical, historical, physiological, and physical apparatus, may be at the disposal of any teacher, or whatever books, or writing material the pupils may have for their own use, one characteristic concerning them all ought to be considered essential, that is, a clean and orderly condition. It would be far preferable, for instance, to have no map at all, than to have a torn or defaced one.

If the benefit derived from the facility in demonstrating or illustrating a point must be paid for by habituating the eyes and minds of the youth to sights of slovenliness and disorder, the price is too high, and the transaction is a bad one.

If accidentally, or by constant use, any utensils should become damaged, and a new one could not be secured, the in-

genuity and adaptability of the teacher should devise means to repair the damage. Patched or mended clothes are no disgrace if otherwise clean.

None of the utensils for the purpose of instruction, and belonging to the school, should ever be allowed to be touched or handled by the pupils, unless by special appointment, blackboards, and objects deposited on the teacher's desk not excepted.

This principle, when once impressed upon the minds of the pupils, will not only insure the preservation of such articles, but also produce the far greater result of training the children in the habit of respecting public property.

In regard to the utensils used by the children as their own private property, as for instance, books and writing materials, the same rules as to observance of cleanliness and order and non-interference with the property of others, holds good. This principle should be inculcated by frequent inspection and careful supervision.

The question of school books has been a perplexing one from the beginning and will remain so for a long time to come, in as much as the speculative tendencies of publishing firms, the preferences of individual teachers, the financial capacities of the people to meet the demand, are not often found to run precisely in the same channels.

It cannot be denied that the ever-increasing multitude of school books for every grade, branch, and study, is an evidence of the over-wrought competition between publishers of this class of works.

It would be extremely unjust, however, to lay the blame for this condition exclusively at the door of the teachers. The spirit of high-pressure pervading everything in our nation, the system of competition between schools of every grade, the continuous change of teachers forcing them to make as splendid a record for themselves in as short a time as pos-

sible, are the chief causes of producing a feverish haste, which is too often accepted in lieu of solid and real progress.

These remarks may appear to some as deviating from the subject under consideration, but reflection will soon show the logical connection.

These reflections recommend themselves also to the consideration of parents, for the principles of order and cleanliness, to be observed in a school room, form the moral elevation and intellectual advancement of the pupils, are the same that ought to prevail at the fireside.

A home does not need to have a choice supply of commodities and conveniences in order to be a model for the children growing up there.

During the pioneer period of our people in these valleys of the mountains, I have seen dwellings dug out of the mountain side, with furniture made out of barrels and boxes, etc., that were, nevertheless, models of order, cleanliness, and refined taste. Poverty gives no license for disorder, slovenliness, and filth. There are, on the other hand, pretentious residences, furnished with all the luxury that money can procure, that in no wise present the spectacle of good taste or order, and would be far from being considered model homes.

The blessings of a model home have their source in the heart, springing forth from thence and enlivening the home whether surrounded by poverty or affluence, and blessed are the children that are born and raised near such fountains.

The importance of playthings for children is not as much appreciated as their far-reaching influence demands.

While some parents in their entire neglect of this educational principle force their children to seek diversion among the questionable influences of street companions, others are

falling into the other extreme by surfeiting their little ones with such a variety of playthings as to deprive them of lasting value in their eyes. Playthings should open a field for the exercise of the imagination, and give the child an opportunity for practicing invention, as, for instance, uncolored building blocks for boys, and for girls, dolls to be dressed as taste, fancy, and material on hand, may suggest; picture books, carpenter tools, etc.

Each child should have a receptacle of his own for his books and playthings, and be trained to keep them in good order, and to respect the things of his brothers and sisters, as well as those belonging to the other members of the family.

Great progress in the matter of regulating the plays of children and in teaching them to become self-entertaining, which is the first step to the principle of being *self-sustaining*, is being made by the Kindergarten movement. All parents will do well to avail themselves of the great help this movement is rendering them in training their children in a judicious manner.

I say again, have books, pictures, and things for your children to make the fireside as attractive to them as possible. Do not place them in the same deplorable condition as a certain young man was, who, as an excuse for loafing around the streets, confessed to me, *that he had nothing to stay home for.*

CHAPTER V.

LIBRARIES, CABINETS, ETC.

LIBRARIES and cabinets stand in the same relationship to schools and firesides as mill-ponds to mills and factories, or reservoirs to large tracts of irrigable land. They are reserves to which recourse for supply can be had in case of need.

The meaning of a complete library or cabinet is very relative, as it depends upon the requirements of every individual school or fireside.

A school library should contain at least a full set of each of the various text and reference books used at the school, an unabridged dictionary, an encyclopædia, a copy of the school law of the state, and one or two works on theory and practice of teaching from some of the leading educators. To these are added, in most of our schools, the standard works and leading publications of the church.

These numbers can be augmented indefinitely by voluntary contributions from friends and patrons of the school, if teachers and school authorities will take the proper steps toward inspiring the public with the idea.

If the statement of a celebrated botanist is correct, that there is no love in a house where there are no flowers, then my statement is true also, that there is no intelligence in a family where they have no books.

Books are tell-tales not only in regard to what they contain, but also in regard to those who keep them. Some family libraries are gotten up for the purpose of parade, and they give themselves away to that effect by their elegantly bound but unused appearance; (some are well used but betray the

shallow and superficial character of their owner,) some are an honor to their possessors by the worthy championship in which they find themselves with one another and their masters, and showing the latter's intercourse with them by marginal notes, book marks, notes, and interpolations.

Besides this general family library, which should be accessible at all times to the younger members of the family, every child should be taught to keep his own set of books, take pride in them, and be encouraged to study how to increase their number by honorable and praiseworthy means, and by suitable selections.

As the establishment of a reading room in every one of our public schools is out of the question, notwithstanding the great desirability of such an arrangement, our Sunday schools and Mutual Improvement Associations supply this deficiency to a great extent, so that the most of our school children have the benefits of some library within their reach.

The advantages of having a cabinet are of a two-fold nature. In the first place the objects contained therein are very handy for conducting object-lessons, and in the second place, the Pestalozzian method of cultivating the power of observation among the pupils by inducing them to collect all kinds of specimens, is the very essence of learning.

Teachers will readily obtain from farmers all the various seeds cultivated in the neighborhood, the stores will gladly furnish samples of everything in the dry goods and grocery line, friends and patrons of education will donate cheerfully mineralogical, botanical, or zoological specimens, or rare pieces of technical, geographical, or historical interest. There is very little expense connected with starting and maintaining a valuable cabinet, only much patience, perseverance, and ingenuity are required.

Parents should study the inclination of every one of their children in this direction and encourage them in such pursuits.

While some children may love to collect leaves and flowers, others may prefer the collection of insects, or others again take delight in a mineral cabinet, while others take pride in a collection of geographical, historical, or technical illustrations, or in coins, some even in postage stamps. In short, encourage them in the collection of anything that cultivates observation, perseverance, systematizing, and order. All the trouble connected with such pursuits will be richly repaid by the moral and intellectual benefits derived therefrom.

