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Frederick Butler Harrington

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Some Considerations in Connection with a
Modern Course of Study.

I.

The formation of a Course of Study is a matter to be determined by experience, collective wisdom, and a systematic application of tried and tested theories. Time was when no experience was deemed essential; the wisdom of more than one individual (he, being the master of the school) was likewise considered quite unnecessary; and as for putting into force only theories which had been tested, such a procedure would have been an unspeakable affront to the pretensions of the masters whose iron clad law and domineering spirit was formerly the most conspicuous characteristic of the school. Whereas, a young person, one of mean or low capacity, a discharged employe, a quack, or imposter whom the locality from which he came could no longer tolerate, or one who had failed to succeed in any

other calling was considered entirely qualified to prescribe and direct the curriculum in almost any school; now high qualifications, good character and a known ability are requisite for even country schools, while a superintendent into whose hands are committed the responsibility of what shall be taught, must invariably be one of high standing, long experience and mature judgment. Whereas, it was then considered adequate that the educational affairs of a community be swayed and led by the impulses and caprices of a solitary pedagogue; it is not enough now that frequent meetings of teachers' associations, educational magazines and eminent lecturers, are utilized in great profusion, nor that superintendents and boards of specialists consult freely every available resource before formulating such a Course of Study as they think desirable for the children under their supervision. And whereas, far from being troubled by theories in those days which would not work out in practice, it was rather

the custom for pedagogues to assume the soundness of their theories at the start, and then see to it, by the use of the rod if necessary, that they did work out in practice; now the most advanced communities must experiment with and demonstrate the success of an innovation for months and years, before the most conservative regions will begin dabbling with its rudiments. This slow and steady evolution proceeds, but at a slower and steadier rate as the profession becomes more settled; and year by year, the demands made by it become more exacting. In the face of these circumstances, haste must be made slowly, and the task is so arduous as to bring the most seasoned superintendent to realize that the Course of Study is a matter to be determined by experiment, collective wisdom, and a systematic application of tried and tested theories.

This is not a doctrine peculiar to education. Tax commissions composed of experts in nearly every state

are studying the subject of taxes scientifically, and from data which they have obtained from sources whose experiences have a bearing upon their own circumstances. Railroad and rate commissions bear similar testimony to the efficacy of scientific adjudication by experts. The tariff commission agitation in Congress is a natural product of this movement, and we have this modern principle to thank for the numerous committees of superintendents whose long experience and study of this subject qualify them to make substantial contributions towards the progress that is being made towards an ultimately scientific Course of Study for the common schools of our country.

But the ideal is far from realized. The perfect instrument is still in the making, and the best that have been evolved are still subject to criticism; and while many, undoubtedly most of the criticisms made, will prove vain, nevertheless it is to be expected that out of the many will come a few which are destined to abide perma-

nently, as having stood the test, and found worthy of constituting an element in the whole fabric. It is for the purpose of being responsive to whatever there might be of weight or value, and taking advantage of that which is wholesome, that suggestions are welcomed by those upon whom the responsibility of this vast undertaking rests.

In view of these facts, one scarcely need make an apology for appearing as a critic, though it would seem presumptuous to make an exhaustive, and at the same time a fully constructive criticism of a thing which has taxed the best minds in the field of education for two centuries, and still weighs heavily upon their shoulders.

This paper does not aim to be exhaustive, nor final in the conclusions which it has reached, but merely to make a small contribution to the great mass of like material which already exists. For this purpose, three general headings are selected as best leading to its con-

sideration; a history of the development of the Course of Study in the United States; a few criticisms of it in general; and a constructive discussion of the various studies as to how they may better be made to subserve the interests of the American people.

II.

History of the Development of the Course of Study in the United States.

The Course of Study for our common schools has expanded to its present proportions from a beginning in the dark ages of mediaeval times, that was next to nothing. The transition from the Greek schools whose influence dominated the intellectual world at that time, to the Christian epoch which followed, was decidedly abrupt. It almost annihilated education altogether, and perhaps would have done so, had not the activity of the Turks in the fifteenth century, or some other agency, driven the Greek

scholars westward to reestablish that intellectualism in Europe which western Christendom had long since relinquished.

In early times a strong antagonism developed on the part of the Christian clergy towards Greek scholasticism. These seemed to them to be completely shunned. Besides this, the great mass constituting the Christian body were mostly from the lower classes, who had no natural sympathy for those identified with the philosophical schools of Greece. For sometime, too, there was a general feeling that the second coming of Christ was at hand, and consequently, any time spent in the pursuit of knowledge would be wasted. In view of all these circumstances it is not surprising that no need for a curriculum of even the simplest nature existed, and consequently, none did exist. And we shall find it so even up to our own day, that it is only in response to a need strongly felt, and in the main, tardily recognized by our boards of education,

that the curriculum so shapes itself as to conform to times which it is intended to serve.

The first need felt during the dark ages was one of a religious nature, and the earliest Course of Study was religious. The great mass of converts which came crowding into the church confronted the bishops with the necessity of instructing them in church doctrine, ceremonies, and rules of conduct, and in response to this need there arose the cathedral schools which trained the clergy for teaching the new proselytes. The monasteries took up the task which the cathedral schools had initiated, and in course of time there came to be taught in these places, reading, writing, singing, and calculation of the days in the church calendar, to boys and men who were being prepared for the priesthood. For centuries following this time, the monasteries were the only places where instruction of any kind could be had, and, as many of those who entered were children, it must be seen that these were

essentially elementary schools in every sense of the word. It was in this manner, and in the hands of this institution, then, that the first step in that laborious evolution of an elementary Course of Study which has taken so long to consummate, was taken.

Their content, however, was meager, and remained so until Alcuin, of York, was called by the great Charlemagne of France, there to erect his educational standard before the nation, and to inspire his people to an emulation of those ideals of learning which he had established. Under this influence the monasteries educated boys who were not destined for the priesthood, and those accomplishments which had hitherto been the special possession of the clergy, now became in an equal measure, the possession of the laity. By this time the seven liberal arts, consisting of grammar, rhetoric, and dialectic; arithmetic, geometry, music and astronomy, had become definitely differentiated from each other, but since they were the test of

educational orthodoxy among scholars, these can hardly be considered as a part of the elementary curriculum. The content of the latter did not change. The Renaissance revolutionized higher learning, but it was not until the eighteenth century that Rousseau inspired the people of France to reconstitute the educational fabric in the interests of the child.

In the meantime America was being colonized. Emigrants from every quarter, imbued with Rousseau's ideas, settled her shores, and as a result, the elementary curriculum has had a definite and certain growth in this country which fifteen centuries of European history failed to reveal to any appreciable extent whatever. In this country, as has been the case in Europe since, the times changed from generation to generation, and with it the curriculum, as new demands were made upon it, and older ones were relinquished. So long as the times demanded strict classical interpretations and a ready made know-

ledge of the three R's, the Course of Study furnished those things, but in these days of complex business relations where specialists and experts only can survive the fierce competition which these business conditions create, the old formalism of the three R's will not do. And so we find them superseded by scientific, industrial, and vocational studies, seasoned by knowledge and acquirements in such proportions as the age of the child permits. At least this is an ideal, not yet attained in any community so completely as it is hoped it will some day prevail generally.

Prior to 1800 the Course of Study in the American colonies was limited to reading, writing, and arithmetic, if, indeed, the latter may be said to have had a foothold so early as that. Legislation in the seventeenth century made reading, writing religion, and capital laws obligatory among the Dutch, Swede, and New England colonies, but during the eighteenth century many modifications arose to change the customs in one community or another, so that a

considerable variety characterized the period prior to the Revolution. Capital laws and religion came to be taught as one subject, until free, non-sectarian instruction, in public schools, caused them to disappear altogether from the Course of Study in the nineteenth century.

The greatest handicap to the development of an elementary curriculum in colonial times was the absence of text books. There were publishing houses in England, but the cost of production, even there, made their introduction into the schools for general use prohibitory. And the additional cost of importation into the colonies, under the disadvantages by which oceanic commerce was carried on in those days made their use in the schools on this side of the Atlantic quite out of the question. Books have come into the colonies at an early date, and later they were imported as rapidly as they could be obtained from England but it was not until the printing press was set up in this

country that they were printed in such quantities as to inaugurate that great demand for text book instruction which characterized the period following the Revolutionary War.

But the people of the colonial period were not without literature, for the intensely religious nature of the times made the bible and the psalter as essential element in every household. These were everywhere sufficiently available to serve this purpose, and, in fact, constituted the only text books in both reading and religious instruction for a period of nearly 150 years. Books on manners, politeness, and general morals likewise came into use, but in general, all subject matter used in teaching children to read was of a religious nature, such being considered the only proper kind of material to employ in teaching the young. The New England Primer, first published about 1690, and enjoying a phenomenal popularity during

the eighteenth century, was the first book designed to serve as a text book in the elements of reading. The religious spirit of the times dominated this work completely, but it served as a model for many other primers, which, as the eighteenth century advanced, became more and more secular in the nature of their subject matter. By the time of the Revolution, all religious matter was eliminated from these books, and thus reading became completely differentiated from religious instruction.

Arithmetic had its rise in the middle states, where it appears to have had a good start as early as the seventeenth century. The earliest reference to it is a contract in Pennsylvania, made in 1683, whereby the instructor of a certain man's children was required to teach them to "cast accounts". Its development in the south, but it was as late as 1750 before it seems to have received any attention at all in New England. It was 1778 before a standard text

Book appeared, and the great popularity which the subject has attained during the school curriculum may be said to have started from this time.

Before the Revolution, reading and spelling were one study. Webster's Spelling Book, even, published after spelling had become recognized quite as a separate study, contained a considerable amount of reading matter. It was this book, however, which brought spelling prominently to the front, and made it so important a part of the Course of Study. It was Webster's Spelling Book, too, which revolutionized the methods of teaching, recognizing for the first time that the interests of the child is a most important matter to consider. Here we see that first application of the principles which Rousseau promulgated Pestalozzi had been practicing in America. The science of pedagogy made slow but sure progress from that time on.

The rapid development of the great text book in-

dustry during the early part of the nineteenth century, had its natural effect upon the Course of Study. Books appeared in sufficient quantities to afford a suitable selection, and it was not long until the text book method of instruction had become widely predominant in all sections of the country. Dilworth's Speller, published in 1773, contained a few rules of syntax, the first premonition that English grammar was about to take its place as a subject in the Course of Study; and the multiplication of text books brought the opportunity to establish it independent of those other subjects with which it had hitherto been associated. Geography and United States History followed a like development, and soon took their places as equally important along the side of those subjects which had preceded them.

The rise and growth of the graded schools during the early part of the nineteenth century had its influence

upon the curriculum, for with only one or two grades in a single room, the teacher was able to devote more time to each subject and thus to enlarge and expand them according as experience revealed their most valuable features. And not the least of such were those developments which took place in the primary grades. These systems of amusement, conversation and observation lessons, and various activities suitable to young children, differentiated themselves from the regular studies of the school, and became just as much a part of the Course of Study as those subjects themselves. It was not until comparatively recently, however, that the kindergarten, involving a systematic arrangement of these ideas was established in this country. Mrs. Elizabeth Peabody had visited Germany in 1867, and while there had become much interested in the Froebelian method of kindergarten instruction. She returned to America a convert and a missionary to the cause. The

system was coldly received at first and only a few private kindergartens were started. The first one was established in Boston in 1870, but St. Louis was the first public school system to experiment with it, and the success which the city had with it induced other cities to follow her example.

Among the later things to develop was elementary science. Louis Agassiz was the pioneer in this field. In 1855 he invited the public school teachers of Boston to attend the lectures in zoology which he was giving to the students of Harvard University. The influence of this great teacher's enthusiasm resulted in the organization of the "Teachers' School of Science in New England", in 1871, through whose agency specimens of various kinds were sent directly to the public schools themselves. The contagion of this new movement spread all over the country, and Nature Study, as it is called, became one of the recognized constituents of the Course of Study.

Manual training and domestic science were favored by Pestalozzi and Proebel, but their development in this country was quite late. So long as "chores" on the farm, and domestic service in the kitchen served as manual training, there was no demand for its systematic instruction in the schools, and it was not until children began to gravitate towards the cities and towns, where but little opportunity for manual dexterity was afforded them, that a need for it in the schools became apparent. An exhibition of iron and wood work, done by pupils under Prof. Ricker, of the Illinois Industrial University, awakened the national conscience upon this subject, and manual training may be said to have had its beginning in this country then.

Drawing and art education have been popular since Benjamin Franklin's time, and private institutions for art culture have existed from an early date. Cleveland and Baltimore made attempts to introduce it into the schools in 1849, but without success. In 1870, however, Boston

was fortunate enough to have connected with their public schools, an able art director, Mr. Walter Smith, whose efforts soon demonstrated the value of public school drawing in a remarkable exhibition at the Centennial Exhibition. Boston made drawing a required study in the public schools, and it was not long before other cities were doing the same.

Music in the same way may be said to have had an ancient beginning, but only a modern development. The earliest public school music consisted of songs sung in the district schools. "Singing schools" became prominent in the early part of the nineteenth century, but these served primarily as social gatherings for the boys and girls of a neighborhood, with its inevitable results, while the instruction received there, was entirely secondary, and, indeed, mediocre in quality. The pedagogical importance of music was not recognized until past the middle of the century. Other differentiations from parent studies

have enlarged and expanded the Course of Study in late years. Literature has arisen from Reading; Orthography from Spelling; the rudiments of Algebra from Arithmetic; Language, Composition, and the first steps in Latin from English Grammar; Civics from History; Agriculture, Natural History and Physiology from Elementary Science, etc. Hygiene has sprung from Physiology, and other subdivisions also tend to appear from time to time.

The result of this process of piling the Course of Study high with a quantity of subjects has been to lay a burden upon both child and teacher, as great, if not greater than the reproach which formerly rested upon our public school system had been because of the meagerness of the school curriculum. The result has been a reverse process that tends to reduce the subject matter to an amount which can be readily assimilated by the child. Some studies have been combined, such as the elements of Physical Geogra-

phy and Astronomy (elements) with Geography; Composition with the Language period; Drawing with Manual Training, etc.: some have been discontinued or postponed to the high school as better suited to children of that age, such as the more advanced parts of Physiology, Civics, Physical Geography and Astronomy, and all have been more or less condensed whereby the useless or most difficult parts have been eliminated to make room for other things which are more vital to the life of the child. Thus Arithmetic has lost fully a third of the material it once embraced, such as technical usages, obsolescent terms, puzzle problems, and hard processes better suited to advanced mathematics; Grammar no longer regards the difficult constructions and confusing nomenclature once so common in the grammar grades; while History is rapidly discarding dates, minute accounts of campaigns, and the details of colonial settlements, migrations, and Indian wars. Moreover, a systematization

is in progress whereby overlapping of subject matter is being prevented, alternation of subjects on different days is being made, and the completing of certain studies in one year, and replacing them by another the next. Multiplication has given us quantity, and now organization is rejecting non-essentials, and making good those losses by a proper use of what remains.

This brings us pretty well up in modern times. What remains can be merely a forecasting of the future. But such a forecast may be moderately accurate, by applying the principle with which we have been familiar from the first, namely, the Course of Study eventually, though perhaps somewhat tardily, conforms to the needs of the times which it is intended to serve. The shortcomings of the Modern Course of Study may be better considered in the next section but it remains merely to be said here that these shortcomings are not permanent disadvantages, nor

needs which have not been recognized by educators for some time past; but problems which are being studied, and which are certain to crystallize in time into a comprehensive system, which will be complete, and at the same time elastic, so that it may be adapted to the changes which result with the passing of time.

III.

General Criticisms of the Course of Study.

A curious thing in regard to the development of the Course of Study is the fact that, though it moves apace with modern development, it does not move fast enough but what private agencies are obliged to supply the deficiencies of the public school curriculum when their need is first felt. In the middle of the nineteenth century business began to demand young men whose education fitted them for a business life. The public school made no response. Immediately there arose innumerable private

schools whose object was to meet this demand. The public schools still made no response. These schools which had been established grew rapidly, until they developed into the many excellent business colleges which we find throughout the length and breadth of our land today. Stenography, telegraphy, banking; in short, everything needed in the modern business man's education was taught in these institutions before a few inadequate courses were finally offered in a few of the largest high schools a quarter of a century later. Commercial branches are still in the experimental stage in the secondary schools, and as for receiving any attention in the elementary schools, the barest rudiments of bills and accounts have scarcely received more than a passing notice in connection with arithmetic. As for the ability of the business colleges which depend mainly upon fees and tuition for their maintenance, still to compete successfully with the free public schools, we have

only to consider the fact that in 1901 they enrolled 110,031 students, in increase of 39.3% in ten years, while the high schools had but 84,412 in their commercial departments in the same year.

Since 1870, music in the public schools has expanded rapidly, and much do the children of this generation owe to the sponsors of this branch of the curriculum for the benefit derived from it in the careful training of the voice during that period of life when neglect would result in wrong habits and inferior tastes. But it is no small matter that instrumental music has been entirely neglected. Instead a great army of private teacher supply this need among the children in the elementary grades, scarcely any town however small being without one or more teachers available for that purpose. As for its popularity compared with vocal music among young children, the following facts obtained from one of the graded schools of Minnesota suf-

fices to illustrate.

Grade	No. pupils taking piano lessons	No. pupils taking vocal lessons	No. pupils pre- ferring piano to vocal lessons.
2 & 3	4	1	20 out of 28
4 & 5	5	4	22 " " 27
6 & 7	4	3	17 " " 19
8	10	1	9 " " 13
<u>H. S.</u>	<u>7</u>	<u>1</u>	<u>18 " " 19</u>
Total	30	10	86 106
%	28.3%	9.5%	81.1%

From this it is clear that the public schools are losing an opportunity to serve the community, especially among those families for whom music lessons for their children are no small financial consideration.

It is also a notorious fact that the proficiency of school children in practical matters outside of school is hopelessly inferior. So far as its intellectual training and mind drill is concerned, its practices are quite widely acceptable, but no man thinks of sending his child to the public school to learn even the barest rudiments of a trade, or to receive practice in any pursuit which

will fit him to earn a living. So exceedingly "simple" is the proverbial school child concerning matters of the most ordinary utility, that such an appellation has come to be one of derision on the part of unthinking persons who can not see the dawn of a better day. Educators have been awake to this state of affairs, and have sought to remedy it by introducing industrial and vocational studies to such an extent as is feasible in the elementary grades besides adapting the regular studies to supply that knowledge which the outside world imposes as a test of practical efficiency but they have come far from solving the problem as yet. From among thirty nine high school pupils in the same school before mentioned, some more or less interesting material has been gathered which throws a little light upon what the grades have failed to do for them:

- a) A list of very common words were asked them with the result that the following numbers

and percents of them were unable to tell what the objects were:

Pork	9	23%	pivot	35	90%
instep	18	46	optic nerve	30	78
sulphur	19	49	bronze	19	49
molecule	35	90	stern(of ship)	20	51
pistil	23	59	weasel	9	23
anvil	14	36	mutton	16	41
thorax	34	87	veal	19	49

About all of them seemed to know that pork, mutton and veal were meat of some kind, but seemed at a loss to tell what kind of an animal supplied them. A few chemistry and botany pupils made such words as sulphur, bronze, molecule and pistil intelligible. A few perverted ideas made their appearance, such as an instep being a "fractured foot" sulphur being a kind of lead", and a weasel "a rat that destroys chickens".

b) In the same manner they were all asked to describe the following:

Thrush	23	59%	golden rod	21	54%
meadow lark	21	54	wild rose	19	49

dahlia	31	79%	honey suckle	34	87%
boxelder	32	82	king fisher	30	78
willow	16	41	trout	30	78
pine	25	64			

The majority knew that a thrush was a bird, a pine was a tree, a trout was a fish, etc., but the above proportion of persons could not tell how a thrush or meadow lark differed from a robin or sparrow, or the wild rose from a cultivated variety. And one insisted that a thrush was "a kind of frog with four legs", while another with equal gravity said that a thrush is "an animal with a round hard shell, which served as a protection for its head". Undoubtedly a turtle is what the latter child had in mind.

c) The following percents of ignorance found in the Boston public schools, reproduced from Kirkpatrick are none the less remarkable for their being taken from among younger children.

Robin	60.5%	Ankles	65.5%
Pig	47.5	Elbows	25.0%
Chicken	33.5	Dew	78

Elm tree	91.5%	Woods	53.5%
Wrist	70.5	Hill	28

None the less can be thought of the children whose knowledge of common things is so limited but the blame must rest upon the public school of which they are a product. No child is necessarily stupid simply because he does not know. He learns only those things which have fallen within his experience, and if the four walls of the school room preclude such things from his vision, it is the school and not the child that is responsible. It is certain that children brought up outside the school room are compelled to acquire their concepts along other lines and invariably those are the more common things of life. It can not be surprising then, but only natural that boys and girls who are uneducated have a better knowledge of practical things than school children. But it is to be wondered why these things may not be taught in addition to what the school already gives. It is not to be desired that the "scholas-

ticism" of the schools be simply replaced by mere concepts of common things, but it would be a valuable thing to the child, if the Course of Study could be made to stimulate the child's powers of observation for himself.

To bring this about would mean a re-constituting of the Course of Study and such a consideration is no small matter. That much obsolete and useless matter is still retained can not be denied, and, if room for the new activity is to be made, those relics of the past must be the first to go. It is no insignificant thing that language lessons no longer require small children to give accounts of authors and their works, to reproduce lessons from the catechism, or to describe the town meeting. It is equally significant that rules of expression, figures of speech, and principles of rhetoric no longer appear in the elementary text book. The difficulty has been squarely met in the field of language work, and while much still remains

to be done, a long step has been made towards furnishing the children with material that opens their eyes to what there is about them. Their interests has been appealed to and the every day things that have hitherto remained an unknown world stream in upon them like a flood of light once the door of investigation is opened to them.

We have now to consider a third defect which in a way is more serious than any of the others. If the content of the public school curriculum does not supply the practical demands of the times, we might expect that it would be all that is desired so far as intellectual attainments and "book learning" is concerned. The following questions asked the same children as before may furnish a little data upon which to base our conclusions in the matter.

- a) They were asked who these persons were and the numbers indicate as before those who did not know:

Caesar	27	69%	Michael Angelo	32	82%
Henry VIII	19	49	William Penn	12	31
Noah Webster	21	54	Jupiter	26	67
Martin Luther	13	33	Abraham	30	78
Peter	37	69	John Endicott	36	92

Several answers revealed imperfect ideas concerning these persons. One person simply knew that Abraham was Lincoln's first name; another, that Henry VIII was "present King of England", and another the "John Endicott was an inventor". One person thought that Noah Webster was Daniel's father, while another thought that he was merely his brother. A third person was under the impression that Noah Webster was "President during the Civil War".

b) The following were not able to tell what these geometrical figures were:

Rectangle	11	28%	Circumference	2	5%
Rhombus	31	79	Right triangle	21	54
Parallelogram	14	36	Equiangular	26	67
Elipse	36	92	Hexagon	31	79

c) The following problem was proposed: "If a man buys goods for \$4370 and sells them for \$5160, what

was his gain percent?" There were three persons (7%) who obtained the correct result (18%). These are some of the other answers given:

.018%	5 1/2%	.15%	1/5%	5 4/7%
.0005%	15 3/4%	82 1/2%	79%	7 6/5%
$\frac{1}{900}$ %	17%	14 3/2%	11.8%	
	5%	7.9%	8 1/3%	

d) A simple problem in division of decimals (40.6 by .000812) resulted in 12 (31%) obtaining the correct result (50,000).

These facts should be cause for serious reflection. Eight years at least of schooling, and some about ready to step out of high school into the world; and yet, not only lacking the practical things of life but not even proficient in those things which are generally ascribed to the public school as within its special province to teach. The questions were not asked with reference to practical knowledge, but on the other hand, as typical of that knowledge which it seems to most people, scholastic education aims to teach;

and it is humiliating to find that not only are the claims which those who would scoff, well founded, but that it can not hold its own in that field which scoffers concede as its very own.

Why is it that the Course of Study fails in this also? A tourist who goes into the British Museum for the first time is bewildered by the vastness and variety of what he finds. He wanders from room to room and from gallery to gallery until fatigue compels him to desist. He sees statues, friezes, and pictures, fragments of old buildings and ruined temples, books and manuscripts, both large and small, both ancient and modern, brightly colored and strange of print; he sees relics of all ages, historic and prehistoric, hatchets, bowls, and pipes; he sees mosaics decorations, old prints and picture writing, and finds the histories of Babylon, Egypt, and Ninevah portrayed with system, and with skill before his vision, and he goes out

into the welcome sunshine again, wearied from his trip. A year later he tries to tell a friend what he saw in the British Museum. He recalls a peculiar looking base of a column which attracted him at the time perhaps because it was brown while the others near by were white; whether Greek or Assyrian in its origin he cannot tell. He also recalls an old book whose outspread pages showed a gold and red initial letter, the work of some monk in the middle ages; who, when, or where he never knew. He recalls a peculiar bow or spear head, a shelf that looked to him as if it were about to fall, and parchment molded by dust, perhaps a half a dozen things altogether; a vague picture of two or three of the rooms, an image of their vastness, and that is all. And then he marvels at the richness of what he saw, and the meagerness of what he has carried away; a pitiful remnant only remains to him of that great mine of knowledge, which, while he was there, was complete-

ly at his feet, but which now has fled from him.

In the same way young people finish school. They greet the world with a smile, and knock at the door of one of its professions. It demands of them what they know. They summon the facts of their knowledge to their assistance and to their chagrin, only a few scraps of all that vast maze of material which constituted their education, respond. The world laughs at them - a cold heartless laugh, it is - and passes them on. Hither and thither they turn; everywhere it is the same. The meagerness of their knowledge glares fiercely at them, and they well nigh despair before they finally begin to learn in the school of life. They have, indeed, traversed a museum of unparalleled richness, and while they saw everything and held dominion over it then, it was such that they could not carry it with them, and they have let it slip from their grasp. Only a confused shadow of its greatness remains.

The law of association is one of the most valuable laws which psychology has formulated. By it, no concept attains in the mind unless attached by some neutral process to another already existing in the mind. Bare sensations escape and are forgotten but woven into a texture of which they form a part they become a permanent possession. The Brittish Museum presents a vast number of objects, indeed but separate and unrelated to the novice, which are looked at and forgotten save as a few here and there accidentally attract attention because of some chance irregularity in size, shape, or position, or through some chance piece of knowledge connected with them. All else has faded away and is forgotten. The school curriculum is the same. From beginning to end there is detail after detail, following each other in rapid sucesion; events, processes and facts, passing in and out of the mind as the center of attention shifts from day to day. What was learned yesterday is forgotten to-day, and what the mind thought it had the preceding year, has escaped, and must be learned over,

causing much waste of time in repetition of that which might have been known had an adequate connecting link been provided at the time. The big things are made on a par with the little things, each claiming the same amount of attention, and the tendency is thus increased for each of these disassociated units to be a closed door against all the rest. There is wanting systematization of material into a composite structure which will present a unified whole to the mind, and enable it to grasp it and retain it forever. There are no epochs, fundamental principles, or standard works, around which cluster the detail as there should be. There lacks a central theme which may be made the key to all the subsidiary units which relate to it, and which, when touched, caused them all to spring into their proper places in the mind's eye. There is no time in the short span of the school life to learn all the "important details" which clog the Course of Study. It is the essential things which serve as centers of interest, that are important, and which must receive the time commensurate

with their importance. That done, and the details fall into place of themselves. Their connection with brain centers make memory and review work automatic, inasmuch as stimulation of the central idea calls everything connected with it to mind. A certain educator has said that "the school curriculum is an encyclopedia instead of a unified system of thought.". A review of this "encyclopedia" without fixation by comparison is futile. We look upon a heap of stones in a quarry. An odd or irregular one catches our eye, but the mass as a whole remains a confused jumble in our mind. But when these stones are so placed one upon the other as to form the front of an imposing office building, we see every stone in the structure, not individually, but collectively, and we carry away with us a solid impression of a complete whole which these stones have formed. It is such an impression as this which the public school pupil should carry with him into the world.

A fourth defect in the Course of Study may be said to be one which fails to recognize the nature of the

child. When the wheat plant matures in the late summer, it needs the warmth of the sun to ripen it. But if the heat of the summer should fall upon the young shoot in the first stage of its growth in the spring, it would wither. What serves the plant well when it is mature will not serve it at all in its first growth. It needs the warm moist winds of April then. Hard work is a godsend for the muscles of a man, but it would deform a child and ruin his health for all time. We can not administer to a child what a man needs for his best development. We must wait until he is a man.

How long it will be before pedagogy becomes conversant with this law, it is hard to say. But it is certain that the child has a nature of his own which must be developed and outgrown before he can take upon himself the qualities of manhood. The care given this child nature should be as different from the manner in which a man would see to his development, as the care given the wheat in its youth and maturity. The needs of the present child and not

the future man should be emphasized in the Course of Study.

An illustration of this defect in the public schools may be seen in the customs which prevail in teaching reading. By experiment it has been determined that the number of pauses which a person makes in reading a line, is very much a matter of habit, and moreover, the rapidity with which one reads is largely the readiness with which he returns from the end of one line to the first of the next. In the latter case it is obvious that a shorter line is an advantage over a long one, and Dr. Dearborn, of Columbia, has estimated that the ideal length, the one affording greatest ease to the eye, is about one-third longer than the width of a newspaper column. If this is ideal, it is certainly suitable for children to use in learning to read, and after they have become proficient, they may move to longer lines, more the length of which is within our usual experience. But instead of this the lines of a primer extend clear across the page, the child is expected to learn from them, and then read what is easier to sense

later on. As a result of this, he forms a habit of stumbling as he tries, so vainly at first, to adjust his eye readily in moving from one line to another, which in later years he may not overcome. As for the number of pauses which a reader forms a habit of making, it is an advantage to have the lines uniform in length. Our primers and first readers are more irregular than any other printing which we find. The following are the lengths in inches of the first twelve lines on one page, selected in each case as being an average one in the book:

Line	Jones	Outdoor	Stepping Stones to Literature	Aldine	Baldwin	Brooks	Cyr
1	1.9	2.5	1.1	3.6	3.6	3.6	3.2
2	1.9	4.1	2.6	3.8	3.5	2.9	3.2
3	1.9	4.4	2.4	4.0	3.6	3.0	3.6
4	2.2	4.0	2.6	4.0	4.3	3.0	3.5
5	1.0	4.4	0.6	1.0	3.7	2.2	3.4
6	2.1	4.4	2.6	4.0	3.6	1.8	4.0
7	1.8	0.9	2.7	4.0	0.6	1.4	1.3

Line	Jones	Outdoor	Stepping Stones to Literature	Aldine	Baldwin	Brooks	Cyr
8	2.4	4.3	1.2	0.7	1.6	2.9	3.0
9	2.6	3.3	2.6	4.0	1.6	1.4	3.9
10	3.6	4.0	2.3	0.6	1.0	4.1	2.5
11	3.6	2.6	1.6	3.2	3.5	2.4	4.0
12	3.6	3.0	2.6	2.7	1.5	2.4	0.6

If irregular lines are hardest to read, they should be taken up long after regular ones are mastered, but here they are to begin with, an adult's task, given to a child to master.

It has been the practice to encumber the child's young intellect with heavy rote work, such as spelling; difficult arithmetic, many times consisting of tricky and valueless problems, etc., features well worth the while of a mature person to master it may be, but now known to be unsuitable to the years of a child. Experience has shown that such things as these are far less essential than was formerly supposed, being acquired unconsciously more to the

child's satisfaction than if taught directly.

The mechanical rote and rigidity of requirements have developed in the average school child a shallowness of thought that is appalling. This adjective is not used unknowingly, for not a few of our best thinkers and scholars have ranked this fault of our people as among the most imminent of our national perils. It is not too much to say in any case, that a shallow mind is a menace to society, and an obstruction to progress. Our schools embrace the citizens of the future; what do we find there? A place where the seriousness of life, or the consequences of wasted time make any break upon the hearty and buoyant spirits of a gay and happy youth? Usually not. Parties, dances, and base ball are their usual theme. Slang, slanders, coarse jokes and rude jests are the meat and drink of our best children. A prank or a piece of cheap smartness fills their souls with an ardent glow of admiration, while a boy or girl impressed with the burden of a truth to the point of becoming thoughtful, is rare. There are a few grinds

and digs, but it is a curious fact that in an examination covering general knowledge of all kinds in a certain graded school of Minnesota, one of the two or three girls whose marks were always the highest in everything else, obtained the lowest percentage in the school; while a boy whose grades for the year averaged lower than any one else's, but who in some things takes life somewhat seriously, obtained the highest percentage. Whether the faults of our Course of Study and the methods of our instruction are entirely to blame for this is problematical. But it is certain that with the children entrusted to our care during almost the entire length of their formative period we are more than half to blame.

With these generalizations, let us tough upon the studies of the curriculum individually, and attempt a few constructive remarks relative to their faults and ideals.

IV

Reconstruction of a Course of Study.

Arithmetic.

Arithmetic, though among the first studies to gain a foothold in the curriculum, has been one of the last to be affected by the revolutionizing influence of modern tendencies. The great popularity of this study in the past has rested upon the fact that "arithmetic is hard", and therefore conducive to deep thinking, and it is not until recently that educators have pointed out that arithmetic as taught, produces anything but deep thinking, and that its very difficulty is the evidence of wrong methods of teaching. But little change has been made in the manner of teaching it, for Pike's Arithmetic, published in 1778, had the work arranged in essentially the same order in which it is taught now. It used to be taught from the first day a child entered school, and the abstract conception of a number was forced upon a young mind, long before it was able to handle abstractions in any form. In late years number work in the primary grades has been reduced to a minimum, but in the intermediate grades the children are still required to carry a burden far beyond the ability of their years. The

following problem, taken from a list of those used in the fifth grade, was given to a high school class of 34 pupils:

"A school had 1039 pupils. If there had been one girl more, there would have been $2\frac{1}{4}$ times as many girls as boys in the school. How many boys and girls were there in the school?"

Six pupils (17.6%) could do the problem. This is only one of the kinds of problems which occur regularly in fifth grade work in many schools, illustrating the difficulties with which children at that age must contend.

Arithmetic should not be begun to be taught before the third grade. The child is thus saved the burden of work too heavy for his years, and at the same time enters upon it at the time when the plastic state of his brain enables him to learn most rapidly and readily.

Fundamental processes should take a longer time for their completion than was formerly the practice. The multiplication table, for example, has been and is now, often

finished in the third grade. Normal School Courses of Study are representative of the latest development along these lines, and accordingly, the courses of study of three of them* were examined to see where they placed the multiplication table. All three placed it towards the end of the fourth year, or finished it in the fifth grade, thereby giving the child about two years start over what he formerly had. All the fundamental processes should be taught and drilled upon until they become perfectly mechanical and involuntary. This hands over to the lower centers processes which would otherwise vex consciousness while trying to engage in thinking.

Children often bring bad habits in arithmetic with them into upper grades, either some longer method of computation which has become so fastened upon them that they can not discard it; slovenliness; or carelessness in thought. It should be seen that correct habits get started before bad habits can get a foot hold. Speed, accuracy, and

* Winona, Duluth, and River Falls.

independent work are all a matter of habit, and not accomplishments which may be acquired afeter the bad habit has once gotten started.

The most conspicuous defect which children who enter high school as a rule show, is their remarkable inability to use thought and an intelligent application of the principles of arithmetic. It is the rule rather than the exception that a child will accept the answer to a problem as correct, no matter how absurd it might be, as compared with what the conditions of the problem would lead us to expect. It is the usual thing for them to be easily confused over simple statements, processes and definitions which a very little common sense and clear thinking would enable him to easily master.

This problem was proposed to the same 39 high school pupils before mentioned:

"Reduce $29\frac{3}{5}$ to the decimal part of $32\frac{1}{2}$."

It would be evident to the child who took the trouble to look at this problem that the $29\frac{3}{5}$ is pretty

nearly as much as the $32\frac{1}{2}$ itself, not less than about $\frac{9}{10}$ perhaps. Yet the scope of answers on both sides of the decimal point was most remarkable. Following are a few of them:

.0074 14.5 32.5 1.5 $9\frac{1}{4}$

There was only one answer out of the 39 that was reasonable.

The following problem also was given to them:

"What percent of $85\frac{1}{2}$ is $472\frac{3}{5}$?"

Here in the same manner, one who would stop to think would know that the $472\frac{3}{5}$ is much more than the $85\frac{1}{2}$, and consequently, correspondingly greater than 100%, yet such answers as

$5\frac{1}{2}\%$ 1.8% 123.6% $1\frac{1}{10}\%$

were the rule. Only one person obtained the correct result (552%).

It seems unquestionable that such habits as these are the result of work that is too heavy for the children while they are in the earlier grades. When the work is

hard, the help of the teacher must be sought, and this engrafts a habit upon the child which remains indefinitely. With the habit of depending upon the teacher formed, the habit of independence can gain no foothold. And so, absurd and ridiculous conclusions are accepted by them without any question, whatever, though a little reflection would reveal that such conclusions outrage all sense of rational judgment and sanity. The time to "head this off" is at the outset. Encourage independent work though the work is easy, rather than give them much help in work that is hard. One of the best ways to encourage independent work is to have the child approximate results before working the problem. Much of our work in practical life is mere approximation of results and such training in school, therefore, will not come amiss, and with the added advantage that in obtaining an exact result, more thought is given to the principle by which it is worked.

An agitation directed against irrelevant and obsolete matter in arithmetic has resulted in rare tables of

measure, annual interest, true discount, calculating decimals, etc., being either omitted or postponed to Senior arithmetic or higher algebra. This is well so far as it goes, but there is still much of this part of material that remains. "Common fractions" is the most noteworthy example. The "hot rolls" of Philadelphia, which were a day old, were not more of a misnomer than are the "common" fractions of our arithmetics. Decimals are more common by far. In fact, it is not more than the commonest of the "common" fractions ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$ etc.), which have any use at all. Great ponderous denominators find no place in our practical life, yet it is such that our children are fed upon for many, long, weary months before even their acquaintance with the decimal is made. And by that time they have formed habits of using the "common" fractions which they find it hard to give up when they finally learn the corresponding decimal process. This handicap pursues them throughout the rest of their school life.

While there are things in an arithmetic which

could better be omitted, it is equally true that there are some things whose elements are now reserved for algebra and geometry to explain, that could better be introduced into arithmetic. A few of such are:

Simple unknown quantities

Negative numbers

Most of the geometrical definitions

Simplest geometrical proofs

Transposition

Symbols

Substitution of equals for equals

In an eighth grade class of thirteen children who understood the meaning of the symbols and the processes expressed in the formulae: $A = c\frac{r}{2}$, and $c = 2\pi r$; none of them could understand the following solution after a most careful explanation:

$$A = c\frac{r}{2}$$

$$c = 2\pi r$$

$$A = (2\pi r)\frac{r}{2}$$

$$A = \frac{2 \pi r^2}{2} = \pi r^2$$

It was only after some delay that the process was finally made plain, Thereafter, no trouble was experienced in any similar circumstance. This will illustrate how readily children will use symbols and substitute values when once their properties are made clear.

Another feature of arithmetic that should be emphasized more than it is, is short division. Divisors which can be used in short division problems should not be used in long division. Long division is for the purpose of doing what can not be done by short division, and should be used exclusively for that purpose. Children who do not yet know how to do long division very well, will want to do their examples by short division, and this of course postpones the long process in order to get it at all. On the other hand, if children are permitted to learn long division by practicing with single digits as divisors, they will ever after wish to do simple problems by the long division process, Seventeen high school children were asked to divide

4,873,642 by 7, and six of them did it by long division, 35.5%. The tendency in the eighth grade was much greater than this.

There are many numerical features of a practical life which are seldom or never touched upon in an arithmetic class, but which could be better taught there than anywhere else. Problems involving many of them are often worked, but a practical explanation of them is not only generally neglected, but often the teacher is not able to give one. Examples of practical information that should be a part of arithmetic are functions of banks, insurance, principal insurance companies, insurance profits, rates, risks on various kinds of property, common requirements on the part of insurance companies, mortgages, credit, debit, telegraphing and cabling money, cost of messages, how to write them, capital, railroad, steamship and street car fares, including sleeping, dining, and parlor car rates, first and second class and steerage passage, tolls taxes, concealed wealth, assessor, boards of equalization, tax commissions, freight rates, collections, attorneys' fees, judgment, bankruptcy, exemption,

sales, auctions, prices of commodities, market, supply and demand, gas and water rents, electricity, meters, how they are read, expenses at hotels, how to register and pay bills, the privileges one is entitled to and may expect at hotels, tipping, agitation against tipping, leasing, deeds, contracts in general, cementing, concrete, roofing, various kinds of roofs, fencing, cropping, sale of cloth, weighing of produce in the receptacle and subtracting its weight, cutting of cloth, boards, etc. so as to make as little waste as possible, laying of sewer, gas and water pipes, wiring a house for electricity, cost of heating, for various buildings as respects economy, different kinds of heating, selling of glass, the township, range, sections as numbered in a township, township roads taken off from lands, usual widths of roads, streets, and blocks, recent road legislation, state roads, on section lines, petitioning for road, more regular in western states, approximating the size of an acre by looking at it, usual sizes of farms in different localities, homesteads, filings, proofs, preemptions, claims,

desert claims, final proof, describe a surveyer's outfit, expeditions, equipment, land, railroad, coast, geological and marine survey's etc.

The same high school pupils as before were asked what the United States postal rates were, and only one out of the 39 gave any reply which would indicate that the child had any knowledge of first and second class rates. No one knew the local express rate to St Paul, and one boy only knew the minimum freight rate to Chicago. They were given data and told to write telegrams and to state the approximate cost. Following are a few of them:

"I will arrive at your state to-morrow
at four o'clock, and will leave at 6:30."

"Arrive Tuesday, leave Tuesday." 40¢

"I will be in Chicago on the 15" and will
leave the same day for New York."

"Will be in your city between trains to-day.

Make a stop of 15 minutes. Please be at
Depot." 25¢

"Arrive at New York. Will leave New York for Chicago at 2 o'clock." \$2.75.

"Mr. Brown: I will arrive in your town at nine o'clock in the morning and will leave at ten o'clock." 40¢ a word.

They were asked what to do in a hotel. About half had a fairly good idea of the customs in an American hotel, most of the rest knew but little more than that it was a place to eat and sleep, while four persons did not appear to know anything about a hotel, whatever.

The prices of a few commodities were asked them with the following results, in part:

10# 10 penny nails; all the way from 25¢ to \$8.

350# hog; all the way from \$18 to \$200.

About six (farmer boys) had the exact price \$19.50.

Rope; Only one person knew that it was sold by the pound. The majority said 5¢ a foot.

Draft horse; various prices, viz.

\$300 \$1000 \$500 \$150 \$2000

\$200 \$1500 \$250 \$400

One of the stores in the town post the prices of butter and eggs every day in a conspicuous place, where the children see them in passing to and from school. Their answers to these commodities were:

Butter: 26 came within 5¢ of the price for that day.

Eggs: all but one named the price for the day (13¢).

These illustrations show the service which the school might be, in a properly conducted course, to the child of the community.

Reading.

The important thing in Reading is to stimulate the mental activities of the child towards a healthy and vigorous growth, and every part of the work should minister to this end. Repetition, of course, does not stimulate

mental activity but serves the valuable purpose of liberating consciousness from the duty of superintending every movement of the mind and body, and leaving it free to assimilate unfamiliar stimuli to the growing needs of the body and mind. In so far as drill serves this end, it should be resorted to frequently, and freely, but it should never proceed so far that the child is at any time spared the trouble of any mental exertion. All through school, much thorough drill is necessary, but the work should be planned so that in the midst of this drill, there is always an element of uncertainty in the mind of the child which can be overcome only by the child applying his reasoning powers to the matter in hand. And the results of such reasoning should remain in the mind of the child as to that thing.

In these first days, the idea of the object and its symbol (word or sentence) should be united in the mind of the child so that they become inseparably one. The word should call to mind the image, and the sensation of the image should simultaneously associate itself with the word. The

largest part of the teacher's work in the first year is to put as large a number of primary concepts into the possession of the child as possible, so that later they may be of service in forming other concepts compounded with these. Education is a continuous process, and the richer the child's endowment to begin with, the larger the possibility of broad and extensive attainment later.

Much attention should be given also in the first year to the development of the power to perceive the whole of a(short) sentence at a glance. Concepts which have become an organic part of the child's mentality, are readily called into consciousness of the stimulus of any one of the elements comprising the concept, and in turn these several concepts should now be welded together so that the sight of any one of them will call to mind all the others. As a result of this (the law of association) it follows that perception in reading "depends upon slight visual cues(Dominant letters usually)"which attract the eye as it moves from right to left along the lines; stead of separate characters

displayed on the printed page. In fact it pays but little to the division of the language into words. The mind completes this perception of the language by "an apperceptive filling out of the words and phrases suggested by the visual and vocal cues". In this way, short words can be perceived as rapidly as single letters, and short sentences take but a very little more time than single words. All cases of perceiving letter by letter, or word by word, are due to improper habits formed in learning to read," and should be vigilently guarded against and carefully rendered impossible by all the ingenuity which the teacher can devise. This is a critical time in learning to read.

"The perceiving unit is neither the letters, the syllables, nor the words, but about ten letter spaces, while the reading unit is the sentence or complete thought expressed in the sentence." It is this latter which remains unchanged, while the cues which bring this thought into mind, vary each time the sentence is re-read. Attention given to the mechanical devices (letters, syllables, punctuation, etc)

in themselves interfere with the acquisition of the thought; therefore "rapid reading is favorable for apprehension and retention."

The most prominent aim in the first year's work should be to make the thought and its symbol (word), one in the mind of the child. In the second year, more attention should be given to the drill and practice necessary to make rapid, accurate, perfect and involuntary, the bodily mechanism necessary for the getting of the thought from the symbols. The aim by the third year should be to combine these in proper proportion, so that the hibuation of movements will continue, and the capacity for acquiring the thought will increase. This is a year for great caution. The teacher should not be deceived into believing that because the child can read his second reader well, he is ready to launch out into the sea of indiscriminate reading from which he will safely emerge at the end of his school career, not that the floundering he must undergo in such an event is what he needs to properly train him to be a finished

reader. Endless pains and constant drill is necessary to start the child aright, but many teachers fail to realize that when the child reaches the third grade he is still dependent, and needs the same careful drill and thoroughness of preparation which characterize the work of the primary grades. The fundamentals can not be neglected at this point. To do so will mean that the child will not read so well in the third grade as he did in the second, and not so well in the fourth as he did in the third, and so on until he develops in to the proverbial poor reader that so often clogs the work in the seventh and eighth grades.

Reading as ordinarily taught does not practice the child in that kind of reading which he most needs, namely, silent reading. Almost entirely all drill is for vocal purposes. This kind of reading the child uses nearly altogether as he ascends in the grades, and such instruction that will enable him to read most rapidly is very generally lacking.

Reading should be so taught as to prepare children

in their years so that they may master the art of reading in the grammar grades. They need it as a tool to use in their other work. The pupil often naturally capable in history fails in the subject because of his inability to acquire the meaning from the printed page, and is therefore in the condition of a capable mechanic whose loss of the use of his arms has prevented from acquiring the necessary skill in his calling, or an able statesman who never knew how to gain the confidence of his constituents. Attention should be given more towards seeing that the child knows how to use his elementary geography to advantage in getting his lesson, than to render the words of the reader to the satisfaction of his teacher. Reading should be more than a mere accomplishment in itself.

Language.

When a wild flower is selected for cultivation, those characteristics which it possessed in a wild state are not eliminated in the process of improvement, but are rather siezed upon as a starting point, and constitute

the material out of which the improvement is made. So it is with the child. When he enters school he is endowed with natural characteristics which are not pruned and cast out to make room for others contemplated to be more useful in developing a culture, but are taken as a starting point and used as the foundation of the child's future training. The more natural characteristics an uncultivated plant has, the stronger and more promising is it considered to be in the light of capacity for improvement; and likewise, the greater the variety of the natural gifts of the child, the more hopeful is the outlook for his future development.

It is, therefore, greatly to the advantage of the child to begin his school career with a rich variety of impulses, experiences, ideas, conceptions, tastes and desires, for this serves as the raw material that is to be worked over and systematized as well as enriched by the refining and elevating influences of the school room. A child lacking these, the teacher must put him in possession of them herself, before the process of enlightenment can begin, for

a foundation of natural characteristics is essential to the building of a character.

Not reading, or language, or music is what the child wants, but a development of his sense perception. It is these things which form the foundation of these things, and which must necessarily come first in the course of events. This is a contrast to the more common method of making regular instruction so heavy a part of the child's first days in school. His concepts are the source of his imagination, and accordingly, such should be the chief aim of the first year's work, while a facility in reading should be quite secondary in its importance. A limited imagination will handicap a pupil in every branch of intellectual activity as he proceeds, while a rich imagination will enable one to feel and tread in new fields, and more quickly to accommodate themselves to new exigencies. The imagination is the most valuable as well as the most active asset which the child has, and much pains must be taken to cultivate, enlarge and vivify it as much as possible.

Hardly less important is the practice a child should have in expressing his ideas. Imagination is important as a means, whereas adequate expression is the end to be gained, by using the material which imagination affords. As a rule, children love to tell about things, and this natural inclination on their part should be encouraged and used for all it is worth.

While the first year's work is concerned chiefly with enriching the child's store of concepts, imagination, and primary facts of knowledge, and co-ordinating them in such a way that they will be available as material for carrying on his subsequent education, the second year's work faces the problem of training the child to express himself in adequate terms, and to develop the power to make his ideas clear in the form of language. Of course, attention is given to this in the first year's work, and-too, multiplication of concepts will continue through the second year and every year to follow. The general plan does not differ materially in these two grades, but the emphasis is reversed.

The time has come, therefore, if it has not already been anticipated in the latter part of the first grade, when the teacher must be fully awake to the importance of the child expressing himself adequately. The child always has more ideas than he has devices for expressing them: - in other words, the acquisition of ideas will keep ahead of his ability to state his ideas in words consequently, steady and systematic drill and practice in expression will be necessary in order that the ideas which now come crowding into the child's mind will have sufficient outlets so that they may become fixed by use, rather than that they may ever die of inaction.

Expression is the most necessary tool in the child's whole school career. The time to make it count for the most is at the outset, when he can get a good start. He will be able to go but just a little way in advance of his ability to express himself, and it is therefore necessary, not only to give him a good start, but to see that the momentum once acquired will be maintained. This is a thing that can not

be emphasized too much. The higher is always grounded in the lower, and if it is not possible to put the ideas into language form it will be impossible to constitute new ideas in the next step above. In other words, it is not possible to think more than one step in advance of one's ability to express oneself. Crude and inadequate expression means crude and inadequate thought in the next higher plane, still more crude and inadequate thought on the next higher, and so on, until all power to think at all has become extinct through inability to express the thought. This means that one can rise no higher, but must remain indefinitely on this plane, unable to help it if others less capable in thought, perhaps, but more fortunate in ability to express themselves, surpass him; and powerless to prevent younger minds who are able to speak their thoughts, from rising above him.

Expression is essential in making one's ability count for the most. His power might be great, and his talent in proportion, but without the ability to put into concrete form what is perhaps able to move multitudes, one may not

even impress the most credulous child. Influence is communicated through expression. The secret of influence which some minds possess is the aptness of their powers of expression. In fact, it is not to be supposed that one can influence another if ability to communicate is dwarfed. Imagine a foreign tongue which is entirely unintelligible, trying to move the populace. Be it ever so powerful an intellect, the fact of its being unintelligible precludes all the possibilities which do exist among the people who understand that tongue. If influence is proportional to the power to express, it certainly is to be supposed that this is one of the paramount educational ideals.

The world can never know and will little realize what they lost in persons being unable to express themselves. Many noble sentiments, high ideals, beautiful thoughts, wonderful inspirations, and splended ambitions, have been stifled and hid from the world in a dark intellect, unable to get out and assert themselves, unable to be communicated to other minds, and handed down to posterity, and there they

have died, a loss irreparable, and a treasure gone forever. Think also of the many things we have language to thank for. The beautiful words of Tennyson, Emerson and Lincoln. Without such, the splended products of their intellects would never have reached us.

An idea can never be made clear in our own minds until it is expressed. Just as an object can not be made clear to the eye until it is once seen. This making more definite the ideas which exist in the mind will reveal defects and inconsistencies, as well as relations with other ideas. Power to transmit ideas from one mind to another through the medium of expression, bring different minds together, and their respective ideas become enriched through contact. The difference between expression and non-expression is as the brightness of the day is to the blackness of night. The danger of losing an idea through lack of words to pin it to, must be averted.

One of the principal faults with early language work is the tendency on the part of children to relate

things as they think the teacher would like to have them related, instead of telling it straight from their own soul. Attempts to merely please the teacher are valueless in training the child in the use of language . What is essential is, that the child express his own thoughts, as being the things most interesting to him. Not the things which interest the teacher, but which interest the pupil. It is apt to be a tendency on the part of both the teacher and pupils to drift into this way of conducting the work, and care should be exercised that topics used in oral and written composition be full of interest to the pupil, and that it is the thought of the child rather than that of the teacher that is obtained.

Another very serious fault is that children grow up to despise the most sublime things of man's creation, because the child is subjected to endless mechanical drudgery without sufficient recreation in the beautiful and pleasant things which are suitable to his own age. The child's mind is left empty, and the cheap things which drug the market, rush into fill up the vacuum, and as the unused plow becomes

corrupted. If the child's mind is kept continually full of the profitable things which please him, the vicious things will not have a chance to attain.

Literature can be used profitably in language work, and, in fact should be a fruitful source. But literature should not be used for literature's sake, any more than language forms of any kind should be used simply for their own sake. Literature is merely a language form, and is valueless unless it expresses a thought which may be made the child's own possession, and has nothing of beauty about it, unless the thought which is by it made beautiful, is conceived by the child in his mind. Literature may thus serve as a good conveyor of ideas, or serve as a good garment in serving a thought which already exists in the child's mind; but it is empty, unelss and meaningless, without the idea to convey, or the thought to clothe. Literature may be harmful, certainly nothing is gained by it, in compelling a child to stumble through an expression that is not suitable to his needs, and putting him through meaningless phrases, which

express thoughts which are never his own.

History.

The high school pupils of the school before mentioned were asked to tell who these prominent historical characters were: The numbers indicate those who showed by their answers, not the least knowledge of any kind, whatever of these persons. This included a few history pupils whose work, of course, made them familiar with some of them.

Charlemange	34	87%
Ptolemy	36	92
Alexander the Gt.	37	95
Frederick the Gt.	37	95
Knute Nelson	27	68
Champ Clarke	32	82
Fallieres	36	92
Asquith	36	92
Homer	31	80
Peter the Gt.	35	90
St Michael	38	97
Pius X	30	77

Nicholas III	35	90%
Gregory VII	34	87
Laurier	36	92.

There were several answers returned which showed a confusion of names, such as Peter the Great building St. Peters Cathedral; and Pius X being a bible character; and two or three who new that Homer was a writer, when or where though, seeming to be entirely unknown, which are not included in the above. St Michael was included in this list for the reason that several Catholic children belonging to "St Michael's Church" were in the school, and this was asked to test the knowledge which they had of their patron saint. The one girl who seemed to have any idea at all was a protestant (Presbyterian).

These pupils were also asked to tell what the following were, and the same principles as before operate in determining the percent of ignorance pertaining to them:

Renaissance	35	90%
Massacre of St Barthalamew	38	97%

Battle of Waterloo	24	62%
Crimean War	35	90%
Feudalism	29	74
Edict of Nantes	39	97

Cases of perverted knowledge occurred in this list as in the others, such as the "Renaissance is an English poem."

These cases serve to illustrate the shortcomings of history instruction in the grades. These questions all concern the principal characters and events of history, and failure to know them dooms one to a reproach for which they are not to blame.

History should arrange its material according to the age and capacity of the child, so that by the time he enters high school, he will have a broad and comprehensive and fundamental knowledge of the chief facts of the history of the world, without being burdened by a great mass of facts which he can better assimilate at a later period than at this time of his life. Much effort now is made to lay

a foundation for American history, so that with the modernizing of the methods of teaching it, we are tolerably successful in obtaining our end so far as American history is concerned. But of the great facts of ancient and mediaeval history, and events of prime importance in the history of other nations, well within the comprehension of the children, little or nothing is done until the ninth or tenth grade, and children thus come into high school totally ignorant of many facts of common knowledge. This means that time must be taken in high school to teach these elementary things, or, if the pupil fails to elect history, he misses them altogether, and goes into the world, ignorant of many necessary facts of knowledge. The Course of Study should be revised so that the rudiments of Universal instead of American history are taught; so that the names of Alexander the Great, Caesar, St. Paul, Charlemagne, Peter the Great, Queen Elizabeth, and Gregory VII are just as familiar to sixth and seventh grade children, as the names of Washington, Jefferson and Lincoln are now.

Drawing.

Drawing is a study whose scope and application needs greatly to be broadened. Examples of what it should cover are such as these: pencil work in all the grades, charcoal for older children, and blackboard and crayon for the youngest children, water colors, observation lessons and blackboard drawings by the teacher, paperfolding, paper cutting and pasting, stick laying and table work, clay modeling a study of artists' lives, rudiments of architecture, masterpieces of art and sculpture, etching weaving, woodcutting, leather work, bookbinding, metal work, mechanical drawing, perspective, etc. There is no reason why children should not know the first principles of all these things. It is as much within their power to know the principal artists, their chief works, nationality, period, character of masterpieces, etc., the various schools of art and styles of architecture, as any other department of knowledge. Drawing (including manual training) is capable of far greater broadening in scope than it has yet obtained.

Not only this, but children may just as well be made artists as not, if taught while young. Out of several drawings made by high school pupils, of a cat, a box, a tree, and a bridge, there was just one which ~~was~~ ~~which~~ was a real drawing. The others were ridiculous charactures which any six or eight year old child could have done just as well.

Music.

The restrictions upon the scope of public school music have already been referred to. Besides vocal music, it would not be amiss to introduce free instruction in piano, violin, horn, etc., and to train musicians in orchestra, band, opera and choral music. Besides training along strict musical lines, voice culture involving musical principles ought to be adapted to talking and reading aloud; towards cultivating a musical and pleasing tone of voice in ordinary conversation, towards elocation, oratory and lung training, in which the muscles controlling the voice should be developed.

Geography.

A list of cities from all over the world was given to high school pupils to locate, resulted in a general average of nearly 90%. This was a good showing, despite the fact that in a few scattering instances, Turkey was found to contain such diverse places as Rome and Cape town, while Spain was said to be the home of Glasgow. Also that the siege of Granada was "a siege of the British by the Boers at Gibraltar." Geography as now found is generally well taught, but follows a regularity of order and a rigidity of plan that has a curious effect upon the knowledge of pupils concerning local geography. These pupils were asked to locate four of the townships adjoining the one in which the school was located, without indicating, however, what the names of the townships had reference to. There were 19 of them who did not recognize any one of them as the name of an adjoining township; 5 who recognized one; 4 who recognized three; and 7 who recognized all four and located them, making an average of 34%. They were also asked to locate

as many railroad stations in the county as they could, with the following result:

No. Stations named.	No. Persons Naming.	No. Stations named.	No. Persons naming.
0	1	8	4
1	0	9	3
2	1	10	1
3	8	11	1
4	2	12	1
5	5	13	11
6	5	14	0
7	5	15	0

Among the "railroad stations" in the county mentioned were Minneapolis, St Paul, and Winona, all a considerable distance away. The average of this was 48%.

The principal rail road connections at two near by cities, each about twelve miles away, were known at one of the places by 20, and at both of them by only 7 pupils.

Of the six counties which touch the county in

which the school is located,

10 children could not name any of them

4 " " name one county.

12 " " " two counties.

7 " " " three "

6 " " " four "

0 " " " five "

0 " " " six "

While there seems to be a good general knowledge of geography, knowledge of local geography is exceedingly meager. The practice has long been, and is still general, to begin with the New England states when studying the United States. Those studied, New York and the middle states are taken up next, and so on. In the course of time the locality of the school is reached, but so various and novel have been the experiences in new climes, that the prosaic knowledge of the home state and county are very uninteresting in comparison. Consequently there is not much interest in them, but a desire to pass them as quickly as

possible, into other fields whose fascinations are proportional to the distance from home. Local geography should certainly come first.

Local geography should likewise be studied more in detail than other places, as being the region the child is expected to need most knowledge about. As it is, least time of all is spent upon the immediate vicinity of the school. What the child knows about neighboring hills, towns, streams, and places of interest, is mostly what he learns outside of school, and such parts of the region as are too far away for a child to reach, or to hear much about, he remains in ignorance of until such time as he is able to read the county paper for himself, and learn from sources extraneous to school work. There were 17 children in high school asked as to which was in their opinion the prettiest place within six miles of town. Of the seventeen answers, not any two named the same place. An intelligent direction on the part of the teacher could point out many places of beauty and interest, and facts of valuable information

that many people in the locality remain ignorant of for years. At least, it guards against the embarrassment which an American girl in Berlin felt through being obliged to confess to a German gentleman that she did not know the name of a single kind of tree in the United States.

After town and county geography, the scopy should be widened to the state, the adjacent states, the United States, North America, the world, and finally geography of the universe (astronomy). Facts of physical and commercial geography naturally fall under this subject, and should be enlarged upon as the scope of the subject increases. These questions which geography aims to teach at the present day were asked of the high school pupils who gave the answers preceding: with the customary numbers and percents of those who did not know:

What causes the eclipse of the sun?

34 86%.

What causes the change of seasons?

29 74%.

Questions involving much technical science, as these do, should be bereft of what is beyond the depth of young minds to master. That done, and their general cause can be readily retained.

There are many facts of valuable information which should be learned in a grammar grade geography course but which young people show an astounding ignorance of at the present time, as the following experiments with these same high school pupils show. They were asked to tell what part of the engine these parts were. The numbers and percents not knowing as before:

Piston	33	85%	Fire box	25	64%
Cylinder	34	87	Steam chest	31	79
Safety valve	34	87	Steam cock	35	90
Oil cup	19	49	Gauger	33	85

The most remarkable answer to any of these questions was that the fire box contained the water.

Similar questions concerning automobiles were asked, and a few showed a good knowledge in general. Upon

asking where they got their knowledge the following sources were given:

By observation	10
By asking questions	4
From catalogues	3

It is needless to say that "school" was not given as one source of this knowledge.

They were asked to tell how the religious denomination to which they belonged had its beginning in this country. This may be more or less of a historical question nevertheless it is not an inappropriate one in geography as fixing in the mind the location of where it might be. Out of 39 the following were able to tell:

Catholic	4
Methodist	1

The pupils were also asked to locate a number of well known colleges and universities in the United States with this result:

Minnesota	32 or 82% did not know
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Harvard	28	or	72%	did not know.
Princeton	36	"	92%	" " "
Yale	36	"	92%	" " "
Notre Dame	37	"	95%	" " "
Hamline	37	"	95%	" " "
Michigan	38	"	97%	" " "

The locations of these colleges were not known by a single one:

Gustavus Adolphus	Wellsley
Vassar	Columbia
Smith	Bowdoin

A number of Catholic children in the high school made the number of those who knew the location of Notre Dame seem quite small. The child who thought that Yale was in England seems no less remarkable.

The most conspicuous ignorance on the part of high school pupils was in connection with our most prominent railroads. A question asked the pupils to state the terminals of the main lines of these railroads, but any

information which they gave showing any knowledge at all was accepted. The greatest amount of knowledge shown was about the Northwestern (running through the town), and the C. M. & St P. Four pupils each seemed to realize that Chicago was the source of these railroads. The Union Pacific, Southern Pacific and the Candadian Pacific found three persons each who new where they ran. No one had apparently ever heard of the Soo, Pennsylvania, Baltimore & Ohio, Illinois Central, Or Northern Pacific, although as for the latter, one of the pupils some weeks before had inquired at the Principal's office what the "Great Northern Pacific" was. One pupil said that the Great Northern ran between St Paul and Minneapolis, while the farthest west that this road was carried by any one was to Bismarck.

These illustrations suffice to show what a field yet untouched remains in the field of geography.

Writing.

A pedagogical iniquity of the first magnitude has long been practiced in demanding of young children a

perfection in muscular movement, far in advance of their ability to be perfect. When a child first begins to use his muscles, his movements are very general and unspecialized. If he could point this way or that with his hand, so little under control would be the action of the forefinger that instead of it alone pointing the way, all of his fingers must extend out together in the direction desired. If he should execute a flourish in writing, so unskilful is he, that not only is no flourish distinguishable from the awkward swing across the paper, but ink bottle, pen and paper are apt to be carried with the flourish to an untimely fate. The principal movement in any act is thus greatly obscured at first by a multiplicity of irrelevant ones which accompany it, until as the child grows older, practice gradually eliminates these inaccuracies, and the superfluous movements are replaced by movements that count in the execution of the act. This is the distinguishing feature between the expert and the novice. The expert makes every movement count, while the novice encumbers his movements

with useless motions which impair his efficiency just that much. It is only as the novice decreases these useless movements that he becomes more and more expert.

The old idea looked upon this inexpertness of the child as a curse, to be crushed out as soon as the child could possibly be forced to acquire the shadow of perfection. The new idea looks upon it as a blessing to be cherished and prolonged through the period of natural growth. In fact, child nature is such that to hasten the muscles in their development, is to produce at maturity a stilted and unnatural type of perfection, far inferior to the well rounded perfection attained through growth and natural development. The child is incapable, before his muscles are sufficiently co-ordinated, of doing what is often required of him, and to impose upon him the demands of exactitude and precision, which only years of practice should ever approximate, before even the most rudimentary notions of his members have become involuntary, can not help but bring grief to that individual whose organic nature is to begin

at rock bottom and build slowly and surely upwards.

The weight of the old idea has wrought disaster to nothing in such serious proportions as to the teaching of writing in the public schools. The country has permitted conscientious but unskilled teachers to put pens into the chubby hands of small children, and before they could scarcely hold them in their fingers, place copy book types of perfection before them, with the expectation of obtaining like results from the hands of the children, at least as soon as it could be done. This has been fundamentally wrong. The children must be given time to grow. He has the time, for it will be six or eight years at least before he passes into the business world. Before that time it is immaterial as to whether he is a perfect writer, and since it is such a vicious practice, it is entirely wrong to encourage it. It is no matter if his a's and e's are crooked. He has plenty of time in which to straighten them. The principal thing is to see that he starts right, and travels the right road after he has started.

The fundamental idea in the teaching of writing is the full arm movement. This should never be neglected. The idea is to teach it to the child before he has any time to learn incorrect finger movement. The only reason that it is so difficult to replace finger movement by arm movement is that they have learned the former first and are loth to part with it. If they could learn the arm movement first, there will be but little difficulty in confirming it in them as a habit by continuous practice as they advance from grade to grade. This necessitates beginning very early to practice the arm movement, and not giving the finger movement a chance to get started.

Copy books have no place in the school. None whatever, should be used by the pupil. Free movement is what is desired instead of a slavish imitation of a stilted copy. And when the child has learned the movement, he will have developed a shape of his own, which will be just as satisfactory in shape and regularity as the printed copy in a copy book, and besides having an individuality of his own

which can never be obtained by drawing the letters of a copy book. For the child who would "write" just like his copy, in reality will do nothing but draw it, as an artist would outline his model. Correct and neatly written copies made by the teacher on the board are essential, as a guide for the pupil, however, and not a copy. This guide will enable him to know whether he is making his letters correctly, and if his proportions are accurate, but will leave to the child the task of developing an individuality of his own.

Speed and rythm go hand in hand, as the next most important element in penmanship, to muscular movement. The copy book method of imitating very carefully, encourages slow and painstaking movement, just the reverse of what is desired in writing. Rythm should always accompany muscular movement, first by means of counting on the part of the teacher, so that later when counting is discontinued, the child will move his arms in terms of rythm involuntarily. Rythms acquired, speed will follow, and in proportion as

the rythm becomes more and more involuntary.

The exercises practiced in the writing lesson should first be made in a large hand, as that practice enables the child to use the free arm movement to greatest advantage at the time when their attention needs most to be called to that part of the work. When the movement for particular letter or exercise is mastered, the size should then be gradually diminished until it reaches the normal size.

The free arm movement should not be thought of as incapable of modification of any sort. Children begin with simply the free whole arm swing. But when they begin to use paper, modifications of the free movement present themselves. Writing on paper calls for finer movements than simply the full arm can make, and at this stage therefore, we find elbow or forearm movements made simultaneously with the full arm movement, When the form and shape of the letters become general, a finger movement, simultaneous with these two should gradually develop, as being necessary to execute

the finer and more delicate tracery of the writing. But, this comes last, and after the other movements are learned.

Elementary Science.

Just as history should be designed to give children an elementary knowledge of general history, so should elementary science be designed for the purpose of teaching the rudiments of natural science of all kinds. At the present time, little or no attention is given to natural science in the grades, and children generally enter high school without the slightest knowledge of any kind of science, and pupils who do not elect physics or botany graduate from high school without knowing what an atom is, or the function of a flower. As a result of this, high school science courses are so elementary as to be unworthy of the capabilities of a high school pupil. The high school must therefore go back and do primary work, which leaves no time, when this is completed, for work that is truly secondary in character, and the high school, therefore, misses its calling, through negligence on the part of the elementary schools. If a child were as well grounded in the

rudiments of science when he comes into high school as he is in English and mathematics, his first year science work would be comparable in value to what we find algebra and high school literature to be to-day. As it is, high school science is more like what algebra would be if the freshmen had to stop and learn the rudimentary principles of addition and common fractions, or what English would be if one had to learn the rules of capitals and punctuation. The Course of Study should make it possible for all children to come into high school with well formed ideas as to the parts and functions of the body, causes of heat and cold, disease and decay, formation of ice, steam, rain, snow celestial and terrestrial disturbances, etc. These will form a very valuable foundation for a higher pursuit of the sciences in high school than is now possible.

Civics.

This is a study the neglect of which in the grades, is producing a generation of citizens, destitute of civic principle, and ignorant of the very rudiments of that

which is more fundamental than anything else in the government of a free people. Time was when the old fashioned debating society served as a training school for citizenship, but now that institution has passed away, not only with nothing better, but with nothing at all to take its place. With nothing in the school to develop the child's interest in politics, and to teach him respect for law and authority, we find a people calloused to its iniquities, and indifferent alike to its rights and abuses. Children should be trained in citizenship and civic duty ~~and~~, just as much as in any of the elementary studies, and with the public school a product of civic development, it is its place if any one's, to inculcate this idea into the minds of the children of America.

The great success which attends the Catholic Church in attaching its children permanently to the church is due to their policy of systematic education at an age when impressions made are longest retained. There is no reason why this same plastic brain, which retains so

faultlessly, the doctrines of a church, may not be made to minister to the state in the same way, and make permanent the ideas of good citizenship and civic duty. Moreover, the Catholic Church, by means of ceremonies, symbols, mechanical acts of worship, etc., impress the child when the symbol is everything and the reality immaterial, and thus mould his nervous system so that later worship and beliefs become alike reflexive. Ceremonies (such as saluting the flag, singing patriotic songs at stated time, swearing allegiance, etc.) can be used in the same way to perpetuate loyalty among school children, for such acts would become as surely reflexive as religious acts. The state could then boast as the Church now does, that, given a child when he is seven years old, he will ever remain a staunch and loyal citizen.

As now taught, civics may cover a year's work in the eighth grade, consisting of abstract principles of constitutional law, and meaningless names of procedure in politics and government, which the child can not possibly

appreciate, without training in preparation for it throughout the lower grades. Civics would be to the public school, what religion is to the church school, and should therefore be as prominent and as thorough throughout the school career there as he would find religion to be in the parochial school.

The child is naturally vain glorious, egotistic and conceited in his earlier years, and at the same time endowed with a great overflow of energy for which a legitimate outlet should be provided. It is usual, however, for school, church, and home, to neglect this fact, with the result that children in their early teens become wild and untamed, given over to lawlessness and "innocent" crimes, which is excused by the older people as his "being only a boy", whereas, in reality, they are themselves to blame through their lack of proper supervision over the child's activities. The salvation of many a child lies in some responsibility suddenly falling upon him, which usually brings him to a realization of the responsibilities of life and a desire to be protected therein. He may then forget that

he was a boy once himself, and joins the throng of humanity that makes war upon the irresponsible boy of the next generation. The critical time in the boy's career is prior to the time when some such responsibility falls upon him, for it is then that the unrestrained license of his course may lead him to develop habits that either ruin, or seriously impair his capacity for citizenship. Many of them weather this crisis safely, but far too many of them do not, and all are subject, more or less, to the dangers of such license. The need of the time is suitable direction for this energy during this crisis, and as truly as industry, economy and politeness can be taught to a growing child, this can be done. Some measure of responsibility, regulated to meet the age and circumstances of the child, with suitable punishments and rewards to inspire faithfulness, and a conscientious regard for its success, should be developed and maintained throughout the child's career so as to teach this self government, and rescue him from the dangers attending irresponsibility. Self-government, under proper

supervision, is possible, for where it has been tried, such as New York and Chicago, it has proved successful. It is possible to supersede the vigilant and nerve racking process of surveillance which teachers of all the grades are forced to undergo, by an automatic system of self-government which the child from the first learns to enter into. Civics and governmental science will not then be meaningless phrases.

Spelling.

The freshmen of Northwestern University in 1909 were asked to spell 100 words in common use. Following are a few of the words with a few of the spellings which some of the students gave:

Irregular: Earegular, iregeler, iregealor.

Accessible: Excessable, assessable, axesble.

Apprentice: Aprentase, aprentis

Counterfeit: Counterfit, counterfite, counter-
(pheet.

Chivalry: Shivalery, shivelry, ohifalery.

Magazine: Magazeen, magazeen, magizene.

Plumage: Plumnage, plumeage,plumaeg.

Anthracite: Anthreecit, anthrisight.

Adage: Addage, addige.

Municipal: Munisipple, municiple.

Glacier: Glassear, glashier.

Intelligence: Enteligance, Intelegence.

This shows that something is wrong with spelling as taught in our public schools.

There is no reason why spelling may not be made a science as well as other studies. Writing has recently taken up with business college methods of instruction, which bids fair to revolutionize penmanship in the public schools. Business college methods in spelling are just as successful as penmanship, and they could with profit be introduced into the common schools of America.

The most successful method so far tried is the "intensive method", now operative in the Cleveland Public Schools. By it a very few words constitute a lesson, and are used in every imaginable way, so that its form may

become thoroughly familiar. These are dwelt upon until absolutely known by every child. Contests operate to keep up interest. So far as the intensive lessons are concerned, it seems as if it could hardly help but bring about the desired result. As for contests, such a procedure among young children, whose nervous systems are not yet strong enough to stand the continued strain of a contest, the value would seem more doubtful.

Physical Training.

One last word respecting a branch of the Course of Study which is still in its infancy, but the development of which will be one of the most important steps ever taken in educational history. This is physical education. Private and semi-public gymnasiums have supplied this need where it has been felt, for some time past, but it is only recently that the interrelation of mind and body has been appreciated, and physical culture therefore recognized as most appropriately belonging there as a part of that process which we call development of the mind. The schools, in

spite of many shortcomings, have accomplished wonders in intellectual development, but have left the other side of the child's nature untouched. A one sided man is as much of a menace to society as an under developed one, and the school has therefore failed to completely fulfil that function which we would have it perform, namely, making the best kind of a citizen out of our youth. Those things which belong inseparably together, can not be torn assunder, and treated as complete wholes in themselves. Mind and body are too intricately connected that their successful development should be accomplished apart from each other.

There exists, of course, "athletics" in connection with nearly every school of any pretention. Athletics, however, as they exist in our present day high schools, are worse than useless. A few boys, often barely enough to form a team, devote the major portion of their time to athletics. Their "capers" are not true athletics, but play, and their lessons are a very secondary consideration. Gymnasiums are sometimes provided for them, and not infrequently

the most commodious quarters of the school building are set aside, for their exclusive use. Expensive outfits are purchased for them, and liberties are often accorded them which are forbidden to other pupils whose physical prowess happen not to qualify them for these special privileges. Three quarters, and sometimes the entire play ground is given over to them, and the small boy who may happen to venture thereupon fares badly, often times at the hands of an indignant professor. He must resort to the street if he would play. In short, the "athletes" own the premises. All this for a few, strong, robust, healthy, young fellows, who do not need it, but whose tendencies are such as ought to be checked, rather than intensified by every device which the school can afford for them, while the great mass of pupils, both old and young, and who are the ones who really need it most, are neglected entirely. They form the base proletariat of the school, who must stoop and bow to an athletic aristocracy, every bit as intolerant and overbearing as the feudal lords of old, who held dominion over the lands of the oppressed.

Regular periods or intervals during the day should be provided for physical instruction to every child, and fitted to every one's needs. Well equipped gymnasiums and a special supervisor should exist in connection with every school. Play grounds, specially provided, and equipment, with parks, tennis, base ball courts, sand piles, etc. should be provided for children of every age, and the play hours strictly supervised. Los Angelos, Buffalo and St Louis have recently entered upon such policies for the children in the public schools, and its rapid extension is desirable.

But there is another side of physical training in the public schools. A vigorous protest was recently entered by the Superintendent of the Boys' Training School at Red Wing, because of the serious cut made by the legislature in the appropriations for the gymnasium for that institution. His chief complaint was the fact that removal of gymnasium facilities was a removal of the one means whereby discipline could be maintained among the boys.

Here is the foundation of the matter. Physical development is the foundation for corresponding growths in the intellectual life, and proper development along these two lines, in turn, are essential to adequate moral development. The two sided nature thus becomes a three fold one, each depending upon the other next lower for its existence and since the schools have assumed the responsibility of one of them (intellectual), it is not too much to ask them to assume the responsibility for all three (spirit, mind, and body), in view of the fact that they are all so intimately related. And especially should this be so when we take into consideration the importance of the physical in the child. The child reflects the characteristics of man which he had in the early stages of evolution, and since physical development came first in the history of the human race, and, therefore shows itself first in the life of the child, it constitutes the foundation for all subsequent achievements by the species, Its importance, therefore, can hardly be overlooked.

The following is suggested as a plan of distribution of work through the eight years of the elementary grades. The numbers indicate the number of recitation periods a week.

	1	2	3	4	5	6	7	8
Writing	5					-	-	
Arithmetic	-	-	5					
History	-	-	Occasionally	2		1		
U. S. History	-	-		3		4		
Music	5							
Drawing	5			3				
Civics	Incidentally							
Man. Training	-	-	-	2				
Domestic Sc.	-	-	-	-	2			
Reading						- - -		
Literature	10		5			5		
Spelling	5					5		
Lang. & Gram.	10		5			5		
El. Science			5			5		
Geography	-	-	5	5			5	