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FUNDAMENTALS IN METHODS



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FUNDAMENTALS IN METHODS

IN ELEMENTARY SCHOOLS

BY

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LIFE AND THE RURAL SCHOOL"

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Dedicated by the Author

TO THE

ELEMENTARY TEACHERS.

BOTH RURAL AND URBAN, OF THE NATION — THAT VAST ARMY
WHO ARE OUR SHIELD AND OUR DEFENSE, AND WHOSE
LIVES ARE A SACRIFICE UPON THE ALTAR OF CIVIC
RIGHTEOUSNESS AS THEY BATTLE VALIANTLY
AGAINST DISEASE, VICE, AND IGNORANCE
IN THE "SAVAGE WARS OF PEACE"

PREFACE

THE author has long been impressed with the poor methods and the lack of genuine efficiency in elementary schools everywhere, both rural and urban. Having been a teacher and supervisor of both kinds of schools, he feels that this observation and experience at first hand enable him to speak with some knowledge of the facts; and he hopes that his message may be of some value to the elementary teachers of the country. Moreover, he takes a deep and special interest in the rural and elementary schools generally, and any adverse criticisms of the work done there are given in a friendly spirit and for a constructive purpose. The aim is to help and not to find fault.

The elementary school, urban and rural, is the foundation, the full basement, on which the superstructure of all higher education must be raised. Whether pupils are to live their lives in this basement or whether they are to erect upon it a one-story cottage in the form of secondary education or a two-story dwelling of college education, the foundation and basement should be of the best. It is in the interest of this foundation, "lest we forget, lest we forget," in its best construction, that this little volume is addressed to elementary teachers.

In accordance with the law of habit we become enamored of our own thought and action. They commend themselves to us more and more as we proceed. They

become a part of us and we fail to see them. We fall into ruts and remain unconscious of our condition. Rural buildings and premises and those in small towns and villages become more and more dilapidated as time goes on, and the owners, growing accustomed, from day to day, to the slowly changing appearances, do not realize the need of a fresh coat of paint and other improvements, till the conditions are really disgraceful. The stranger is impressed at once with the crying need of repair, while the owner, who has become adjusted to things as they are, is oblivious to real conditions. The same may be said of a man or often of his family, who do not notice that his hair has grown so long that it is a subject of gossip in the neighborhood. So it is frequently with the ways, manners, and methods of teachers. They do not realize that their teaching and their methods are in need of paint or that they are so "wild and woolly" that they are sorely in need of tonsorial treatment.

It frequently happens that a man, in planning a house which he contemplates building, is afraid of showing his plans to others, and least of all to an architect, for fear of hearing adverse criticisms on them and of having what he considered strong features pointed out to him as weaknesses. We are all prone to feel an evil security in our own thinking and modes of conduct. The man who is partly intoxicated thinks himself sober, and imagines that no one else knows that he has been drinking at all. Similar tendencies, conditions, and delusions are all too prevalent among teachers. They can not see themselves as others see them. But in the case of the progressive owner, if perchance he should forget, the

dilapidated condition of his house and premises need only be suggested to him or presented to him by a striking contrast, to have it remedied at once; and the man whose hair has grown long, unnoticed by him, will be brought to a realizing sense of neglect when his wife returns home from an absence! The man of any appreciation of the fitness of things will admit at once the faults in his house plan when an architect shows him its errors and tells him why they are such. There are many things which we have all been unconsciously or thoughtlessly neglecting and which need only be pointed out to us to receive our hearty indorsement; and there are other things which we have been practicing, which need only be mentioned as errors in order to be seen as such. And so it is in the methods of the teacher.

The purpose of this book is not to serve as a consecutive and detailed methodology, but as a discussion, as concretely illustrated as possible, which will, it is hoped, awaken or arouse elementary teachers to a realization of many common-sense injunctions or warnings which need only be mentioned, to be obeyed or avoided. The teacher must, in the last resort, be depended upon, with the aid of texts and courses of study, to work out, consecutively and minutely, the subject-matter and the procedure from hour to hour and from day to day. There are many good books on detailed methodology which would be of such specific help in the various subjects. This volume, however, is intended to discuss many of the chief points or turns of procedure and of methods, *in the large*; to point out fields and directions to be sought and followed or to be shunned and avoided. Its aim is to arouse and awaken teachers from a kind of

habitual lethargy; to cause teachers, whether in the rural districts or the schools of the city, whether young and inexperienced or old and full of experience, to make a professional self-examination, to set up for themselves standards of teaching and a true perspective of values.

We all need to revivify ourselves in regard to our methods of teaching. The author feels that he has been helped by his own discussion of the subject in the present volume and he hopes that his readers will be benefited, if only to a lesser extent, by the reading of it. We all need to consider and reconsider our habitual modes of conduct, especially in such a complex art as teaching. To re-awaken ourselves in this way brings upon us a reflex wave of thought and feeling that can not be other than beneficial. We need, everywhere, thoughtful and rational methods of adapting means to ends in education and in teaching.

The aim in the writing of every chapter has been to give aid in a concrete and definite way to teachers of the common school subjects and to arouse impulses and resolutions for better things in the minds of elementary teachers, supervisors, and superintendents everywhere. It is hoped that every elementary teacher may find in her individual reading of it much that will be practical and uplifting; that it may be of service in method courses in normal schools and reading circles and that supervisors and superintendents may find in it the keynote for more initiative on the part of teachers and more self-activity on the part of pupils.

Definiteness of aim is one of the most desirable things in the method and life of a teacher. If the aim is always clearly in mind, a teacher will usually find a way

or make one. The author attempts to show that clear definite pictures both in the aim and in the means are a wonderful help and inducement to progress by both teacher and pupils.

The author has avoided in his discussions the philosophical and highly speculative on the one hand, and the details of the hour and the day, which must in any event be left to the teacher, on the other. He has avoided ultimate analyses of methods and of subjects and has confined himself to the elementary point of view.

Upon request of the author that some concession be made to his advocacy (in Chapter IX) of some revision of English spelling, The Macmillan Company very kindly allowed a deviation from their usual orthography in the case of those words whose revised spelling is well established.

The author wishes to extend his thanks and to acknowledge his indebtedness to Mr. Rudyard Kipling and to Mr. Hamlin Garland for their kindness and courtesy in allowing the use of their selections for illustrative purposes in the text.

JOSEPH KENNEDY.

THE UNIVERSITY OF NORTH DAKOTA,
May, 1915.

CONTENTS

	PAGE
CHAPTER I. THE TEACHER AND METHODS	1
Methods, our masters	1
The environment	1
The workman or his tool	3
Fundamentals	4
Personal moral attributes	5
Other attributes	7
The school atmosphere	9
Illustrations	10
Extremes	11
Friends	12
The teacher after all	12
CHAPTER II. CLEAR PICTURING.	13
What does this mean?	13
Clear mental pictures	13
Idols of the market	14
Lack of true pictures	15
Why some writers are obscure	16
The dictionary habit	16
Different fields	17
Failure to picture correctly	17
In writing	19
In spelling	19
In arithmetic	20
In geography	21
In history	22
"English as she is taught"	22
CHAPTER III. THE MOST PREVALENT MISTAKE	24
Telling <i>vs.</i> teaching	24
Activity <i>vs.</i> passivity	25

	PAGE
Illustrations	26
Freedom and self-activity	28
Quality <i>vs.</i> quantity	30
CHAPTER IV. THE RECITATION PERIOD	31
Minds meet and level up	31
A testing time	31
Wrestling with the problem	32
A guide to the teacher	34
The review — "Apperception mass"	34
Introduction to the next lesson	36
Expression	37
The teacher's part	38
Necessary formality	39
Arousing interest	39
Summary	41
CHAPTER V. READING: FUNDAMENTAL PRINCIPLES	42
Most important subject	42
As a medium	42
As a mirror	43
As a master key	44
An easy but neglected art	44
Silent and oral	44
Falling down	45
Clear understanding	46
Understanding, liking, and expression	47
The reading	48
Choosing selections	48
Pictures on memory's wall	49
CHAPTER VI. READING: A CRITICISM OF METHODS	51
A common method	51
"Read the first paragraph"	51
Edwin Booth	52
What repetition will do	53
No enrichment	54
Fruitless criticisms	54
"Elocution"	55
Variations	55
Sources	57

Contents

XV

	PAGE
Promotions	58
Reading from a history	59
The notebook	59
CHAPTER VII. READING: THE BEGINNINGS	61
At six years of age	61
From the auditory to the visual	62
The word, the basis	63
Methods and methods	63
Teaching foreign children to read	64
The alphabet method	65
The phonic key	67
A case in beginnings	68
The first three months	68
First readers	69
The test of the pudding	69
Expression in writing	70
The pupil dependent in reading	71
Form and content in the tool stage	71
Words — total, known, and used	72
CHAPTER VIII. READING: SAMPLE LESSONS	74
Aims and methods similar	74
The presentation	74
Preparatory information	76
Work for the pupils	77
Preliminary questions	77
The old way and the poor way	79
Proximate analysis	79
The reading	80
The return wave	81
A study of details	81
Different versions	82
Punctuation and pauses	82
Biography of the author	83
Avoid too much thoroughness	83
Gems in brief	84
Another example	85
The preparation and questions	85
The emphasis of time	86

	PAGE
The reading period, a holy time	87
One selection may suggest another	88
Freedom in details	88
CHAPTER IX. WORD WORK: THE FORM	89
Spelling, or orthography	89
Mere spelling, not sufficient	89
Syllabication, important	90
Methods of syllabication	90
In oral spelling	91
Pronunciation and enunciation	92
Words often mispronounced	93
Difficult sounds for foreigners	94
Oral or written word work	95
Rules for spelling	96
Writing misspelled words	97
Words often misspelled	98
Diacritical marks	99
Spelling reform	100
CHAPTER X. WORD WORK: THE INWARDNESS OF WORDS	102
What is most important?	102
Slang words	103
Abused words	104
How meanings are learned	105
Word revelations	106
Words differ in interest	107
One sample of an interesting phase	107
Meaning of proper names	108
Word structure	109
Some important prefixes and suffixes	109
Another interesting sample	111
Samples of interesting etymology	112
Technical terms in word work	113
Lesson assignment	114
Sources	115
CHAPTER XI. WRITING	116
With reading at first	116
The present status	116

Contents

xvii

	PAGE
Copy-book work	117
Copy books made to sell	118
Careful beginnings	120
Motive	120
An artistic writer	121
The teacher's part	122
Aims	122
Writing, a means, not an end	124
Systems of writing	125
Analysis of letters	125
Slants	126
The children suffer	127
Much note taking and haste	127
In adolescence	128
Can a poor writer teach writing	128
CHAPTER XII. LANGUAGE WORK ELEMENTARY	130
The home	130
The school	130
United with other subjects	131
No separate period	131
Oral and written speech	132
A written recitation	133
Growth of compositional power	134
The silent pupil	135
Not too much interference	135
The best only, acceptable	136
The inductive procedure	136
The criterion of good language	137
Capitalization and punctuation	137
Backbone words	138
The tabooed list	138
Occasions for language teaching	140
The recitation, oral and written	140
Reproduction of a story	141
The interpretation of a picture	142
Letter writing	142
Blackboard work	143
Compositions	143
Paragraphing	144

	PAGE
Correction by marginal signs	145
Dictation	146
The hearing needs training	147
The typewriter	148
Idea of quantity, too prevalent	148
A textbook in language	149
 CHAPTER XIII. LANGUAGE WORK . ADVANCED	 150
Language lessons and grammar	150
Grammar somewhat abstract	150
Grammar, psychology, and logic	151
Where to begin	152
Why disliked	152
The sentence, a cosmos	153
Thought material	154
Ideas, not words, related	155
Subject and predicate	155
The identical sentence	156
Grammar, a part of language work	157
Sentence analysis	157
How ideas work	158
Parsing	159
A too common situation	159
Grammar, a science ; not an art	160
Does grammar aid in good language ?	160
The diagram	161
Grammatical terminology	162
Difficult to teach	164
 CHAPTER XIV. ARITHMETIC . ELEMENTARY	 165
In primary grades	165
The Grube method	166
Abstract from the concrete	167
Avoid slavery to the concrete	167
Too much time on arithmetic	169
A revival of mental arithmetic	170
A tool to fight our environment	170
Translation of Arabic signs into English	170
Neat figures	171
Teaching the decimal conception	172

	PAGE
Notation and numeration	172
Rapidity	173
Some points in addition	173
The multiplication table	174
Imagination in arithmetic	175
The sign of multiplication	177
The precedence of signs	178
Basis of cancellation	179
Figures should tell the truth	179
The proper form in multiplication	179
The form of division	180
 CHAPTER XV. ARITHMETIC: ADVANCED	182
Acquired incidentally	182
"Fractions," not new	182
Clear conception of fractions important	183
Only like units can be united	184
Greatest common divisor and least common multiple	186
Employed in fractions	186
Terms should be explained	187
Invert the divisor	188
The unit of the fraction	189
A problem and its solution	189
The question, "Of what?"	190
Some algebra, or general arithmetic	191
Old friends in new masks	191
The decimal plan	192
The use of the decimal point	194
Origin of the decimal system	196
Beware of the "and"	196
Imagination in arithmetic	197
(1) The area of the circle	197
(2) The Pythagorean theorem	198
(3) A lumber problem	199
(4) The bushel	200
(5) The gallon	201
(6) Ambiguous terms in weights	201
The metric system	202
The commercial part of arithmetic	203
Ratio and proportion	205

	PAGE
Square and cube root	206
Wake up mind	207
CHAPTER XVI. GEOGRAPHY	209
Purpose of the study	209
At first correlated and incidental	209
The systematic teaching of geography	210
The proper procedure	212
Clear picturing	213
The idea of location	214
The idea of direction	215
The globe as a whole	216
Analysis as well as synthesis	216
Topics and questions on the globe	217
Relative magnitudes of facts	219
Isolated and barren facts	220
Some dependence on memory	221
Reason in geography	221
Map drawing	223
Relative sizes and distances	225
Other helps	226
An outline	226
Practical applications	227
CHAPTER XVII. HISTORY	228
At first wrapped up with reading	228
The beginning and sequence	229
Use a good text	230
Correlation by side excursions	230
Geography the handmaid of history	231
Kings and wars too prominent	232
History not a "narrative of events"	233
Should not be too philosophical	233
The golden mean	234
Facts and principles of first magnitude	234
Memorizing history	235
History and patriotism	236
Ideals and history	237
Is history "true"?	238
Method and results	238
Grasp of movements in the large — samples	238

Contents

xxi

	PAGE
CHAPTER XVIII. HYGIENE	241
Importance	241
Hygiene taught topically	241
Not anatomy	242
Nor physiology	242
Knowing and doing	242
Hygiene	243
Clear presentation	243
The chief topics branch out: samples	244
1. Respect for the body	244
(a) Bathing	245
(b) Sex hygiene	246
2. The germ theory of disease	247
(a) Consumption	248
(b) Typhoid fever (call-back instruction)	249
(c) Lockjaw	250
(d) Trichinosis	250
(e) Flies	251
3. Fresh air	251
(a) Unventilated public buildings	252
(b) An illustration	252
(c) The Black Hole of Calcutta	252
(d) Breathing exercises	253
4. Care of the eyes and ears	253
(a) The lighting	254
(b) Restful colors	254
(c) Defects of vision and hearing	254
5. Care of the teeth	255
6. Exercise and play	256
(a) Outside games	256
(b) Indoor gymnastics	257
(c) What to emphasize and avoid	257
7. Alcohol and narcotics	258
8. Miscellaneous	259
9. References	259
CHAPTER XIX. THE TEACHING OF MORALS	261
Indirect teaching best	261
The moralizing power of the teacher	262
The moralizing power of schoolmates	263

	PAGE
Habits of preparation and presentation	264
The subjects themselves moralize	265
(a) Arithmetic	265
(b) Language	265
(c) Geography	266
(d) Science	267
(e) History	268
(f) Reading	269
Subject-matters ethicized	269
Good pictures	270
Influence of music	271
The school organization	272
Watch for defacements	273
By reading and telling stories	274
A collection of literary gems	275
First prepare the soil	278
Favorite maxims	278
Short biographies	279
The school spirit	279
Self-assumed law	280
Morals in the public schools	280
CHAPTER XX. THE SPECIAL SUBJECTS	282
The school a sample of real life	282
The newer subjects	282
I. <i>Music</i>	283
Importance	283
An advantage in school government	283
Not merely formal	284
Not a merely feminine subject	284
Should not be discredited	284
The proper procedure	285
What to avoid and emphasize	285
Materials and equipment	285
The aim	286
II. <i>Drawing and Art</i>	286
Danger of formalism	286
Content needed	287
The aim	287
The equipment	288

Contents

xxiii

	PAGE
Care of materials	288
Topics	289
Sources of information and supplies	289
III. <i>Nature Study</i>	289
Importance	289
Not microscopic	290
The aim	290
First-hand knowledge	291
Some source references	291
IV. <i>Agriculture</i>	292
The nation awakens to its importance	292
Competent teachers needed	292
What to avoid	293
Rural life in proper light	293
Some specific topics	294
Farmstead conveniences	294
Reference books	294
V. <i>Domestic Science, or Home Economics</i>	295
Its value	295
The aim	295
What can be done	296
Equipment and material	297
References and sources	297
VI. <i>Manual Training</i>	298
Value of expression	298
Correlates with life	298
Scope	299
Equipment and room	299
References and sources	300
VII. " <i>Wake up Mind</i> "	301
An important period	301
A few sample topics	301
Contagious interest	302
CHAPTER XXI. METHODS IN SCHOOL MANAGEMENT	304
Importance	304
A good letter of application	304
Contract	305
Go in time	305
"Get into the game"	306

	PAGE
The first day	306
Masterfulness	307
Proper seating of pupils	308
Don't boast or "knock"	308
Few rules	308
A test case	309
Visit the homes	310
Don't teach the home school	310
Signals in the schoolroom	311
Keep the machinery in the background	312
The proper atmosphere and spirit	312
A clock and program	313
Regular and punctual	314
Teach how to study	314
Mental habits	315
A slave to text or course of study	315
Repeating answers	317
Stand or sit?	317
Reviews	318
Call back instruction	318
Nagging, an abominable vice	319
Supervise the playground	319
Cleanliness	319
School entertainments	320
The teacher should grow	320

FUNDAMENTALS IN METHODS

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CHAPTER I

THE TEACHER AND METHODS

Methods. Our Masters. — Talleyrand said that methods are the masters of teachers — “*Les methodes sont maitres des maitres.*” This is probably true in the sense that a person becomes a bundle of habits. Habitual methods may be either a servant or a master, either good or bad. If we use them with discretion and efficiency they are our servants, our means; but if we fall into ruts in bad methods, then they become our hard and evil taskmaster. Many school boards, in inquiring about applicants for vacancies, lay much stress upon mere experience; but experience may be an evil rather than a good, if the teacher has fallen into bad methods of teaching. One who has had no experience but who has made a study of the problems of education and the schoolroom and who has an open mind — always growing and always ready and willing to learn — gives much more promise of success than one who has had long experience in routine methods of questionable efficiency.

The Environment. — As methods are a large factor in the success or failure of a teacher, so likewise is the

general environment of the school. Environment means much in the education of the child. It means much, too, for the teacher, for it determines very largely her methods and her success. The school period, from about six years of age up to maturity, is the pliable and plastic stage of life. Impressions are rapidly taken and tenaciously held. The mind of the child, while not, as Locke says, like a wax tablet upon which the environment makes impressions, is at least a bundle of instincts and activities which may be fashioned, developed, or inhibited with great readiness under external influences. "As the twig is bent the tree is inclined," and as the human twig is bent the human tree will be inclined. Consequently there should be thrown around children in their school home the most educative and cultural influences possible. There should be a large and attractive school ground, neatly fenced and well kept in all respects; there should be trees, shrubbery, and flowers. The schoolhouse should be architectural in appearance and be characterized by fitness of means to ends in all its appointments. The seating should be adapted to the children and hygienically arranged with reference to the light; the walls should be done in colors both artistic and restful; there should be a few beautiful pictures which would be a good influence in the life of the children during the days, months, and years of their childhood and youth. The word "influence" means *inflowing*; and one can not live in the presence of a great picture for any length of time, any more than he can live with a great person, without taking into his own life something of the reality represented. This is nicely illustrated in

that charming story by Nathaniel Hawthorne, called "The Great Stone Face."

There should also be in the schoolroom all the material supplies, in the way of books, both regular and supplementary, dictionaries, library, laboratory, and apparatus generally which are necessary to the success of a school. No workman can do his work well without the tools wherewith to work. And so the whole environment of the teacher and the pupils, natural, esthetic, and practical, should be the most uplifting and stimulating possible. All these things are the means, the tool, in the education of the pupils.

The Workman or his Tool. — But the tool will not work alone. There must be behind the tool an efficient worker. However important the material environment, in the way of grounds, building, and apparatus, may be, the most important factor in any school is the teacher. The teacher is, in a true sense, the soul of the school. As is the teacher, so is the school: live teacher, live school; dead teacher, dead school. The teacher corresponds to the mainspring of a watch. He keeps everything going. It was James A. Garfield who said of his own teacher, Mark Hopkins, that he would be a good college, sitting on the end of a log. And certainly, if one had to choose between a great teacher with a poor equipment on the one hand and a poor teacher with a good equipment on the other, he would not long hesitate in his choice. The real master, the expert mechanic, with the poorer tool may secure results far in advance of the poorer mechanic with a good tool. The poor mechanic, the bungler, is always blaming his tools.

Fundamentals. — Since the teacher is central in the whole school situation, it is pertinent to discuss, in short, some of the characteristics of a good teacher and some of the factors which make for his success :

(1) In the first place, it goes without saying that such a teacher should be in good physical health and free from physical deformities of a serious nature. The physically well teacher is likely to be more cheerful and more just, and to have a saner perspective of life and of education than one who is not. People, too, with pronounced physical defects — those with defective eyes or ears, cripples, and similarly deformed people — should not be allowed to teach ; for children are imitative and impressionable, and serious physical defects are ever-present objects of imitation or elicit an undesirable response whether conscious or unconscious. They must have a depressing effect on children thru the months and years of an impressionable age.

(2) Then, secondly, the one who presumes to stand before children to teach them — to act as a guide for them — should have been over the ground himself in the subject-matter to be taught, and should be clear in regard to all the highways and byways in the subject ; in other words, he should have a clear intellectual grasp of the subject to be taught. He should have what might be called an “ easy mind ” in it ; that is, he should, in a way, be willing to challenge discussion on any point or phase of the subject which he is teaching. He should have clear mental pictures or definite concepts in every phase of the subject, whether it be grammar, arithmetic, algebra, or what not. The bane of teaching every-

where is obscurity of thought and imagination. Many pupils do not understand a subject because they do not get, from day to day, clear mental pictures of the subject-matter.

(3) In the next place, a teacher should, of course, be of good moral character in every respect. A person can teach only what he is, in the field of morals as elsewhere. The liar can not teach truth, in the long run; the dishonest person can not teach honesty; the impure person can not teach purity; and so it is of every virtue. We can give only what we have, and we tend to elicit in others a response to our own nature and characteristics.

Personal Moral Attributes. — It is difficult to describe what *personality* is; it is so mysterious and intangible. But there are some moral characteristics which may be mentioned as especially indicative of strength in the teacher. We give only a few, but from these we may judge all — *ab uno disce omnes*.

(1) One attribute, which deserves to be mentioned first and which is fundamental, is *justice*. Children in the schoolroom will put up with much if they think and feel that the teacher is just; and there is nothing that so weakens the teacher's influence and alienates his pupils from him as the feeling on their part that he is not just, that he is partial, that he has favorites. He may be severe and even cruel at times, but if they consider his treatment just they are ready to defend him.

(2) Another characteristic is that of *truthfulness*; it is at the foundation of confidence. If a teacher is caught in deception, in prevarication, in deviation from

the truth, even in small things, the pupils lose their respect for him; and while it may be that children are not, as is sometimes thought, the best judges of the moral character of a person, it is nevertheless true that sooner or later they will see thru deceit or untruthfulness of any kind.

(3) *Sincerity* is another characteristic which a teacher must possess in order to be successful. This is difficult to describe; it is something that is felt rather than seen. It is a kind of flavor of the personality which is sensed by a sort of intuition. It may be tinged to advantage, both with seriousness and light-heartedness. Sincerity in no way conflicts with a sunshiny and humorous disposition — in fact, they go together.

(4) It is doubtful whether a person who has no *humor* should teach. A vein of humor is a saving grace; there is no objection, whatever, to the teacher's and pupils' indulging in a good hearty laugh together. There is always room in every serious occupation for a good joke; it lets in a ray of sunshine, and we are bound more closely together by means of it. This does not mean, of course, that indulgence to an extreme in this direction is a schoolroom virtue; it might degenerate into buffoonery; but the teacher who has this virtue with the others, in due proportion, will see to it that no such extreme occurs. In fact, the danger is that schoolrooms go to the other extreme of over-seriousness and solemnity, if not sadness.

(5) Without the further enumeration of the moral characteristics of a personality that seem most desirable in a teacher, there is one which should not be

omitted. It is brought out in an artistic literary climax in the following little poem by John Boyle O'Reilly:

WHAT IS THE REAL GOOD?

"What is the real good?"
I asked in musing mood:
"Order," said the law court;
"Knowledge," said the school;
"Truth," said the wise man;
"Pleasure," said the fool;
"Love," said the maiden;
"Beauty," said the page;
"Freedom," said the dreamer;
"Home," said the sage;
"Fame," said the soldier;
"Equity," the seer; —
Spake my heart full sadly:
"The answer is not here."

Then within my bosom
Softly this I heard:
"Each heart holds the secret;
Kindness is the word."

Other Attributes. — Having given a few of the moral virtues which should be possessed by the true teacher, it may be well to give a few characteristics of the teacher from other points of view.

(1) The real teacher is a *leader*; he is a guide; he professes to have been over the ground and to know the way. In going over the Alps, for example, if two persons should offer themselves as guides, one saying that he has never been over the road before but that he feels sure he can take the visitor safely across, and the

other saying that he has been over the road many times and knows every byway and landmark, there would be but little doubt as to which guide would be chosen. And so the true teacher is one who is presumed to be a professional guide, who knows all the paths, all the cross-roads, and all the dangerous places.

(2) The true teacher is what might be called a *revealer*, an inspirer, of truth. Under his inspiration the blind see, the deaf hear, the lame walk. He feeds the mentally hungry and breaks the bread of life; he gives drink to the thirsty from the fountains of his own mind and life. He opens up to the child new fields of thought; he takes the pupil to different points of view, and when a subject is completed the pupil has seen it in all its relations. The pupil has made it his own, for the teacher has revealed to him the thought system of that subject. No pupil is being much benefited unless he feels the thrill of inspiration and revelation in the subject being studied. To *inspire* means to breathe into, and the true teacher breathes into the pupil his own spirit, his own enthusiasm, his own mental hunger and thirst.

(3) The teacher is also an *interpreter* of life, and the problem of the teacher is to induce the pupil to think a subject as it is thought by others. A *mediator* means a go-between; and the problem of the teacher is to bring the pupil and the subject together so that the former appropriates the latter and makes it his own — makes it his very self. The school itself, like the teacher, is a mediator between the individual and society. Their function and aim is to raise the pupil from the plane of the individual to the plane of the race. The problem

of the school is to make this transfer in the shortest possible time with the aid and coöperation of the pupils themselves. It has taken the human race thousands of years to work out and formulate in a systematic way the bundle of thought known as "algebra"; but the teacher and the school, with the hearty coöperation of the pupil, can hand over to him this bundle of thought upon a silver platter, so to speak, in a single year. Their great function is to short-circuit the long and laborious process of the ages. When a pupil has *thought* the subject of algebra he has taken over to himself and in fact has made a part of himself that which has taken the human race untold generations to achieve; and so the teacher is an interpreter to the pupil, of the thought and the life of educated society at its highest levels.

The School Atmosphere. — In all this leading, revealing, inspiring, and interpreting, there should be the most cordial and sympathetic coöperation between teacher and pupils. The mental and social atmosphere should be right. The attitude of pupils and teacher toward each other should be one of mutual love and respect. Where this atmosphere and this attitude do not exist the true educative process can not obtain. Socrates of old said that a pupil can not learn from one whom he does not love. We see the truth of this exemplified everywhere. If the child loves and respects his teacher he believes everything she says and defends everything she does; but if he has no respect for the teacher — if he detests and hates her — he neither believes nor defends her. In fact she is a blight upon his life and, instead of being educated, he is, in a true

sense, being de-educated. It would be better for such a pupil to be out of school, reveling in his native wildness and freedom, than to be undergoing a blighting, souring, and shriveling mental process.

Illustrations. — As children, we all, no doubt, have put a string thru the holes of a button and throwing it over each thumb have twirled it and drawn it back and forth so as to make it hum. This process symbolizes a good school: Where a teacher is, so to speak, drawing the school rhythmically and harmoniously everything moves well and there is present the hum of industry. But if the button or the school be not drawn harmoniously and rhythmically the whole thing becomes "balled up" in a snarl and all is chaos. This hum of industry is always preferable to the silence of death. The latter condition sometimes prevails under the influence of fear. There is no objection to considerable noise if it is of the right kind.

The teacher is, in a true sense, a hypnotist. The children under his care are in a suggestive and impressionable condition. If the right atmosphere and attitude prevail, the children are ready to receive suggestions instantly; and this is the most favorable condition for the process called education. Whenever the school atmosphere is such that the suggestions of the teacher are carried out immediately and willingly by the pupils the best condition prevails. Lew Wallace, in his description of the chariot race, makes Ben Hur and his rival come in to the goal with their horses neck and neck, and he says that Ben Hur seemed to "send his will out along the reins." A spirited horse likes to feel

the thrill from his driver's hand. The driver, in a true sense, sends his will out along the reins. This situation also symbolizes and illustrates a good school. If the school responds in a sympathetic way, the condition is right for true teaching. There are many schools where, instead of the reins' being held reasonably tight and where everything moves with enthusiasm and spirit, they are over the dashboard and the school is running away pell-mell !

Extremes. — The old-type teacher of a generation or two ago was noted for extreme severity. Fear on the part of the pupils and cruelty on the part of the master prevailed almost everywhere. Punishments, often severe and whimsical, were inflicted on all occasions and for minor and unintentional offenses. This seems to have been a part of the spirit of the age. The old-time severity was not conducive to true education: Fear always paralyzes rather than stimulates. It does not elicit self-control and coöperation, which are the very essence of the educative process. It may be true that we have gone to the other extreme in the "soft pedagogics," so often met with to-day. It frequently happens now that teachers wear their lives away and verge on nervous prostration, worrying night and day in order to induce, thru love and kindness, viciously inclined boys and girls to do the right and proper thing in school. There is no reason why corporal punishment should not be used in certain exceptional cases. In fact, a good, swift case of such punishment would be more wholesome to the pupil and to the school than scolding, nagging, and worrying on the part of the teacher. There

is no reason why the body should be more respected and protected than the mind; soul stabbing and mind souring are much worse for all concerned than the exceptional case of corporal pain.

Friends. — All of the foregoing attributes and illustrations imply that the teacher and the pupils are *friends*. This relation and its recognition by the pupils are indispensable. There can be neither good school government, good methods, nor effective learning and teaching where the teacher is not recognized as a friend. A high school teacher once told the author that it took him three weeks to convince a pupil that he was his friend. One Friday he asked the boy if he ever went hunting. The boy's eyes began to brighten and on the teacher's invitation the two went hunting on Saturday. After that the boy was convinced. The teacher hit upon Francis Murphy's method of approaching the boy from the "south" side. Needless to say that the boy was a good student from that day on.

The Teacher after All. — While methods, then, are very important, as we hope to show in the following chapters, it is the teacher behind the methods, the attitude of the teacher and pupils toward each other, and the general atmosphere of the school that are fundamental in school life and education generally.

CHAPTER II

CLEAR PICTURING

What does this Mean? — Probably the best thing a teacher can do is to give to her pupils clear, definite pictures corresponding to the words or phrases or to language, generally. Vivid picturing is essential to clear understanding in every field; without it the content of every subject remains indefinite and hazy. It may truthfully be said that pupils do not learn their lessons and do not understand the subject-matter in hand because they do not get clear, definite pictures from the words and sentences which they are reading. They do not learn their lessons simply because they can not *read*; for reading is simply gleaning, or gathering, the thought from the printed page. The language on the page is simply the form; the word is only the shell which contains the kernel, the husk covering the ear. Every word and sentence has a content; the language is the outwardness, and the content is the inwardness of it. Now, if children have merely the words without their meaning they have the shell without the kernel; the husk without the ear. The great question of the teacher upon all occasions should be, "*What does this mean?*"

Clear Mental Pictures. — Children, and in fact most people, are usually satisfied with mere words. This

is illustrated in the case of the boy whose mother tongue was not the English, who had read thru the first reader and could read, apparently, as well as any of the others, but who afterwards testified that he did not understand a thing that was said. It was "words, words, words." This, of course, implied poor teaching. Most teachers would find, upon making an investigation, that much of the thought of children is quite obscure. The boy referred to above probably gathered or gleaned only about five per cent of the thought. The teacher's work is to see to it that the children glean much more than this. It can not be expected, of course, that children gather 100 per cent of the thought of a writer; in fact, the total thought can not be transferred to any one. But certainly sufficient time, study, and conference should be devoted to a lesson to enable a pupil to gather 75 per cent or more of the thought. Every selection, or piece of writing of any kind, should cause to arise in the mind of the reader a series of pictures, a real panorama; — and if some of the words, phrases, or sentences in that writing cause no pictures to arise in the mind of the reader there are so many blanks, blotches, or daubs on the panoramic picture as a whole.

Idols of the Market. — Language is but a go-between, or mediator, between the writer or speaker and the reader or hearer. Language is the *representative* of the mind of the speaker or writer, and when it does its work it produces a more or less accurate *replica* in the mind of the reader or hearer. When this language is not understood no corresponding picture is awakened

or elicited in the other mind. When ambiguous language is used a wrong picture is formed in the other person's mind. This is often the case. Very many words have an ambiguous, or double, meaning and when such language is used the speaker and the hearer do not understand each other; language does not truly mediate or function. This has been the cause, and is still the cause, of most of the misunderstandings, quarrels, controversies, and even wars of the world. Bacon called words "idols of the market," meaning by this that words are like coins passing current from hand to hand and having different values for different people. One person thinks more of a dollar than another does of a hundred dollars; and each person is so firmly convinced that his own meaning and value of words are true that he is willing to fight and even to die for them; he really worships his own meanings and, consequently, words are, in a true sense, "idols of the market."

Lack of True Pictures. — The philosopher, John Locke, said that if two persons who disagree radically should lay aside all prejudices, secure all the facts in the case, and seek truth, solely, they would come closer and closer together and finally agree. This statement is no doubt true. It is language that is the distorting medium between human minds; but, since it is the only medium we have for the transmission of thought, we must make the best of it. But in the school-room, as elsewhere, the teacher should see to it that language carries over truthfully and representatively; that pupils get the right ideas, the right concepts, the true pictures which the language is intended to convey.

Why Some Writers are Obscure. — The reason that the writings of some men are but little read, even when they are meritorious, as in the case of Browning, is that the reader does not get clear, vivid, and mentally satisfying pictures from the words and sentences used. For the reader it is words, words, words! The thought, however beautiful it may be to those who are able to realize it, is too deep, too remote from the ordinary reader's experience, or too analogical to be grasped and pictured; hence the average reader gets only the form. Browning has but few readers, for people, generally, are not able to picture vividly his more or less philosophical content.

The Dictionary Habit. — Consequently, one of the best habits which a teacher can inculcate and ingrain in her pupils is what may be aptly termed the "dictionary habit." This habit should be formed as early as possible — probably in the third or fourth grade. While every school should have what is called an unabridged dictionary of some kind, this should be used merely as a supreme court — as a court of last resort; but every pupil should have in his own desk — his school home — a small dictionary of some kind. This he should be taught to avail himself of, to resort to, upon every occasion when some word comes to his notice which causes no picture to arise in his mind. One of the best mental conditions that can be induced in a pupil or student is that of feeling dissatisfied with not knowing; and one of the worst mental states is that of being satisfied with not knowing. If a pupil can be taught to turn to his dictionary every time some unknown word comes in his way in his school

work, it will be one of the best lessons which a teacher or a school can give.

Different Fields. — There are various kinds of pictures and different fields of imagination corresponding to our various senses. Most human beings are visual-minded; that is, most of their mental pictures are of the visual kind; probably four fifths of all our mental images are of this type. Some persons, especially those who are, by heredity, of a musical predisposition, live largely in an auditory world, where the pictures are largely of sounds. Some persons, like Helen Keller, who have no visual or auditory sense and who, consequently, live in both a dark and a silent world, live in what may be called a tactile world; that is, their world of thought is in terms of touch. The pictures in Miss Keller's mind are mostly of this character. She has built up a world of consciousness whose elements are of the nature of touch. Some animals, like the dog, live in what may be termed an olfactory world; that is, a world of smells. In any event, the raw materials of our mind, or consciousness, are given us by the senses with which we are endowed. Consequently, in order to give to pupils a world rich in pictures the senses should be carefully cultivated. A teacher should know her pupils and appeal to them thru every avenue in their experience in order that they may form, as they proceed in their studies, vivid pictures in the world of the senses, corresponding to the language heard or read.

Failure to Picture Correctly. — It may be clearly shown that progress and proficiency in every line of work in the common schools depends upon true and vivid picturing. It can also be demonstrated that failure,

both in teaching and in studying every subject, is due to a lack of ability, natural or acquired, to summon up clear mental pictures corresponding to the language used. A little girl had heard for a long time the old hymn, "Going home to die no more," and had always thought that it meant "Going home to *Dina More*," — an aunt of hers, who was always good to children, treating them to cakes and other delicacies. A boy who had often heard the phrase, "keeping books," received the impression of a man with a gun on his shoulder walking up and down before the books in order to keep guard over them. The old folk-song, "Comin' thru the Rye," is often pictured as a field of rye with a young couple walking along the pathway thru it; when, in reality, the correct picture is that of a little stream in Scotland called the Rye and a couple crossing it, stepping from stone to stone. The first sentence in Warren's so-called address, "Stand! the ground's your own, my braves!" was understood by a boy all thru his school days and, indeed, until he came to teach it himself, as "Stand the grounds! your own, my braves!" without ever having examined it or taken the trouble to find out what the picture was. He was satisfied with words, nor did the teacher ever ask the question, "What does this mean?" A line in Scott's "Lady of the Lake," saying of the stag, "With one brave bound, the copse he cleared," meant to the boy when questioned, that the stag had jumped over a group of policemen, or "cops"! A superintendent, upon questioning a child who had read with great gusto the verses, "In that mansion used to be free-hearted hospitality," found that the child understood

“mansion” to be “a man who built stone walls,” and that “hospitality” meant to him “a place where they keep sick people.” The superintendent then, to the confusion of both the child and his teacher, who stood near by, said: “That means, then, does it, that in that man who builds stone walls used to be a place where they kept sick people?” The superintendent said no more but left the pupil and the teacher to work it out into clear pictures for themselves.

In Writing. — Success in writing as in every other subject depends upon clear picturing. When the proper movement and position in writing are acquired in order to make continuous writing physically easy, and when the proper degree of rapidity is attained by habit in order to secure quantitative results, the only thing left in order to secure good writing is conformity to proper picturing. The slant in writing is not very material. It does not make much difference what the slant is if the writing be symmetrical; if the strokes in the writing and the lines are uniform in direction and harmonious on the page, the writing will look good. Of course the letters must have their proper general form or pictures, but it is irregularity in the direction of the strokes that is largely responsible for making writing look bad. This will be illustrated more fully in the chapter on writing.

In Spelling. — The same may be said of spelling: Good spelling consists in establishing, by habit, in the mind of the pupil, the correct form or picture corresponding to the idea. If the correct picture, and that only, is definitely engraved upon the pupil's memory there will be no trouble about his spelling. The important thing is

to establish a vivid picture of the form of the word corresponding to the sound-word itself, which he already knows.

In Arithmetic. — Clear picturing is all-important in the field of arithmetic, also. In fact, children do not work their problems because they can not *read*, which means because they can not get a clear, definite picture of the situation. When a teacher's institute was asked how many bricks it would take to lay one course on a chimney whose flue is $4'' \times 8''$, they all sat bewildered. Soon one hand went up and the person asked, "What is a flue?" Another hand rose and the question came, "What is the size of a brick?" Another person asked, "Which way do they lay bricks, flatwise or on edge?" It was evident that they could not form a clear picture of the chimney situation and, of course, it was impossible to work the problem. The instructor also asked whether it would be necessary, in laying such a course, to break or split a brick. The essential thing here was the formation of a clear picture of the chimney. The instructor, on walking up town immediately afterwards, met a bricklayer whom he asked the same question. The bricklayer answered correctly and immediately. He had the practical experience which enabled him to form the picture instantly.

A boy failed to solve the following problem because he could not read: "An army which had been twice decimated in battle now contained 8100 men. How many men were there before the battle?" The word in this problem which bothered him was "decimated"; this was the unknown word; this was the blot or blotch

upon the picture; this, in fact, was the central or pivotal word in the situation, and because he could not form a picture of it he could not work the problem; it was the key to the situation. He had not formed the dictionary habit and somehow it did not occur to him to look up the word. If he had done so the whole problem would have cleared up and he could have solved it easily.

Children in the seventh and eighth grades are very much at sea in what is called the commercial operations in arithmetic. This is not to be wondered at, for they can not form clear, definite pictures of commercial situations; they have never given or received a note; they have never bought nor sold stocks or bonds; they have never discounted commercial paper; and so the whole subject is obscure to them. It is remote from their experiences. For the banker or the stockbroker these operations are as concrete as the buying of groceries or of clothing. It is not to be wondered at that children from twelve to fourteen years of age can not solve such problems; in fact, they should not be required to do so unless the situation is made clear and concrete to them.

In Geography. — The same obscurity and lack of clear thinking prevails in the field of geography. Children memorize the names of places outside of any possible experiences of theirs, and they are often led to think that one thing is as important as another. They get wrong impressions of the earth situation and sometimes they keep these distorted pictures thru life. Most children have no idea, no clear picture of the relative position and motions of the earth in the solar system and in space. They do not know just why the days get long and

short. In a high school examination the following question was almost universally missed because the pupils could not form a corresponding picture. "Can the sun ever shine at noon into the north window of a house situated 20 degrees north of the equator?" The pupils could not answer such a question correctly and accurately because they had no mental picture of the reality. A boy said that the Nile river rises in the Mediterranean sea and flows south, emptying into the middle of Africa! He had a poor geographical picture of what was taking place. Another boy, when asked to describe the Red River of the North, said it flowed south. When asked how he could maintain such an answer, he pointed to a map hanging on the north wall and said to the teacher that toward the top of the map was north, and toward the bottom, south; and hence that it was impossible for a stream to flow *up*! Illustrations might be given without number of the extent to which children have distorted and chaotic pictures in every subject.

In History. — After a class had completed United States history in the eighth grade they were asked where Gettysburg is; and, altho this great battle was the turning point of the war between the North and the South, there were votes in that class for every state on the Atlantic coast from Maine to North Carolina. Here was a class who had studied United States history for two years and who had studied the civil war in its details, who did not know, definitely where the great battle of Gettysburg was fought.

"English as She is Taught." — Without continuing further, the lack of fruitage on account of the want of

clear pictures might be illustrated in every subject in the curriculum. Some years ago a collection of answers was made at the suggestion of Mark Twain, and embodied in a little work entitled, "English as She is Taught." If any teacher is inclined to be lonesome or homesick, this little book, which may be procured from any book dealer, is recommended as an antidote and panacea. The chaotic mental condition of pupils with distorted pictures in every subject, is well illustrated in this little book. We would suggest, however, that practically every teacher could duplicate such results in her own observation and experience; and so we would enjoin teachers to be careful in all their work to secure that indispensable result of accurate thinking, — clear, definite picturing.

CHAPTER III

THE MOST PREVALENT MISTAKE

Telling vs. Teaching. — One of the most prevalent mistakes which teachers make is that of telling too much. Most teachers fall into the inveterate habit of handing information over to a pupil upon the least provocation. They do not give him a chance to work a subject out for himself and to express himself on it in his own way. Many teachers seem to think that telling is teaching, when, in fact, beyond a certain point there is a distinct *versus* between them. The habit of telling is due to the fact that it is easier for a teacher to recite, herself, than to witness a pupil in the throes of a recitation; consequently, the teacher comes to his rescue and hands over the information to him. True teaching implies active coöperation on the part of the pupil. Real education is from within, outward, rather than from without, inward. The tendency to tell is due to the sympathetic nature of the teacher. This is a good characteristic but, like many other good things, it becomes a fault beyond a certain point. When a pupil is wrestling with a subject, attempting to express himself in regard to it, he should be allowed a free rein; he should be given freedom to express himself completely in regard to the matter. While the pupil is on his feet reciting as best he can, help or adverse criticism only spoils the recitation,

the free self-expression of the pupil; it also mars the mutual attitude of the teacher and the pupil. Here is a place where the teacher should be "cruel only to be kind." A pupil should be allowed to work out his own salvation, standing on his own feet, and should be permitted to come thru victoriously or to go down to defeat ignominiously; in the latter situation he should be allowed to retrieve his fortunes by his own efforts or at least by his active coöperation. The teacher too should remain expressionless so as not to give indications to the pupils as to whether they are going in the right or wrong direction. Children are good mind readers, from the cues and clues given by the facial expression of the teacher. A brightening of the face and a smile or an unconscious nod indicates to the pupil that he is on the right road; while a frown or a shadow on the teacher's countenance warns the pupil that he is going in the wrong direction.

Activity vs. Passivity. — In this relation between teacher and pupil there will spring up and develop on the part of the latter either the habit of self-activity and self-reliance or the habit of passivity and of relying upon the teacher. Self-activity on the part of the pupil is absolutely necessary to his education in any true sense. All persons grow in strength by overcoming obstacles, and this growth in the schoolroom comes only by activity and coöperation on the part of the pupils. It is not information from the point of view of quantity that is educative, but attitude, activity of all kinds and initiative. There is probably no better educational habit than that of relying on one's own efforts and working

things out for one's self. But the habit on the part of the teacher, of furnishing information to the pupil upon the slightest hesitation on his part induces merely the habit of passivity, of waiting until everything is done for him or until some one comes to his rescue. When this habit becomes established children deliberately start a sentence and then hesitate, watching and waiting for the teacher to come to their aid. This kind of procedure is thoroly vitiating. The product of such a school will be weak — followers rather than self-reliant leaders. When a subject or topic is given to a pupil for recitation he should rise, and be allowed to work out the solution or full explanation of it in his own way, even if his formulation of it be full of weaknesses and errors. When he has completed his discussion and has expressed himself in full his mistakes may then be made a subject of friendly and truth-seeking comment and discussion on the part of all. This will conduce to mental activity and alertness; but when the information is supplied to the pupil merely for the asking, he and all his class will fall into the habit of merely waiting to be told. All teachers should be on their guard against the growth and spread of this vicious habit of telling; they should carefully ponder the question of "Telling vs. Teaching." The Socratic method is the proper mode of procedure in such situations.

Illustrations. — (1) The habit of thus continually handing over the information desired by the pupil reminds one of the practice of the mother bird in going forth to secure food for her young. She hunts the worm and when she returns the young bird merely opens its

mouth wide and the old bird drops in the food. The young bird is passive and receives merely for the asking. Very soon, however, the young bird is compelled to hunt and scratch for a living. When the attitude and habit of passively waiting to be helped is induced in children they become leaners rather than leaders.

(2) Society at large may be divided into two classes: those who lead and those who follow, or lean. One of the great purposes of the school should be to make as many leaders as possible, and in order to do this habits of self-activity and of initiative should be inculcated from earliest childhood. In life outside the school, in homes everywhere, we see these two processes in contrast.

(3) Parents frequently do everything for their children, who need only to ask in order to receive. When parents are accustomed to carry their children, figuratively speaking, and this habit continues for years, the parents are likely to have weak backs and the children, weak legs. On the other hand, where the children are taught to do things for themselves, they are likely to come out strong, self-assertive, and active; and they are also likely to become more altruistic, for they are forming habits of doing for others; while in the other case they are likely to become egoistic and selfish, for they have always been accustomed to have things come their way. This is just as true in the schoolroom as it is in life. Habit is habit everywhere, and, as a result, we frequently see children who have been brought up in the best homes go to wreck and ruin merely because they have been made passive, inactive, receptive, and selfish. In the cities we often see little newsboys — street Arabs,

as we call them — who are exposed to every vice known to man, come out, in the end, strong, wholesome men. They have grown strong by activity, by work ; stumbling blocks have become for them stepping stones. It is true that many of them succumb and go under, but it is nevertheless true that self-reliance, self-activity, initiative, and work give them strength.

(4) The effect of too much help is shown in the instance of the man who had a pet squirrel and who, thinking he was doing the squirrel a kindness, was accustomed to crack the nuts for it. The consequence was that the squirrel's teeth — which were made for that work — grew so long that the squirrel could not eat at all. So it is often with pupils and teachers. The teacher frequently cracks all the educational nuts for the children and leaves them unable to do anything for themselves.

(5) One of the best lessons that can be taught children is what might be called the lesson of untying knots. To untie a knot implies seeing the strands in all their relations : looking into it and thus understanding the *why's* and *wherefore's*. It is always easier to cut a knot than to untie one, but to untie a knot implies insight, thought, study, and work ; and so teachers should allow pupils the privilege and opportunity of untying the knots of the schoolroom after investigating them for themselves.

Freedom and Self-activity. — Teachers are prone to form the habit of what might be called garrulousness. People, as they grow old, are inclined to become more and more talkative, and teachers, as they continue in their work, are subject to the same danger. Eternal

vigilance in this respect is the price of exemption from this pedagogical vice.

It is freedom and self-activity that underlie the Montessori system of teaching. There is really nothing new in this method, except that Madam Montessori, who has a great, wholesome, winning and magnetic personality, expresses or puts these ideas into practice in her life and in her school to an extraordinary degree, and owing to her success has made them better known thruout the world. In her method and system the child is left free and is induced to be self-active both in mind and body.

These same ideas of freedom, self-activity, and initiative are the foundation, also, of government and education as found in the George Junior Republic, at Freeville, New York. Here the boys and girls, some of them somewhat refractory in their old surroundings, become equal citizens and share comparatively equal privileges and responsibilities in the Republic. The consequence is that their freedom is largely of their own making. Self-activity is recognized as the central educational idea, and inducements are held out everywhere for initiative. The best results are obtained. Boys and girls who grew mischievous and wayward under the system of prohibitions and inhibitions practiced upon them prior to their admission, here step forth and participate in an active and law-abiding manner in all the activities of the community, educational, social, religious, governmental, and so on. In the Republic, boys who had to be watched at home for wrong-doing, here become judges and officers of the law, dispensing justice without fear or favor, when they have the doing of it themselves.

Quality vs. Quantity. — The atmosphere of every schoolroom should be one where there prevails between the teacher and the pupils mutual respect and admiration. It should be one in which the children become suggestible and receptive, and where the teacher needs only plant a suggestion to have it work itself out into action among the pupils. In an atmosphere of this kind interest is awakened and developed. Problems of every kind are thrown out at the right time and in the right manner by the teacher, and are then grappled by the school and solved. It would be better for a teacher to give one problem in arithmetic, which would arouse the class to discussion and enthusiastic debate, than to give twenty-five problems that would be solved merely for the answer, when half of the pupils would probably copy from the others for future delivery. A little, well and enthusiastically done by a pupil, is much more educative than any amount of quantitative work poorly done. It is not quantity that is valuable, but quality, attitude, atmosphere, spirit, enthusiasm — in a word, a hunger and thirst for genuine organized knowledge and experience. There is a vast amount of mere material poured upon children, which goes in one ear and out the other. We have such sublime faith in mere knowledge of subject-matters, no matter how secured, that children and schools are deluged with telling, mere textbook work, and lecturing. Much of this material is merely held in mind, thru memory, for the occasion of an examination or recitation and is then unloaded once for all and forever. It means nothing in real education, for all education must be thru activity. Nothing is education that is not our own and our self.

CHAPTER IV

THE RECITATION PERIOD

Minds Meet and Level Up. -- In the American school system what is known as the "recitation period" properly occupies an important place. This period is the occasion, *par excellence*, for the exercise of methods, and hence a discussion of its aims and processes is pertinent. Upon its skillful use as a means depends much of the success of the teacher. The recitation period is the great opportunity for minds to meet -- for the teacher and her pupils to come together to compare notes and exchange thought. The play of one personality upon another is probably the greatest factor in the education of a human being. Thought, feeling, and conduct, like water, seek a level, but in the recitation it should be a leveling up and not down.

A Testing Time. -- While the recitation period is the occasion when teacher and pupils come together for the play of mind upon mind and for the exchange of thought, there is a certain specific purpose, foremost in the minds of all, to be attained: there is a definite portion of subject-matter which involves a problem or problems to be solved. This is properly the aim uppermost in mind to be accomplished during this period. For example, if certain problems are assigned in arithmetic it is the correct solution of these problems and a clear expression

of them which is the central aim. If the demonstration of a theorem or of theorems in geometry is to be the lesson, this aim of the recitation period is to make the demonstration and explanation clear in the minds of the pupils. Consequently, every recitation period is a time of testing: a period in which a kind of examination is held. The pupil must give an account of himself and his time. He must show that he has accomplished the work designated at the previous preparation period. The word *problem* comes from the Greek word, *pro-ballein*, which means to cast, or throw. Consequently, every assigned lesson has a problem or problems in it: something thrown at the pupil which is either to be caught by him or fumbled, as a baseball player might catch or miss a ball. The recitation period is the time for testing whether or not the pupil has caught the problems which have been cast at him; consequently, this period, which is also a kind of impending examination, is a powerful motive to secure efficient study on the part of the pupil. He wishes to make good in the eyes of his teacher and of his fellow pupils.

Wrestling with the Problem. — (1) Since every recitation period has its aim, or object, to be accomplished — its problem or problems to be solved — the first thing to be attended to is the securing of the facts, facts directly relevant to the problem and the situation. (2) Then there should occur the consideration and comparison of the facts. Many of the facts brought up for consideration may be challenged. They should also be examined as to their relative values. Some are of the first magnitude and some are of the tenth. The relative value of

facts is all-important in coming to a conclusion of any kind. (3) When relevant facts are organized they then become a basis or ground for an inference, or conclusion.

This conclusion validly drawn from facts properly valued and duly organized is the solution of the problem in hand. Much has been said in recent years of the various so-called formal steps in the recitation; but when reduced to the simplest terms, every problem between teacher and pupil implies simply these three factors or elements: (1) The relevant facts, (2) their relative value, (3) the conclusion validly drawn from them.

We are often tempted in pedagogical writings to analyze this fundamental problem of the recitation period into numerous divisions and subdivisions, when, in reality, the process and the method to be employed are quite simple. The method of the recitation room is similar to that in every problem of life. The solution of every such problem depends upon a proper *inference* from well-established and well-organized facts and principles. If the situation is made too consciously complex and formal, it is likely to injure efficiency in procedure. Many things are made difficult by being made consciously complex. Much of the pedagogical literature of the day errs in this respect. Simplicity in it all is what is needed most. Teachers frequently think that they are not proceeding correctly if they have not in mind a complicated and formal scheme, with all its logical subdivisions. But the process of teaching is, in its essence, like every other great work, simple and direct; it is not motivated by consciously logical and complex outlines. All complicated analyses of teaching processes

are mental constructs or psychological projections imposed upon the situation by afterthought and reflection. They are consequent rather than precedent.

A Guide to the Teacher. — The recitation period is also a guide to the teacher; for here she finds out whether the pupils have solved their problems, have accomplished the aim or not. The extent to which they have done this serves as a guide to her, as to the number of problems or the amount of subject-matter which she should assign for the next lesson. By means of the success or failure of the average pupil the teacher is enabled to measure and estimate herself and her assignments. She is thus given standards for her problems and her rate of progress.

The Review — “**Apperception Mass.**” — But the purpose of testing or examining the pupils on the subject-matter of the recitation is not the only aim of the recitation period. Many teachers, it is true, regard this as the sole end and aim; and hence the whole recitation period is devoted to a cross fire of questioning and answering: a veritable examination period. To such an extent is this the practice that the pupils everywhere, and indeed teachers also, look upon the recitation period as a mere examination time. There are, however, other objects to be attained and other things to be attended to during this period. One of these is what might be called a review, or the approach to the problems assigned for the day. Every portion of subject-matter may be connected, naturally, with what has gone before. And before beginning a discussion of the problems of the day the class should be made to give the approach by having recalled to the minds of all the important preceding discussions

and conclusions. It is a good plan in teaching to call back instruction to see what condition it may be in. Previous knowledge should be revived and the pupils refreshed upon it, so that present problems may be attacked from the best point of view. The phrase, "apperception mass," has been worked hard in recent years — frequently overworked; but it is an excellent and practicable conception. It merely means that there should be a bundle of relevant knowledge by means of which present problems may be best attacked and best appropriated mentally. If such a bundle of knowledge does not exist, the new subject-matter can not be knit or interwoven with past experience as it should be. If such an apperception mass does not exist, the new can not be attached permanently to the mind. It is this which makes the difference between not being able to forget and not being able to remember. There are some things which we are utterly unable to forget. They have sent their roots down into our minds and consciousness to such an extent that they can not be torn from us; they are a part of our very selves, ramifying thru all our mental being, and it is as impossible to tear them from us as it would be to have one's heart torn out and still live.

There are, on the other hand, pieces of knowledge, so called, so superficial that they are merely "stuck on"; they wash off or weather off in the course of a short time. They are like apples hanging on a Christmas tree: the sap and life do not pass from the tree to them; they are not vitalized; they are not growing or alive. This knowledge, consequently, is soon forgotten; its roots do

not permeate our being. Real knowledge, that which we have made our own and which has become a part of our very selves, is like a live apple growing on the tree: the life and sap pass to and from it. Consequently, in order that knowledge or subject-matter of any kind may accomplish its purpose, it should send its roots into our past experiences; it should, in other words, have an apperception mass to vivify it. In the recitation period the review should irrigate and cultivate our recently acquired knowledge and experience.

Introduction to the Next Lesson. — Another purpose of the recitation period which should not be forgotten is the preparation of the pupils' minds for the lesson which they are to attack for the succeeding day. The teacher should, so to speak, take the pupils by the hand and show them the possibilities in the problems of the next lesson. They should be taken to a high place and shown not the kingdoms of the earth but the promised land. There need be no fear that there will not be sufficient work for the pupils to do if they are given this vision. They are only shown which way to go; before the next recitation period comes they will have to travel the road themselves. Such a preparation time of only a few minutes is for the purpose of showing the pitfalls and side paths along the road to be traveled. What is most important and what is relatively unimportant should be pointed out, and the class should be given a clear, definite idea as to what is expected of them. It is a great blunder on the part of the teacher to assign a lesson in such a manner that the pupils will not know exactly the specific problems of the lesson. They should also be

given some directions that will be of help to them in the solution of these problems. There will still be ample work left for the pupils to do.

Expression. — Another very important object in every recitation period is an unhindered self-expression on the part of the pupil; the opportunity and the privilege of expressing himself in full upon some or all of the problems of the day should be his. Self-expression and complete expression on the part of the pupil are all-important. Too many teachers forget this; they forget that the general function of the teacher is to act as chairman and not as chief speaker of the occasion in the recitation period.

The writer once visited a recitation in United States history in which the pupils were asked to recite upon an assigned topic. A pupil would begin a sentence and before he had half finished it the teacher would interrupt and either adversely criticize him or finish it in her own way. She stood with a club on the side line, so to speak, and beat him back to the straight and narrow path upon the slightest deviation from her own standard of accuracy. The consequence was that the poor child became afraid to say anything and, of course, his recitation was a pitiable exhibition of faltering and dependence. Such a recitation defeats the aim of self-expression on the part of the pupil. It should be the right and privilege of every pupil to express himself in full and in his own way upon a topic when it is assigned to him. When he has finished, some other pupil may be asked to give his version in like manner. If there be a divergence of opinion or of conclusion, this would then become the proper subject of discussion.

In another room of the same building the writer heard another recitation — also in history. Here the subject was given to the pupil; and, rising, he discussed it from beginning to end without interruption on the part of the teacher and made one of the finest little speeches that it has ever been the writer's privilege to hear. He spoke about seven minutes and marshaled all his facts and his conclusions with wonderful skill. He showed that he had gathered the facts, had valued and organized them, and had drawn a conclusion which could not be refuted. He sat down, feeling that he had expressed himself in full; that he had caught the problem; that he had delivered the message. This was as it should be. In comparing the two occasions one could not help thinking of Hamlet's words: "Look upon that picture, and then upon this."

The Teacher's Part. — There is, of course, an opportunity in the recitation period for the teacher to "have his say." One of the purposes of this period is instruction, corrections, and enrichment by the teacher. If he had no such opportunity, many false impressions would be left on the minds of the pupils. Children often get wrong mental pictures, and here is the time and the occasion for the teacher to correct them. It is the proper time and place, also, for the teacher to enlarge upon the thought and discussion of the pupils; but not in such a way as to rob the pupil of a sense of achievement and victory. If the teacher is competent, she can illustrate by examples. To *illustrate* means to make lustrous. She can *illuminate* the subject, which means to make it luminous. This period is a time for clinching

the nails which have been driven, for if the nails be driven and not clinched they pull out easily ; and so, the teacher, whether the nails be driven by herself or by the pupils in the class, will see to it that they are all clinched before the pupils are sent on their way.

Necessary Formality. — Another aim of the recitation period is to give definiteness and formality to the mental processes. Pupils and students have difficulty in studying subjects by themselves on account of a lack of definite formality. There are no specific times and places, where stakes are set down, so to speak, to mark the progress and the distance traveled. There is no one to say whether or not the subject is correctly understood ; and so these pupils or students are in the mental condition of not knowing whether they know or not. This is always somewhat bewildering. The mind hearkens back to the past and is doubtful of its own accomplishments ; a definite period and formality are necessary to give pupils the suggestion and the feeling that thus far all is well. They then turn their attention whole and entire to the new problems and are thereby better enabled to concentrate upon them. Such a period, in which pupils are given to understand definitely and formally whether or not they have a thoro grasp of the lesson, is necessary to a sense of completeness and is essential to mental eagerness, determination, progress, and all the steadying, marching qualities, generally.

Arousing Interest. — Lastly, the recitation period is all important from the point of view of the awakening of interest. In every subject that the child studies there is what may be called the “liking point.” Until

he has reached this point he probably dislikes the subject and finds it uphill work. It may be that his apperception mass has not been psychologically developed. But as soon as the liking point is reached the subject becomes interesting and fruitful. The great aim of the teacher, and so one of the aims of the recitation period, is to watch and to see to it that children and their subjects do not become alienated. If the child dislikes his subject, — that is, if he has not reached or if he has fallen away from the liking point, — something has gone wrong somewhere. It may be with a former teacher; it may be due to a lack of encouragement in the home; it may be due to adverse suggestions by companions; it may be due to a lack of effort on his own part; it may be due to attractions and distractions round about him in society; or something may have gone wrong with the present teacher. There is no subject of human thought and study which may not be relished keenly by every human mind, if begun at the right time, connected up properly with past experiences, given in proper quantities and in the right manner. The subject which is disliked and which must be taken as a nauseating medicine does little, if any, good to the pupil; in fact, it may do much evil. And hence the recitation period is the time when the teacher has the opportunity to see to it that the pupil becomes interested in the subject which he is studying. All of these subjects are only portions of human experiences, and the problem of the school is to hand over to the individual pupil these bundles of racial experience, in the shortest time and in the most interesting and most efficient manner possible.

Summary. — To summarize: The recitation period is the time when mind comes in contact with mind and is impressed by it; when the pupil is tested on the problems which he has been studying; the time when the teacher is guided as to the rate at which she and her class should travel; a time for renewing the past so as to make the easiest and most pleasant approach to present problems; a time when the teacher should prepare her class for the problems of the succeeding day; an excellent opportunity for the pupils to express themselves in full — a privilege which should not be denied to them; a good opportunity for the teacher to illustrate, to illuminate, and to clinch; a time when definiteness and formality bring to the class, individually and collectively, the state of mind which gives peace and satisfaction, and courage to concentrate attention upon the future, rather than to leave it harassed and distracted by backward looks toward doubtful knowledge; and, finally, it is a time when interest and enthusiasm may be cultivated; when all may be brought to the liking point of the subject as soon as possible, and when interest, which is the edge of mental appetite, may be kept continually whetted and keen.

CHAPTER V

READING: FUNDAMENTAL PRINCIPLES

Most Important Subject. — Reading is, without doubt, the most important subject in the school curriculum. It is the medium thru which every other subject is taught and studied. It is because children can not read that they do not get their lessons in the various other subjects. In fact, Reading is so important and comprehensive that a person might become educated by this means, alone, for it is the open sesame to all fields of thought.

As a Medium. — Reading, as we said, is the medium thru which other subjects are studied. A *medium*, as the word indicates, is something in the middle, or between. The language on the page is the medium between the mind of the reader and that of the writer. The words, phrases, and sentences are go-betweens, and, as it were, transfer ideas and thoughts from one mind to another.

Now, the medium may be in different conditions. If a speaker should take an object from his pocket and hold it behind a book or slate, the audience could not recognize the object, for the medium is opaque. The language of the printed page frequently approaches this condition. To the child who could "read" thru the first reader as well as any of the other children but

who did not understand a thing that was said, the medium was opaque.

If the language remains opaque, the child does not get any of the thought. It would be possible for a person who had learned the pronunciation of words, to read, apparently, from a page of Latin, Greek, or other foreign language without getting any of the thought.

If a person should take from his pocket some object and hold it behind a piece of oiled paper, those in front might be able to get a dim, hazy outline of it. In this case the medium would be described as translucent. Frequently in the teaching of reading the medium is left translucent by the teacher: the children see thru a glass darkly. If the medium remain translucent, the child is able to gather, or to glean, probably 25 per cent of the thought. But such a condition in the teaching of reading would indicate poor methods and poor pedagogy generally. The ideas and thoughts are indefinite and vague. The work of the teacher, of course, is to change the medium from the condition of being opaque or translucent to that in which the thought is clearly discerned.

A still better condition, and one to be aimed at, is that in which the medium, like pure glass, is transparent — where the ideas may be clearly seen behind the words and the thought behind the language. In this condition the pupil is enabled to glean from 75 per cent to 100 per cent of the meaning. The medium may be still visible, for we scarcely ever reach the ideal of having the medium so transparent that it will not be noticed at all.

As a Mirror. - To use another figure of speech, language is a mirror, polished to a greater or a less extent.

If the mirror be such that it will reflect the thought of the writer or speaker with definiteness and accuracy, all is well. But too often the mirror—that is, the language—does not reflect the thought without great diffusion and distortion.

As a Master Key. — The aim in all teaching is to enable the pupil to make use of the language as a tool or instrument. Reading is the master key by means of which the pupil is enabled to open the doors into all fields of thought. We all pity those who can not read. They are the illiterate and are self-excluded from the society of those who possess the pass key of reading.

An Easy but Neglected Art. — Oral reading has become a somewhat neglected art. There is scarcely any accomplishment that will bring more happiness to one's self and more pleasure to others than the ability to read well; and yet, this ability is very rare, indeed. Parents spend large sums of money in educating their children in music, and yet, without disparaging this practice, a good reader will have ten opportunities to entertain both himself and others by good reading, to one opportunity to do so in the field of music, either vocal or instrumental. Reading, too, is a comparatively simple and easy art. The best reading scarcely extends over a range of three or four notes, while in music the range extends over three octaves. Consequently, every person, whether he can become a good singer or not, might become a good oral reader.

Silent and Oral. — Reading is either silent or oral. Silent reading is merely gathering, or gleaning, the thought from the printed or written page. A good

reader is a good gleaner, one who gathers thought accurately and fully. Oral reading is merely gathering the thought and expressing it nicely. Silent reading is merely allowing a panorama of pictures to pass before the mind as we proceed from line to line upon the printed page. If the selection is a beautiful poem or gem of literature of any kind, the panorama is one of beautiful pictures. If the selection is commonplace or even bad, it is nevertheless a panorama of pictures. Oral reading is causing such a panorama to pass before the mind of the hearer. If there are words or phrases, or historic, scientific, or literary allusions in the selection which the reader or hearer does not understand, no corresponding pictures arise and the total scene is, to that extent, marred. There are blotches or daubs upon the moving panorama.

Falling Down. — It is a very common occurrence in school for children to show by their reading that they are not getting the pictures at all. They stumble, fall, and flounder around to such an extent that the reading is utterly spoiled, both for themselves and for others. The experience is painful to readers and hearers alike. It is a great pleasure to listen to a good reader, but extremely uncomfortable to listen to one who is neither getting nor giving the pictures or the thought; what might be an artistic performance and an artistic result is utterly spoiled. The writer had the experience once of visiting a school in which a pupil had read in a faltering, stumbling manner thru two or three paragraphs of a selection. He showed that he was not getting the thought at all; it was a pitiable performance. When he

had finished, the teacher was on the point of assigning an advance lesson without making any corrections whatever; without supplementing the child's knowledge, or burnishing up his pictures. The writer asked the boy how he came to school that morning; he replied that he walked. The writer then asked him how many times he fell down in coming to school, whereupon he looked up rather curtly and resented the question somewhat, replying that he did not fall down at all. The writer then asked him if he could not *read* without falling down. His head dropped and both he and his teacher, we think, took the hint. Good reading should be without any hesitation, stumbling, or falling down. Of course this implies considerable previous study, investigation, and practice, but nothing less than fairly good reading should be accepted by the teacher as final. But it will have to be induced and developed by encouragement and imitation rather than forced by threats or fear.

Clear Understanding. — The first thing necessary before a pupil is asked to express himself in reading is that he get a clear understanding of the selection. There are certain words in every selection which are pivotal in their nature; much of the meaning of the whole hinges upon them. These should be carefully looked up by the pupils, for if they are not known, they constitute blotches upon the picture. The teacher should inquire in regard to the literary, scientific, and historical allusions embodied in the lesson and if necessary explain them. A clear understanding — that is, the ability to make definite mental pictures — is absolutely necessary. We should not advise a detailed analysis of any reading lesson from

a grammatical point of view. In some of the old-time teaching, beautiful selections were frequently analyzed grammatically and the words parsed until the whole became very distasteful to the pupils. This detailed analysis of matters irrelevant to the reading should be avoided, but at the same time there should be sufficient questioning on the part of the teacher and sufficient study and investigation on the part of the pupil to bring out the picture as a whole and its principal details, with great clearness.

Understanding, Liking, and Expression. — If the selection be a good one, worthy of being introduced to the class, the children will all like it. This is the second step — the liking of the piece. The first step, as we said, was the understanding of it. If the selection is understood and is worthy, it will always be liked. This is essential to moral and emotional cultivation and is necessary to the creation of a taste for literature. The fact that many children do not like their courses in English and do not become lovers and readers of good literature is due to a lack of efficient and artistic teaching of reading. Reading and literature are administered to too great an extent all thru the schools as a medicine, instead of being craved as a delicious morsel by the pupils. Here is a problem for the teacher.

The next step is the simple but artistic expression of the thought. If the selection be understood and liked, there will be a strong tendency to express it nicely. These, then, — understanding, liking, and expression, — constitute the essence of reading. When and however these are secured there is good teaching of reading.

The Reading. — As children are great imitators and as they take on habits very readily, it is always well not to have them express a selection until they first understand it and like it. It would, then, be well for the teacher to read the selection first; then have a pupil read it. This could be followed by some sympathetic and favorable comments. Then a second pupil should be asked to read it in his way -- to give *his* version of it. This, again, might be followed by some comparisons as to why one pupil read it one way and another, another way. The teacher would do well then to read it again. It should all be managed so as to induce a desire in the others to read it. In it all aggressive effort on the part of the pupils should predominate over imitation. And so the process might go on, the teacher reading it occasionally, alternating with the pupils. This would allow for legitimate imitation and also for freedom of expression on the part of every pupil. It should be the privilege of every pupil in the class to read the whole selection from beginning to end; and not only that, but to have an opportunity of reading the selection many times as the days, weeks, and months go by. In the teaching of reading the writer believes in using comparatively short selections: short gems of poetry and prose, many of which could well be memorized by the pupils and some of which should be memorized.

Choosing Selections. — In teaching reading in the upper grades it would be well, instead of reading the selections in the reader, consecutively from the first to the last, to have the class vote upon the selection to be studied, discussed, and read at the next time. This

makes the class a party to the choice and gives them a personal interest in their work. The writer once taught reading in an eighth grade in this way, and during that year he and the class made the selections from any sources available. Some of these were taken from the regular text and others from outside sources. During the whole year thirty-nine beautiful gems of poetry and prose were studied and read. The plan was first to understand them, then to like them, and then to have them expressed or read nicely. Great interest and enthusiasm characterized the choosing and the work as it proceeded. Many selections were offered which could not, of course, be taken up in class for want of time. It was noticed afterwards, whenever the school gave an entertainment, and any of these pupils took part in the program, that they invariably chose one of the selections studied and read during the year. This was only natural. Why should not one of those beautiful pieces be rendered again and again, as is the case with many of the old, familiar songs?

Pictures on Memory's Wall. -- Many of the selections read in school should be memorized. These literary gems hang upon memory's wall and make a "house beautiful" for us in all our later years. Most minds are quite poverty-stricken in regard to memory pictures of this kind; some people know scarcely half a dozen short selections. Others have their memory walls decorated with ten, fifty, a hundred or more beautiful pictures; they live in veritable art gallery. In our affection these grow with our growth and strengthen with our strength; they become in later years our comfort, support, and

happiness. William T. Harris, formerly U. S. Commissioner of Education, once said that he looked back to the memory gems which he had learned in his childhood and youth as one of the greatest factors in his education. Every beautiful poem or selection in prose expresses an ideal toward which we grow ; and every person grows like unto his ideals — we grow like unto what we love. And so there is no greater force in the life of a pupil than the memory gems which he has made his own, his very self, and which he has learned under the methods of his good teachers of reading.

CHAPTER VI

READING: A CRITICISM OF METHODS

A Common Method. — An old but common method of teaching reading and, in fact, the method still in vogue in many places, is to call the class up in a martinet manner and have them stand in a line, facing the school and toeing a crack or a chalk mark on the floor. Positions in the class varied from what was called the "head" to the "foot." Without much or any questioning or discussion, the pupil at the head was asked to read the first paragraph. He generally rendered it in a conventional, perfunctory, monotonous manner, showing that he had no clear intellectual grasp of the situation. Consequently, his expression of it was in a kind of sing-song manner, suggesting the criticism which Cicero is reported to have made upon a young reader: "If you sing, you sing poorly; and if you read, why do you sing?"

"Read the First Paragraph." — In criticism of a part of this plan we should say that a pupil should never to be told to read simply one paragraph. If so, he winds himself up, so to speak, and knows when and where he is to stop; the consequence is that he assumes a monotone, "running down," as it were, and hurrying on to the end. Of course he is slightly excited and is impelled to hasten thru it as rapidly as possible, for the

end is dominantly and consciously in mind. A pupil should never be told how much he is to read, so that the conclusion may not dominate him and his reading. If the selection is short, he should read it all, and if the selection is of some length, he should understand that he is to read until he is told to stop. If it be the practice to have each pupil read one paragraph, there is usually little attention paid by some of the other members of the class, for they are trying to figure out which paragraph is going to fall to them. It should be an opportunity, and the privilege of every person in the reading class, sometime and indeed frequently, to express himself at length and in full upon each selection studied.

Edwin Booth. — There is an anecdote told of Edwin Booth, the great actor, to the effect that once upon a time he was invited to be present at the palatial residence of an old gentleman in the city of Baltimore, who had always been opposed to the theater. This gentleman, however, had a great curiosity to see, meet, and hear Mr. Booth. The evening of Booth's entertainment in the old gentleman's home passed pleasantly and at the opportune time some one asked Mr. Booth if he would favor the company with a reading. Mr. Booth replied that he should be very glad to do so. At the proper time it was announced unexpectedly that Mr. Booth had kindly consented to give a reading. All eyes, of course, were upon him, and especially the eyes of the old gentleman who was host on the occasion. When Mr. Booth was introduced he arose quietly and clasping his hands and raising his eyes slightly upward, began reciting the

Lord's Prayer. Before he had finished it the old gentleman, who was intent upon the great actor, burst into tears and sobbed. On regaining composure he said: "I have heard that all my life, but I never heard it that way before." Mr. Booth merely remarked: "That is nothing; I have been practicing that for twenty years and I haven't it perfect yet."

Compare this with the practice of having a pupil read only one paragraph of a selection and that only once! How is it possible to take on any enthusiasm or acquire any facility of expression by reading only a portion of a selection once? It is contrary to all the laws of the mind and heart, and teachers should remember the incident of Mr. Booth in their teaching of reading.

What Repetition Will Do. — Repetition of a selection of any kind will lead to one of two results: It will either cause degeneration into mere conventional mummery, or it will flower out into the fullness of thought, feeling, and expression. If repetition of any kind is not filled full of thought and feeling, it will merely degenerate into monotonous verbiage, but if every repetition is filled full of thought and feeling, it will conduce to the development of both.

An incident is told of a great actor who had always been dissatisfied with certain lines in Hamlet. He had tried them over and over, and indeed repeated them in a thousand different ways but still felt that there was something lacking in his expression. While crossing the Atlantic on one occasion he did little else than practice in order to improve these lines. He tried them with every possible variation; and the consequence

was that when he appeared before the footlights in New York City and came to these lines he sent a veritable thrill thru that vast audience: he had acquired power thru a discriminating repetition in his efforts toward an ideal.

No Enrichment. — In the old method of conducting a recitation, after a pupil had read one paragraph there was little or no questioning on the part of the teacher in regard to meanings and mental pictures. References and allusions were passed by unnoticed; it was mistakenly assumed that the pupils had got them. The pictures in the whole panorama were not burnished up and made clear and definite. The reading exercise was a perfunctory performance to be got over with as soon as possible. It is no wonder that a subject taught in this way was not liked, and it is still less wonder that pupils did not get their other lessons — they simply could not *read* them.

Fruitless Criticisms. — (1) Sometimes a few inane criticisms were passed upon the reading of one pupil by other members of the class. One would say, "He called 'the' 'and'"; another would say, "He called 'to' 'of.' " Such criticisms, of course, did no good. If he called "the" "and," or "to" "of," it was merely a slip of the eye or of the tongue or an indication that his mind was not on the meaning or on the picture, but merely on the words. To make such a correction does the person who made the mistake no good, for he would be just as likely to make the same slip again. Of course, if a word were mispronounced it would be proper and necessary to call his attention to it.

(2) Another correction frequently made was, "He repeated." It was quite customary, in fact, to think that corrections of some kind must be made. There was a time set aside for corrections, and hence some fault had to be found in order to accomplish the apparent end. It is difficult, however, to see why a person should not repeat if he realizes that he has made a mistake and has not delivered the proper message or has improperly delivered it. In fact, a pupil should be allowed, as a matter of right, to go back to the first and to re-read in order to do himself justice. If a pupil realizes at the close that he has not acquitted himself as well as he should and could, he should be allowed to express himself over again. He will then close with a feeling of satisfaction instead of a feeling of dissatisfaction and incompleteness. Every pupil is under a momentary confusion for a short time and is, consequently, unable frequently to do justice either to himself or to the selection. If he realizes this, a complete repetition is to be commended rather than criticized.

(3) Another stale and usually meaningless criticism was (and often is) that a pupil "read too fast." This, of course, might be valid in certain situations: Some selections, by their very nature, require a slow and measured reading; other portions or selections might be expressed with considerable speed. If one were reading, for example, Byron's "Apostrophe to the Ocean," where he says, "Roll on, thou deep and dark blue ocean, roll!" and should say the words rapidly and flippantly, it would fail of the effect intended in the whole magnificent passage.

(4) Frequently pupils were hampered by criticisms and injunctions in regard to the manner of standing and of holding the book. They were made to feel awkward and uncomfortable. It would be well, of course, to induce the proper manner of holding the book and a dignified manner of standing while reading; but good posture should be secured by suggestion and example and by much tolerance rather than by severity and criticism. Too much should not be made of it; it is not a fact of the first magnitude, but rather one of the second or lower. The teacher who is an artist and who understands the power of suggestion will bring about good results in this respect in a short time. The ideal of art is to conceal art, and the artist teacher will secure results in regard to position and like points before the pupils are aware of it.

(5) Instead of calling the whole class out and having them stand in a row it would be better to have the class seated either where they usually sit or toward the front of the room. When a pupil is called upon to read he should then step forward and face his class and the school and read until told to discontinue — reading, frequently, the whole piece. This is the situation in actual life, when a person is reading before audiences, and should be the practice and the habit inculcated in school. The pupil will then feel that he is accomplishing something, that he has delivered his message, that he has expressed himself fully, and that he has been reading to an audience of listeners. When the pupil has finished reading there should be some time for questions, for comparison and discussion, and for the consideration of certain

pivotal words, phrases, or allusions. This would be the proper time for a discussion of pronunciation, emphasis, and elocutionary expression, when such a discussion is suggested by some incident or thought opportune by the teacher.

Elocution. — Real *elocution* should not mean any formal, conventional, or "high-toned" mode of rendition. The best elocution consists of simple and beautiful expression accompanied by evident understanding and the proper emotional state. It does not consist of stage attitudes, histrionic facial contortions, or violent gestures. The very best reading and hence the best elocution is the natural and accurate expression, which is the result of clear picturing, accompanied by a realizing sense of the sentiment which normally accompanies it.

Variations. — When one pupil has given his version of the selection or of a reasonable portion of it, and when proper discussion has been given, another pupil or the teacher should give his version. The whole class, as we said, should have this opportunity and this privilege. If there is not sufficient time one day for all to read, the opportunity should be afforded on succeeding days. A good selection, like a good song, never grows old and should be constantly repeated. The class should never get the idea that what is "finished" to-day is gone forever. On the contrary, they should feel that what has been theirs is theirs to continue.

Sources. — The class in reading, especially in the upper grades, should not be strictly confined to any one book. Pupils should be given the privilege of selecting pieces from outside sources to be read in class. There is no

reason why the selections included in some one text are the best, or that they are arranged in the best order to be studied and read; nor does it make any particular difference what is the name of the book from which the class is reading. There are selections placed in some third or even second readers, found in the fourth or fifth reader of another series. The name of the book is of little consequence. The reading book is merely a source book, a convenient place to find beautiful selections of both prose and poetry. After the class have read a selection or two from each of several authors they may have a wish or a choice in regard to the selection to be studied and read next. A class may have taken a special liking to Holmes, for example, and if so, they should be given more of him than the reader offers. There should be much freedom for the teacher and the pupils in the selection of reading material; they should feel their way and be guided by the taste and choice of all concerned. The main thing is, when a beautiful piece is introduced, to understand it, like it, and express it nicely.

Promotions. — In rural schools, where supervision is lacking and where teachers change with every term, the question of promotion is a difficult and puzzling one. Frequently pupils come to school at the beginning of the next term either self-promoted or parentally promoted, thinking that if they only get into a book with a higher name they are, on this account, better readers. It frequently happens that pupils in the second reader or even in the first, read better than other pupils in the so-called fourth or fifth reader. Teachers should dis-

abuse the minds of children and of parents of this vicious fallacy. They should be taught to see that it makes little difference what the name of the book is if the pupil can only read well. Many pupils who are thus promoted into a book too advanced for them make sorry work of reading. It is a pitiable and painful experience to listen to the reading in some schools, all because the fundamental principles and aims of reading are not kept clearly in mind.

Reading from a History. -- There used to be an old notion that when children had finished the fourth reader they might be promoted into a United States history for reading purposes, the United States history as a reader was considered more advanced than the so-called fourth reader. This, of course, was a silly blunder. A United States history is merely narrative, by the one author, while the subject-matter for a reading class should be varied, containing both prose and poetry by various authors. Furthermore, the subject-matter of reading should be the best of its kind; should be composed of real gems of literature, both in poetry and in prose: some humorous, some pathetic; some narrative, some descriptive; and so on.

The Notebook. -- One way to break up the habit of unwarranted promotion, and of consecutive reading in one book, would be for the pupils to have notebooks of a proper size into which choice selections from any and all sources should be written and preserved. These notebooks should be neat and well bound. When a gem of poetry or of prose is found it should be written upon the blackboard with great accuracy and copied

by the pupils. This process will take some time, but it will be an excellent lesson in language, in writing, and in good form generally. A little rivalry should be created among pupils in regard to correctness and neatness in copying these gems into their notebooks. When called upon at any time to read one of these selections, they would either render it from memory or read it from the notebook. These books should be so kept that they will be prized by the pupils in after years. There is much note taking and much keeping of notebooks that degenerate into slovenliness and bad habits. What is worth doing is worth doing well, and a little well done is worth any amount poorly done. A notebook which is so poorly kept that it repels even the pupil himself in a few months or a year will be thrown away as useless. In reading work of this kind a secondary object should be the building up of a really artistic notebook. The pupil's writing should grow better with succeeding pages, and the whole, when finished, should be the best work of which the pupil is capable. This notebook will then be worthy of being kept by the pupil as one of the books in his library; and in after years, if some of the pictures have faded from memory's wall, he can still revive them and refresh them by turning to his notebook, which will bring back to his mind old school days and old memories.

This method of preserving choice and favorite selections need not displace entirely the regular reading book. It is offered here as a suggestion and as a possible and feasible solution of a problem in reading which many rural teachers and even grade teachers find difficult.

CHAPTER VII

READING: THE BEGINNINGS

At Six Years of Age. — The school age in most states is placed at about six. Some children have learned to read at home, from their brothers and sisters or their companions, prior to that time. Many young children are unusually observant and keen, and these pick up reading in a way hardly known to others or even to themselves. But most children come to school at the age of six with an *ear* language, only; that is, all the words which they have learned are sound words. They have learned them by hearing them repeated over and over again in the nursery -- in the home. Being very imitative, they have learned, as mere babies, to speak these words after hearing them repeated frequently. The number of words which children know by sound and which they then use, has been variously estimated. Max Müller once said that the common English peasant knows only three hundred or four hundred words. This, we think, must be greatly underestimating, unless he refers to the lowest stratum of rude and crude society where people express themselves in very few words only. But the average American child who has been born into and brought up in an English-speaking home, knows probably from fifteen hundred to twenty-five hundred words. This may seem an overestimate, but

any mother with a child of this age can verify it for herself. A child, then, comes to school at the age of six with a vocabulary of at least fifteen hundred words which he knows by ear and can repeat vocally, but for which he has no visual signs in the way of print or script.

From the Auditory to the Visual. — The aim, then, of the school and of the teacher is to make the transfer from the ear language of the child to the eye language — to a system of visual symbols which will indicate the same meanings as the auditory language which he already has. The teacher and the school must establish a parallel system of visual symbols corresponding to the system of ear symbols which they find in the possession of the child. From now on the function of the school is to enable the child to gather meaning from a system of visual symbols as readily as he has been accustomed to gather it from the auditory symbols — the spoken words. The auditory line has at this time a great advantage, a great lead, and the problem of the school is to enable the child to catch up in the race along the visual road. A connection, or relation, must be established with the auditory symbol at every step, and the problem now is how to begin the establishment of this system of relations, how to enable the pupil to gather thought from the printed or written page as easily as he does from the living voice. If we take our cue from the way in which the child has learned the meaning of spoken words and the way in which he has learned to express himself orally, we shall not go far wrong. As a baby the pupil heard the same words over and over and over again, and the connection between the sound words thus heard

and the thing or act indicated was established by the association which comes from repetition. It is a fact that when two things have been associated together many times and one of these is later brought to mind it brings the other with it.

The Word, the Basis. — Now, it would seem that the word is the meaningful thing in learning the visual symbols as it was in learning the auditory symbols. If the written or printed word be associated several times with the particular thing or act, the association becomes a habit and the bond or connection is established between the word and the meaning. It would seem, then, that what might be properly termed a "word method" of some kind is the most logical and psychological plan in the teaching of reading to beginners.

Methods and Methods. — There have been, it is true, many discussions in regard to the word method, the letter method, the sentence method, and many variations of these, designated "methods" by persons who have exploited themselves or been exploited by their publishers. There have been inflated treatises on such methods, as there have been on methods and systems of developing the power of memory. Whole systems have been worked out and the accent or emphasis placed upon some one method as a specific. These have frequently been like inverted cones; too much has frequently been made of a particular phase or aspect of the method of teaching children how to read; for, when all is said and done, the fundamental problem is, how to establish such a relation between visual symbols and what they stand for, that the mere sight of a

word or of words will bring the meaning at once, and also so that the word will have but one definite form engraved upon the mind of the child.

Words, whether spoken or written, are merely symbols; they are merely the go-between or medium between the mind of the child and the meaning implied or involved. Words in this way are of no use if they bring to mind no meaning; they are then only shells or husks. The great problem of the teacher, therefore, is to see to it that when a word is presented to the child it instantly raises in his mind its proper meaning.

Teaching Foreign Children to Read. -- If a child comes to school at the age of six and does not know the English language, the teacher has a double task on hand. The child must learn two languages; that is, he must learn a system of sounds, or the auditory language, and a system of visual symbols, or the eye language. This is frequently a great difficulty in schools where some or all of the children are of foreign parentage and where their vernacular is some other language than the English. In such a situation the teacher should spend much time in teaching the auditory language; that is, in teaching the children the sound-words for all the common objects, actions, attributes, and relations; and also the way to utter and use them correctly. The writer, as county superintendent, once visited a school where this was the pressing problem of the hour. The children were all learning the English language and the teacher there had this double duty to perform.

Like the true teacher, he had won the children over to his side and had rendered them sensitive and suggestible

to all his wishes and instructions. The children, of course, wished to learn to speak the English language, and their parents greatly desired it also. This was what the children were being sent to school for; this was well understood by the parents, the pupils, and the teacher. The teacher did not wish his work to be undone by having the children speak their own vernacular, or foreign language, at recess and noons upon the playgrounds. He wished them to practice speaking the English language, and so he had worked them up to a point where they had agreed among themselves to speak nothing but English upon the playground. He had a motto, "Speak the English language," in large letters upon the wall over his desk where all the pupils could see it. Before dismissing the school at recess he said to them, "Now, what must we remember to do, out upon the playground at recess?" and they all answered loudly and in concert, "Speak the English language." It was noticeable, too, that they carried out the motto to the letter and in spirit, and thus the teacher was greatly aided in his teaching by willing coöperation on the part of the pupils themselves.

The Alphabet Method. — We said that the word method, or some form of it, seems to be the natural way for pupils to begin. The writer once knew a boy about seven years of age who spent three whole months learning the alphabet by the old method then in vogue. Then the teacher even had to promise him a pound of candy the last day if he should know all his letters, when some visitors were to be on hand. This pupil was a normal boy and later became a successful business man. Here

was a boy who had spent three months learning twenty-six symbols and had probably forgotten many of them a few days after the term had closed. This seems like a woeful waste of time and energy; the twenty-six letters, in themselves, meant nothing to him after three months of pedagogical malpractice. If the word method or combinations and variations of it had been introduced and used, this boy would probably have learned to read quite well within that time. But he was given no key with which to open doors, no tool with which to work. Letters are somewhat complicated things to the child mind, and when they mean nothing -- when they produce nothing and do nothing -- it would seem that such a method when used exclusively must be a wrong one. Of course many great men and women have learned to read by the letter method, but they have probably done so in spite of it rather than on account of it. To begin with letters is to begin too far down with the elements of language. It would be better to begin with a word which has a meaning and then to allow or to induce a child as soon as he wishes or as soon as he can, to arrive at a recognition of these letter elements. Children should be allowed and even encouraged to analyze a word as soon as possible. Some teachers, it is true, refrain from teaching letters at all until quite late, and even take some pains to keep the names of the letters from their pupils. This, we think, is a mistake. While some of these names are in no way significant of their sounds or powers, some of them are quite so; and every little bit helps. Children, like adults, like to know what things are *called*; and this is well, for a name is an intro-

duction. If a child learns on the side or in any manner the names and powers of the letters, he is so far ahead.

The Phonic Key. — A child should be taught to notice the sound, or what is called the *power* of the letter, as soon as he is ready for it. Some children reach this phonic stage much earlier than others. This plan of noting and using the sounds of the letters by the children and of employing it by the teacher is called the "phonic method." Instead of being called a method, however, it is simply a phase of the observation and learning process. If the children note the sound of a letter and what it does in a word, the teacher should take advantage of this sound-key and use it whenever and wherever possible. No one method should be employed to the exclusion of others; in life everywhere we should take advantage of everything that offers itself; and so, where the children notice the sounds of letters and can put these sounds together, they have acquired what might be called the phonic key. They will be enabled to use this key in unlocking the sound and hence the meaning of new words. A little girl of three years who had learned much from her brothers and sisters and from companions in regard to reading, came to her father one day, pointing out to him, with her finger, two words and saying: "That is cat and that is cats"; and then pointing to the letter "s," she asked, "Is that the little thing that says 's-s'?" This little girl had arrived at the phonic stage. She was just beginning to be observant of sounds and thus was enabled to use the phonic key.

The good primary teacher who has been over the road many times will have a carefully selected list of words

which will guide the class toward phonic material and give them revelations in the use of their key. There are several families of words, that is, words which follow some law of similar sound; and when the child becomes acquainted with the phonics of such words and then comes upon a new word embodying the same letters or groups of letters he is enabled to unlock it by his phonic key. He is thus stimulated to new conquests and aroused to greater enthusiasm.

A Case in Beginnings. — A superintendent of schools in a small western city was accustomed to supervise the first few months of the teaching of reading in his schools somewhat on the following plan: He had five first grades in five different buildings in the city, and it was his custom to ride his bicycle from one building to another. When these five teachers began their work in the fall he would visit them alternately on the same day. He would ask Miss A how many words she had taught up to date; he would then visit Miss B's room and ask her how many words she had taught. If she said fifteen, he would tell her that Miss A had taught only ten. On visiting Miss C's room he asked the same question, and if he found out that she had taught only seven, he would say that Miss A had taught ten and Miss B fifteen. As he made the rounds in this manner the information about one teacher would serve as a guide to another, and so the five teachers, by knowing what each was doing, kept along pretty nearly together.

The First Three Months. — His plan was to have the words and their combinations found on a particular chart, taught first in script, by having them written

upon the board by the teacher and the pupils. There are from three hundred to four hundred different words in the ordinary chart. All of these were mastered by the pupils in about three months. The teacher wrote the words in a good, round, legible hand, suggesting similarities to the printed letters. She did not print the letters, but her script was round and plain. When her pupils could recognize instantly all of the words of the chart thus written in script upon the blackboard, the chart itself was opened and, as the superintendent put it, the pupils were rushed thru it. Pupils will pass from script to print much more easily and rapidly than from print to script; and so all of these children made the transfer from the script to the corresponding print words in the chart, in a very short time — in about two weeks.

First Readers. — A standard first reader was then taken up in each of these rooms. When this was read thru, it was sent to another building. A first reader of another series was then taken up and read, and when this in turn was completed it followed the first to another building, and a third first reader was read. By the end of the year the pupils in each room had thus finished six first readers, the regular text and five supplementary readers.

The Test of the Pudding. — The writer had the pleasure of visiting one of these rooms near the close of the year, and he can testify that he has seldom heard such excellent, childlike reading. Sometimes reading, even in higher grades, is childish, rather than childlike. All of the children seemed enthusiastic and desirous of being allowed to read in the presence of the school and of the visitors. In this test the superintendent would ask the

class to turn, for example, to page 76. This indicated that they had, incidentally, learned to count and to recognize numbers. He then told the class to read silently a certain portion of that page and to be able, if called upon, to read it aloud. This indicated that they had been taught the habit of first getting the thought before attempting to give it. He would then inquire who wished to read that portion for him. All hands were up, indicating great anxiety to be allowed the privilege. He would then point out some particular child, and invariably each acquitted himself or herself in a simple but masterly manner. It was better reading than is often heard in the third or fourth reader. It may be that in some schools more is done in one year than a reading chart and six first readers; but whatever is done and however it is done, the aim is accomplished when the pupils at the end of the year are able to glean the thought understandingly from the printed page and then to express it feelingly, naturally, and well.

Expression in Writing. -- The writer once visited a school where the children were reading on the last pages of a first reader but had not yet learned to write a single word. This, of course, was a great mistake. When children come to school they have, as we said, fifteen hundred or more words in the auditory line and are able to express themselves orally. After several months or a year the children should be well along on the visual road and should be able to express themselves fairly well. The ability to speak followed closely upon the recognition of sound words in babyhood; and now the ability to write should follow closely upon the heels

of the ability to recognize sight words; this is part of the problem of reading in the first grade.

The Pupil Dependent in Reading and Cognate Subjects. — Some one has said that the child is under no great obligation to his teacher for the understanding which he gets of numbers in his first year; he would get this incidentally and on the side and in any event. But he is under lasting obligation to her for the progress he makes in learning to read. Reading, moreover, is the mother of several other subjects: In its beginnings it embodies spelling, writing, and language work, and these three all come in for attention while the child is learning to read; in fact, they are a part of what is called reading. All these are important and should be attended to while the reading process is being learned; but they are all so wrapped up with reading that they do not require a special time of their own until later on in the school curriculum. Being conventional and forming a part of the tool needed for further progress, they can not be picked up, like number concepts, on the side, but must be acquired from the teacher and the school.

Form and Content in the Tool Stage. — This is the *tool* stage in the reading process. The child is learning how to use the tool which will be indispensable in every field later. But the best way to learn to use any tool is to use it in doing something worth while. The old idea and the old practice in teaching reading used to be to keep children merely marking time upon combinations of words. Silly sentences were constructed that were as devoid of meaning as a crane's leg is of feathers. In some of the old books used to be the words, "ax,"

“ox,” and then the sentence, “Is it an ax or an ox?” It was thought that children had to be kept using the tool on almost nothing for weeks and months, just as the boy who had spent three months learning the alphabet and then could not use it as a tool. This same practice has been too much in vogue in other fields: In manual training boys used to be kept on the making and fitting of a joint for weeks and weeks. The consequence was that they became tired of it all and lost interest in it. They were kept making joints merely for the sake of making them instead of making them while making something useful. This same pedagogical vice is often found in the teaching of music: Music pupils are often kept going over the scales for weeks when they long to play something. They are kept so long upon the form without any content that they lose interest in their music altogether. The “merciful” dummy in the form of a muffled piano is a merciless stifler of interest and development in the musical life of the child. It is good pedagogy to do something worth while with a tool just as soon as the use of the tool is learned. There should be some content to work upon. Hence, children's stories and other interesting content should be the subject-matter of charts and first readers. The charts and readers of recent years are good in this respect, with probably a tendency to make them too childish and girlish.

Words — Total, Known, and Used. — One of the problems in teaching children to read is to bring words which were before unknown into the *known* class, and then to bring them from the known class into the *used* class. There is a great difference between these. There

are probably in the English language 100,000 words fully anglicized and of definite use. Of these probably 40,000 are known to the average intelligent person. But it is probable that not more than one fourth of the words which one knows are in his vocabulary; that is, are used by him. If any one should desire to find out how many words he knows, he can estimate it in a few minutes: Let him turn at random to a page in an unabridged dictionary; count the words in one column, and count the number of these which he knows; he may get a ratio, say, of one third. Then let him turn at random to another page and count the words in a column and the number of these which he knows; he may here get a ratio of two sevenths. Let him do likewise with several columns, from pages taken at random. Averaging the fractional ratios will give the average ratio of the known words to the total number. If the average ratio be two fifths, and the total number of words in the dictionary be about 100,000, it would mean that a person knows about 40,000 words.

It is said that Shakespeare *used* in all his works about 15,000 words: This was his vocabulary. Milton used about 8000 words. There is no reason why the average, intelligent person of to-day should not know and use as many words as either of these writers. Merely using them, however, is far from using them in the Miltonic or Shakespearian manner.

In the process of reading, the general aim being the gleaning and the expressing of thought, pupils should be taught to express themselves both orally and in writing — both by the tongue and by the hand.

CHAPTER VIII

READING: SAMPLE LESSONS

I. THE RECESSIONAL

Aims and Methods Similar. — The proper methods of acquiring proficiency in reading and in the teaching of reading are very much the same from the second grade in the elementary school to the college and university. After the tool stage has been passed and pupils are able to use this tool, or master key, with proficiency the aim and the means are very similar in all grades and stages.

The Presentation. — Having given the fundamental principles (Chap. V), a lesson on criticism (Chap. VI), and one on special methods in learning to read (Chap. VII), let us take a couple of examples and illustrate some phases of the method and procedure of the teacher and the class while engaged upon them. Suppose the selection chosen for study and reading were Kipling's *Recessional*:

RECESSIONAL

God of our fathers, known of old —
Lord of our far-flung battle line —
Beneath whose awful hand we hold
Dominion over palm and pine —
Lord God of Hosts, be with us yet,
Lest we forget — lest we forget !

The tumult and the shouting dies —
The captains and the kings depart ;
Still stands thine ancient sacrifice,
An humble and a contrite heart.
Lord God of Hosts, be with us yet,
Lest we forget — lest we forget !

Far-called our navies melt away —
On dune and headland sinks the fire —
Lo, all our pomp of yesterday
Is one with Nineveh and Tyre !
Judge of the nations, spare us yet,
Lest we forget — lest we forget !

If, drunk with sight of power, we loose
Wild tongues that have not Thee in awe —
Such boasting as the Gentiles use
Or lesser breeds without the law —
Lord God of Hosts be with us yet,
Lest we forget — lest we forget !

For heathen heart that puts her trust
In reeking tube and iron shard —
All valiant dust that builds on dust,
And guarding calls not Thee to guard —
For frantic boast and foolish word,
Thy mercy on thy people, Lord !
Amen.

This poem is now before the class, either offered by one of the members or suggested by the teacher. There are, of course, several different methods of approach and the following would be one. The teacher, having made due preparation herself in regard to the situation and the occasion of the poem, would present it somewhat as follows :

Preparatory Information by the Teacher or Pupils. — On the occasion of Queen Victoria's Golden Jubilee, on the fiftieth anniversary of her accession to the English throne, there was planned a great military and naval display. The English navy had been called from all parts of the earth and the English army was on parade. Ministers, diplomats, and ambassadors from nearly all civilized countries were present to do honor to the queen, and graced the occasion. Princes and kings were the guests of England. It was a gala time and all Britain was full of cheer and of praise for her beloved queen. All nations paused to do her honor and, in doing her honor, to honor the British empire. It was an occasion that might well cause undue pride in any nation.

Rudyard Kipling, seeing this danger, was inspired with the happy thought of embodying it in what is probably his greatest poem. It occurred to him that such homage and adulation might easily "turn the head" of the English nation and make it lose itself in pride. The prayer in the *Recessional* is one for deliverance from this danger. In imagination it was supposed to be sung while the people *receded* from the churches after the principal ceremony of the Jubilee celebration. Symbolically it is a prayer for the preservation of England's humility while the great ones of the earth who had come to England to praise, if not to flatter her, were *receding* to their homes in distant countries.

The above would be a simple introduction and preparation given to the class in connection with the assignment of this beautiful selection which is to be studied, discussed, and explained with individual variations by

the pupils and the teacher the succeeding day. The introduction given by the teacher would constitute a kind of apperception mass — the avenue of approach to the study of the poem. It would give the general situation in view of which many of the words, phrases, and allusions would be explained or understood.

Work for the Pupils. — In addition to the foregoing explanatory introduction by the teacher, many questions, left unasked and unanswered for the present, would be *à propos* and forthcoming. Up to this point the teacher has told probably as much as she should. She has given some instruction, some knowledge of the situation, and this is one function, as we saw, of the recitation. She has given the approach and prepared the minds of the class for the reception and the study of the poem. She has enlisted their interest and probably raised many questions in their minds. This, as we saw, was another function of the recitation period. The following questions might well be asked so that the pupils would have something definite before them in their study and solution of the problem in hand. This problem for the first succeeding lesson would be the understanding and the liking of the poem, rather than the reading or the expression of it, which should come later and should not be attempted until the meaning is fairly clear and until there is a decided impulse or wish in the minds and hearts of the pupils to read or express it.

Preliminary Questions. — In connection with the first stanza it might be asked: What is prayed for? What is the meaning of "dominion over palm and pine"? In the refrain, where it says, "Lest we for-

get!", what is it that England might forget on such an occasion?

In the second stanza what is referred to in "the tumult and the shouting"? Who were "the captains and the kings"? Whither did they depart? What is specifically meant by "thine ancient sacrifice"?

In the third stanza what is meant by "dune and headland"? What "fire" sinks? What is meant by "all our pomp of yesterday," and by being "one with Nineveh and Tyre"?

In the fourth stanza what is the meaning of "drunk with sight of power," and of "loose wild tongues"? Who are the "Gentiles" referred to, and "the lesser breeds"? What law is meant in "without the law"?

In the fifth stanza what are the "reeking tube and iron shard"? What is meant by "all valiant dust that builds"? What is prayed for in the last stanza? When was this Jubilee?

The above, then, is the preparation and the assignment for the next lesson. The pupils have been put in a sympathetic and inquisitive attitude; they have been made receptive and suggestible, and still a sufficient amount of work is left for them to do. In fact, with all the time at their disposal and with their best abilities they will not be able to get, in one lesson, the fullness of meaning in the poem. There are depths and depths to a great poem, as there are to a great truth. There will be room left for other variations of meaning and of reading in this poem; new truths will be continually revealed, for a poetical gem is like a diamond: it flashes differently with every turn and phase.

The Old Way and the Poor Way. — The old way — and the way which is even now altogether too common — was for the teacher, without making any previous preparation or investigation of the succeeding lesson, and without having looked ahead to see what the lesson was about or even what the extent of it was, merely to assign the next lesson or sometimes the next two lessons, and then to dismiss the class without a single question in regard to the meaning of pivotal words or of the literary, historical, or scientific allusions. The question, "What does this mean?" is even now too seldom asked. With such methods of teaching it is not surprising that poor work is done, not only in reading, but in all subjects.

Proximate Analysis. — The questioning referred to should be such as to secure what might be called a "proximate analysis" of the panoramic picture in the *Recessional*. By a proximate analysis we mean a partial analysis, one that is not driven too deeply into the details or into subject-matter too remote and not directly relevant. Succeeding lessons will add much to the first day's analysis without making it ultimate, even when the class leaves this lesson for the next. By "ultimate analysis" we mean one which goes beyond the purpose at hand and far into details. This might be illustrated by the study of a great oil painting: it is worthy of a certain kind of analysis but this analysis should never become ultimate. If we should go up to the picture and scrutinize it, either with the naked eye or with a microscope, so that the pigments or the canvas would become the object of our attention and investigation, instead of the picture as a

whole, we should have what may be called an ultimate analysis. But this would simply destroy the picture. There is a truth in this illustration which should not be overlooked in the study of any work of art, whether it be painting, sculpture, architecture, music, literature, or religion. Analysis may be driven so far that the picture is destroyed. If the pupils should be required to dissect the *Recessional* so ultimately that their minds would dwell upon the grammar, the language work, the writing, the spelling, or the syllables, the poem itself, like the oil painting, would be destroyed. Of course, incidentally and for special reasons, side excursions might be taken in the direction of ultimate analysis, but the teacher and the class should not become lost in the wilderness but should retrace their steps quickly as soon as the incidental aim has been attained. The great aim in the study of the poem should be to make an artistic picture stand out clearly; and the class and the teacher should station themselves at the proper point of view.

The Reading. — When the poem has been studied and discussed and when the right point of view has been found and the picture stands out in all its beauty, and when the pupils become possessed of a love of it, then it is time to begin the various expressions of it by the teacher and the pupils. This should not be over-done on any occasion, for improvement in expression will still be in store for the future. In fact, members of the class should be called upon or should be allowed to read this whole poem entire, at any time and upon any occasion when they feel the impulse, as the days and weeks go

by. Like the old song, or like Booth's rendering of the Lord's Prayer, the reading of the *Recessional* should be in order at any time.

The Return Wave. — While it is true that the understanding and the liking of a selection naturally precede the expression of it, it should not be forgot that the cycle returns upon itself, and that the oral reading acts like a relay battery in augmenting both the understanding and the appreciation. To read or sing a poem tends to further illumine the intellect and to warm the heart to its inward meaning. If the teacher and the pupils could sing the *Recessional* as set to music by DeKoven, for instance, the appreciation of the poem would be greatly enhanced.

A Study of Details. — During the reading of this poem, after it has been proximately analyzed, and after a love of it has been engendered in the hearts of the pupils, reasonable attention should be paid to the intonation, the inflection, and the emphasis on its various parts. Where words are mispronounced or where the voice is not properly inflected, or where the proper emphasis is not given, kindly and suggestive criticism should be exchanged. This should always be of the suggestive kind rather than of the adverse type. When the teacher and the pupils have all had the opportunity and the privilege of reading the poem, different versions will have been noticed and questions will be raised as to why certain words or lines were inflected or emphasized as they were. For example, in the fourth stanza the question might be raised as to why the word "we" should be specially emphasized — "Lest *we* forget!"

Different Versions. — Much freedom should be given pupils in regard to different versions. A discussion over what may seem to us an unreasonable version, on account of a special emphasis by a pupil, may be of great value to him and the class if he has become convinced that his rendering is the best. Here, as elsewhere, it is what arouses to growth that is of most value as a means; consequently the emphasis and inflection given by one person should not be imposed arbitrarily upon another. Expression means movement from within outward, and each person should be allowed considerable freedom in expressing his own thought and feeling. If reasons are given by one reader which will find a responsive assent, the new emphasis or inflection will undoubtedly be adopted by others. Here there should be a leveling up to good reading, which consists in the simple and faithful expression of the real situation in a truly artistic manner.

Punctuation and Pauses. — All artificial rules in regard to pauses and punctuation should be avoided. In the older days most of us were taught to stop long enough at a comma to count one; at a semicolon, to count two; at a colon, to count three; and at a period, to count four! All this, of course, is pure nonsense. Punctuation marks are marks of sense and not marks of time. We frequently stop longer where there is no punctuation mark at all than we do at other places where there is a period. The punctuation marks are intended merely to indicate the meaning, and such rules as the foregoing would make reading very artificial and conventional, indeed.

Biography of the Author. — At some time during the discussion of this selection some information should be secured and given in regard to the author. It is not well in the teaching of reading to children to compel them to gather all the detailed facts in regard to the life of an author. This would correspond exactly with what we called ultimate analysis of his poem. Enough should be known about him, however, to throw side lights of interest upon the selection. Interesting information in regard to the author and his life might be given by the children at any time during the term. Something, however, should be known in regard to the author of a selection which we prize and which we are reading. What is his nationality? Where was he born? Was he ever in America? What are some of his other writings? In connection with this last question the class might be introduced to the *Jungle Books*. A little later the class might be asked if they should like to study and read another poem by Rudyard Kipling. If so, one might be chosen. His *Gunga Din* was given by one critic among the first ten great short poems in the language. Any interesting thing that might be reported either by the teacher or by the pupils in regard to the author or in regard to the poem that is being studied would add to the literary interest of all concerned.

II. A TRIBUTE TO WASHINGTON

Avoid too much Thoroness. — It should not be understood that one poem should be completed before another is taken up. In fact, there is scarcely any such thing as *completing* a poem. The poem, like the song or the great

picture, grows upon one continually. If too much time is spent upon it before there is any change to another, the pupils might well tire of it. There is such a thing as too much thoroughness. It is a very common mistake for a mature and scholarly person to attempt to give his complete mental picture in all its detailed relations to a class of children. The mind of a pupil can comprehend only so much and only what it is prepared to receive. It would be impossible, for example, to make a child understand trigonometry. The same is true of the mental picture which involves deep philosophical and allegorical ramifications of all kinds. As there is a point in analysis at which we should stop, so there is a point in the conception of every subject beyond which there should be no attempt to lead a class until they are better prepared. There are depths and depths of understanding, as there are depths and depths to a truth. Too much thoroughness and the dwelling too long upon a subject frequently tends to what is called arrested development or else it creates in the minds of pupils an aversion or antipathy to the subject studied.

Gems in Brief. — Short selections of either prose or poetry are to be preferred in the teaching of reading. Children, we think, like these best, and they have the added advantage of expressing a complete unity. They may, too, be memorized without great effort and when so memorized, understood, and loved, they will scarcely ever be forgotten. Children, especially in the grades, soon tire of long selections. The writer, as a boy, remembers very vividly that he always preferred to hoe corn crosswise the field, taking the short rows, rather

than lengthwise where the rows were long and the changes few. So it is with selections for reading. A gentleman once noticed that his puppy would not eat when a large chunk of food was placed before him; but when small portions were broken off for him, the puppy ate them with great avidity. This illustrates a principle in teaching children. They shrink from attacking a big task but may be induced to do much by giving to them small portions which do not paralyze their courage and their appetite.

Another Example. — To give another example of teaching let us take Byron's tribute to Washington — a beautiful gem expressing the profound appreciation of the great American by the great English poet. It runs as follows:

Where may the wearied eye repose
When gazing on the great?
Where neither guilty glory glows,
Nor despicable state?
Yes, one — the first, the last, the best,
The Cincinnatus of the West,
Whom envy dared not hate —
Bequeathed the name of Washington,
To make man blush there was but one.

The Preparation and Questions. — The above poem, by Byron, is rather a difficult one to read orally. It should not be attempted by the class until it has been carefully studied and discussed. The correct pronunciation of several pivotal words should first be acquired. These will appear in the following questions, which will serve as a preparation lesson and give the class an aim

in the study of the poem. The teacher should see to it that the pupils are forming the dictionary and the encyclopedia habits; that is, they should be acquiring the tendency to get on the scent of the meaning; to chase down meanings which are not yet fully in their possession. Before this poem is undertaken the teacher should have introduced the class to Cincinnatus and to several of the so-called "great" in history, without telling them that the poem was to be read later.

Questions. — It might be asked: Why is the eye wearied? Who are the "great" probably referred to? Why did "guilty glory glow"? What is the meaning of these three words? What is such a similarity of sounds as is found here called? Watch for other similar instances. Find the correct pronunciation and meaning of "despicable." Why and where was there such a "state"? Who was Cincinnatus? Who was the "Cincinnatus of the West"? What is envy? Why did it not "dare to hate" Washington? What is the grammatical subject of "bequeathed"? Why should it "make man blush" that there was but one Washington?

The Emphasis of Time. — Time is an essential element in good reading. This is well illustrated in this poem. What is known as the emphasis of time is a much finer emphasis than the emphasis of force. Some words should be *drawn*, so to speak, so as to give them meaning — time to settle into or to grow into the mind of the hearer. The emphasis of time is very expressive, and good readers make much use of it. In the sentence, "Know the truth, and the truth will make you free," the

meaning becomes much more impressive if the last word, "free," is drawn or given more time.

In the foregoing poem the teacher should carefully and artistically see to it that the enunciation, pronunciation, and emphasis of time should be secured. The teacher can always do this best thru suggestion and imitation. The most artistic teacher is the one who can get these things done before it is known by the pupils how they are done.

In order to impress the effect of time the class might be asked whether the reading of the above poem in fifteen seconds would be a good reading. This they may try out experimentally for themselves and in doing this they will be brought face to face with the value of time in reading. They might then be asked if thirty seconds would give a better reading; and they might even try forty-five seconds. Such experiments will bring out questions and discussions of various kinds. The old perfunctory criticism that "he read too fast" might then assume meaning and be used with discretion.

Reading Period, a Holy Time. — The reading period should be one of the happiest and most interesting in the child's life. Some one has said that the reading period should be a "holy time," in which all would be both serious and happy, almost forgetting themselves and the passing of time. If beautiful gems of literature are introduced — and none but such should be introduced — and if the teacher were an inspiration, such an end and aim should not be difficult to accomplish. If these methods be pursued, the children will look forward to the reading time with pleasure instead of looking

forward to it as a time of drudgery and as a task to be got thru with. It will be a period when pupils will come "out of their shells" and will, in a true sense, build for themselves "more stately mansions."

One Selection May Suggest Another. — The very mention of "more stately mansions" would suggest, for example, in the last paragraph, *The Chambered Nautilus*, by Oliver Wendell Holmes. His *Flower of Liberty* would lend itself beautifully to two or three recitation periods. Thus one thing suggests another; and so it should be in a reading class. Hamlin Garland's *I Love My Prairies* should be read and learned by all children of the great Northwest. Lincoln's *Gettysburg Address* would be a beautiful picture to hang upon memory's wall, and in this connection the class should be introduced to that little gem, *The Perfect Tribute*, by Mary Raymond Shipman Andrews. Tennyson's *Break! Break! Break!* gives a beautiful picture — but we merely suggest a few; the list can be increased indefinitely.

Freedom in Details. — We must leave the working out of details and specific methods in the teaching of reading to the individual teacher. We have suggested the foregoing somewhat general methods, that some things may not be forgotten. There is an infinite variety wherein these general principles are applicable; and so within this scope each teacher should be free to work out her own plans to a successful result.

CHAPTER IX

WORD WORK: THE FORM

Spelling, or Orthography. — In learning to read, children come to notice sooner or later the parts, or elements of words; they notice that the same letters occur over and over again, and that in the same word these same symbols always occur in the same consecutive order. This is really what is known as spelling, or orthography. Mere spelling is simply one phase of word work; the proper, the conventional arrangement, or combination, of the letters in the word. This is the implication of the word "orthography," which etymologically means the "correct writing" of the word. Spelling, then, emerges from reading as a separate exercise when it is thought best to have a period in which the primary attention is given to words, as words.

Mere Spelling, not Sufficient. — But mere spelling, or simple orthography, is only a small part, as we shall see, of the work which should be done by both teacher and pupils upon words. Consequently, sooner or later, a special period should be set aside for what is usually called spelling or orthography but which should properly be much more comprehensive than the implications of these terms. In fact, it has been a prevalent and widespread mistake on the part of teachers to be satisfied with the mere spelling of words. In former days it was a common practice, which is probably too prev-

alent to-day, to assign a list of fifteen to twenty-five words to the class with the understanding that at the next recitation period these words were merely to be spelled correctly. Frequently this was all that was done; the interesting connotations of these words were seldom discussed; the meaning or definition was seldom asked; or if required it frequently remained as obscure as the word defined; it was defining the unknown by the unknown. The pupils were not required to *use* the words in any way. The consequence was that they did not become a part of the pupil's vocabulary; they were merely isolated things held in mind for the time being by pure memory. Being isolated, they were dead as far as any educational value was concerned; and a dead thing in the mind is little better than a dead thing anywhere else.

Syllabication, Important. — If the correct letters and their correct sequence in the word are important, it must also be important to know the larger divisions, or syllables, of a word, for words must frequently be divided at the end of a line; consequently, what is called syllabication is almost as important as spelling itself. It is not, however, considered as serious a blunder to divide a word incorrectly as it is to misspell it. It is difficult to see why this is so, but most conventions are probably beyond complete and reasonable explanation.

Methods of Syllabication. — In written spelling the syllable may be indicated by a space or a break, while in oral spelling it is sufficient to indicate it by a pause. A generation or two ago all spelling was oral, and in many places syllabication was made a complex art. What is known as "reduplication" was quite the

custom. An example of this would be as follows: The teacher would pronounce a word, say, "conventional." The pupils would say: "c-o-n, *con*; v-e-n, *ven*, conven; t-i-o-n, *shun*, convention; a-l, *al*; conventional." This is entirely unnecessary and a waste of time and energy. The purpose was probably to habituate the pupil in syllabication and in the distinct enunciation of the syllables; but these ends may be secured without this extreme of repetition.

Another plan was to pronounce each syllable as it was spelled, without repeating the syllables, and then, gathering up all of the parts, pronounce the word as a whole; as for example, in the word "pronunciation"; the pupils would say, "p-r-o, *pro*; n-u-n, *nun*; c-i, *ce*; a, *a*; t-i-o-n, *shun*; pronunciation." This seems also an unnecessary waste of time and attention to details. It would be sufficient to give the letters of each syllable and to make a slight pause between the syllables, as for example: P-r-o, n-u-n, c-i, a, t-i-o-n, *pronunciation*. In this case the enunciation and pronunciation may be distinctly given without any unnecessary repetition or waste of time.

In Oral Spelling. — In spelling exercises and spelling contests only one trial at a word should be allowed. To allow more than this results in mere guessing. Of course, if a pupil should spell a word thru, and then, when he has heard his own voice, should decide, of his own accord and without any help or hint, that it is incorrect, he should be allowed to change his mind and give a new verdict. A person does this in writing, where he receives no help, and the same should be allowed in oral spelling. This is quite a different situa-

tion from that in which a pupil misspells a word and is told that he has spelled it incorrectly and that he may try it another way.

In oral spelling, when the teacher has distinctly pronounced a word the pupil should pronounce it in turn. This will be evidence that he has the word clearly in mind. The pupil should then give the letters in each syllable, making a pause between the syllables, and at the close should pronounce the word again to give and to get a sense of completeness.

There is no objection to introducing into the spelling exercise some slight rivalry, by recognizing and making known, by some just and sensible plan, the person who is the most successful speller and who has made the best record in every way.

Pronunciation and Enunciation. — By pronunciation we mean the correct sounding of the word as a whole, and by enunciation, the distinct utterance of each syllable. It would be possible, and indeed it frequently happens, that the enunciation is sufficiently distinct while the pronunciation of a word is incorrect. It would be well for the teacher and the class to gather from their experience a list of words which are usually mispronounced. We scarcely ever listen to a speaker that we do not feel that he has mispronounced some words. We, ourselves, frequently mispronounce words for years without knowing it.

The writer once knew a man, fifty years of age, a member of a legislature, who was surprised one morning to find that there are two r's in the word, *February*. He had always pronounced it "Febuary," omitting the

first "r." It might be said that the spelling of the name of this month is a stumbling block to many others besides this lawmaker. We venture to give here the following list of words frequently mispronounced and suggest that the teacher and the pupils add to it such others, from time to time, as their observation and experience may furnish:

Words often Mispronounced.

1. thither	27. impious
2. extraordinary	28. pedagogy
3. geography	29. creek
4. history	30. deficit
5. been	31. civilization
6. attacked	32. finance
7. discipline	33. government
8. influence	34. mirage
9. forehead	35. zoölogy
10. mountainous	36. won't
11. mamma	37. squalor
12. obligatory	38. photographer
13. slough	39. lyceum
14. inquiry	40. Arctic
15. drowned	41. apparatus
16. bade	42. ere
17. again	43. Missouri
18. February	44. laundry
19. sword	45. sacrifice
20. often	46. infamous
21. granary	47. genuine
22. mischievous	48. coagulate
23. hearth	49. exaggerate
24. bellows (in a forge)	50. mercantile
25. papa	51. architect
26. Iowa	52. massacre

Difficult Sounds for Foreigners. — People of different nationalities have their own peculiar difficulties with certain sounds and words. It is very important that teachers see to it that children at an early age, before the habit becomes set and unchangeable, be taught the correct pronunciation of all such words. Strange as it may seem the difficulty is frequently with the ear, or the hearing, rather than with the ability to utter the correct sounds. In later years foreign children will thank their early teachers for much drill at the right time upon such words. Frequently teachers have a kind of false modesty which prevents them from correcting foreign children in their mistakes; but the children and the parents of these children wish them to learn the pure and exact pronunciation of all words. It is not just to allow them to acquire a false pronunciation or intonation which they must then carry with them thru life in conformity with established habits. The following is a sample list of words containing sounds that are difficult for Scandinavian children especially; many of these words and sounds are troublesome to other nationalities also:

The "y" sounds:

you	yoke	yes	yonder
young	year	yellow	

The "j" sounds:

jury	join	joke	James
jacket	jump	John	July

The "th" sounds:

the	those	taught	tooth
this	them	thru	teeth

The "th" sounds (*continued*):

these	think	true	truth
that	thought	throat	rhetoric

The "v" or "w" sounds:

	vote	wine
wax	vine	vex
	vinegar	

The "g" sounds:

gentle	gentlemen

The "u" sounds:

University	uniform	unit

Oral or Written Word Work. — The question is often raised as to whether spelling should be oral or written. Arguments are given in favor of written spelling to the effect that it is the kind used in everyday life; that under this practice every child spells every word; that it conduces to neatness in writing words in columns; that it has more definiteness, being put down in black and white once and for all.

In favor of oral spelling it is said that it gives an opportunity to secure distinct enunciation and correct pronunciation; that it is an exhilarating mental exercise, and wakes up mind; that it gives a period for the introduction of a reasonable amount of rivalry; and that it provides a public appearance.

If we grant that these arguments and others, for and against, are valid, the question as to whether we should have oral or written spelling would depend, then, upon our aim and upon our needs. If the school is one of foreign children, where enunciation and pronunciation are needed, oral spelling should properly predominate; while if the school is one composed of children whose vernacular is the English, probably written spelling should predominate.

Rules for Spelling. — Spelling in the English language is so lawless, unreasonable, and whimsically conventional that there are very few serviceable rules. When the author was a boy he studied a large word analysis in which there were sixteen different rules for spelling, and as he remembers it now, only three or four of these were ever found to be of any service. The writer is inclined to think that the learning or memorizing of more than these four rules would be time wasted. In fact, doing more than this might bring confusion rather than help. There are so many exceptions in English spelling that even these four rules are by no means infallible. One must be continually on his guard in applying them; but they are not difficult and may often come to one's rescue in time of need. We suggest that they be given consideration and discussion:

1. "Ei" follows "c"; "ie," all other letters: *e.g.* receive and grieve.

2. Drop the final silent "e" before a suffix beginning with a vowel, except when needed to keep the "c" and "g" soft; examples: Min(e)ing, serviceable, chang(e)ing, changeable.

NOTE: "C" and "g" are soft before "e," "i," and "y"; and hard before "a," "o," and "u."

3. Final "y" preceded by a consonant is changed to "i" on taking a suffix beginning with any other letter than "i"; lady, ladies; fly, flying.

4. Double the final consonant on taking a suffix, only when all the following conditions obtain:

(1) When the word ends in a single consonant,

(2) When this consonant is preceded by a single vowel,

(3) When the word is accented on the last syllable,

(4) When the suffix begins with a vowel: *e.g.* propel, propelling; level, leveling.

The rules for spelling are formulations of mature minds after they have got thru the spelling process. No child learns to spell by rules; he learns by observation, repetition, and habit. Consequently, the rules for spelling are serviceable only where, in one case out of a hundred, we become puzzled over the spelling of certain types of words. Too much, then, should not be made of rules for spelling.

Writing Misspelled Words. — It used to be an old custom to have a pupil who had misspelled a word, stay after school, often as a kind of punishment, and write it twenty-five, fifty, or one hundred times, depending upon the gravity of the negligence. This, of course, is poor psychology and poor pedagogy. In the first place it associates punishment with the learning process and with the subject of study; just as with some of the old-time teachers, a familiar form of punishment was to compel a child to hold out the Bible horizontally at arm's length for a certain numbers of minutes. It was a device not specially adapted to establishing a loving relation between the child and the Book. The same may be said of compelling a pupil to write a word a hundred times for the double purpose of preventing a repetition of the negligence and of learning to spell the word. It almost invariably happens that he becomes doubly negligent and writes the word in a perfunctory, listless,

and slovenly way. If, perchance, a mistake creeps in anywhere near the first, this will probably be copied to the end. It is repetition without thought and with a feeling of aversion to the school, the teacher, and the learning process, generally. Instead of making use merely of the law of repetition it would be better to call the child's attention to the form of the word and to throw around it a lot of interesting associations that would so engrave it upon his memory that it could not be forgotten. If the word were so presented that it would become a part of his very self and have a definite form he could not forget it.

Words Often Misspelled. — To awaken interest in spelling it would be well for the teacher and the pupils to gather a list of common, everyday words that are often misspelled. This list should be added to from day to day and it would always be a center of interest and of attention. We would give the following as a sample :

1. sieve	15. hyacinth
2. peaceable	16. chaise
3. edible	17. surcingle
4. chronic	18. tassel
5. chivalry	19. relevant
6. shrewdness	20. conceit
7. chasm	21. Israel
8. nuisance	22. ocular
9. lynx	23. banana
10. secede	24. ventilate
11. supersede	25. battalion
12. Pharaoh	26. Cincinnati
13. chamois	27. siege
14. sycamore	28. sibyl

29. Ithaca	54. niche
30. Catiline	55. cholera
31. Apennines	56. catarrh
32. February	57. leisure
33. abscess	58. Pentateuch
34. absence	59. bicuspid
35. duteous	60. gorgeous
36. consensus	61. orchid
37. lily	62. Macaulay
38. census	63. rhinoceros
39. yacht	64. Xerxes
40. privilege	65. Bismarck
41. elixir	66. Manila
42. sherbet	67. Gethsemane
43. assassin	68. advantageous
44. complexion	69. Philippine
45. vengeance	70. rarefy
46. leopard	71. surfeit
47. crocodile	72. Coliseum
48. Pleiades	73. pastel
49. celery	74. embarrass
50. asparagus	75. gauge
51. mistletoe	76. stationery
52. chocolate	77. marriageable
53. alligator	78. frolicky

Diacritical Marks. — Attention should be directed, to a reasonable extent, to what is called diacritical marking. This, of course, was begun in reading during the first few months of the pupil's schooling. It should not be forgotten, however, that any system of diacritical marks is merely a means and not an end. Such marks should be learned and used only when needed, just as we use any other tool — only when it is serviceable. Diacritical marks are merely for the purpose of indicating,

to the person who does not know, the sounds of the letters, so that he may infer how the syllable is to be enounced and hence how the word, as whole, is to be pronounced. If the pronunciation is already known by the pupil, there is no need of affixing to the word any diacritical marks at all; for if the pronunciation be known, these additional marks serve no use whatever. It is to be regretted that many teachers impose the whole complicated diacritical system of marking upon children when they already know the pronunciation of the words in question. This is making such markings an end rather than a means; and frequently children are thus harassed and bewildered by a complicated scheme that serves no ulterior or useful purpose. As in everything else, a system of diacritical markings should be reduced to its lowest terms, and these should be used and required only when needed. The child should not be so burdened with tools that they are in his way.

Spelling Reform. — English spelling certainly needs to be reformed. Our language is extremely lawless in its orthography. There is now on foot a widespread movement both in America and in England in favor of spelling reform. A few newspapers and magazines have adopted a measure of reformed spelling, and many educational associations, both state and national, have declared themselves in favor of it. As in all movements, there are extremes on the subject of spelling reform. Men of the older type and time, and publishing houses, as a rule, are averse to any changes; while the radicals are in favor of an extreme in the other direction. It is generally admitted that our English

spelling is a great stumbling block in the education of children. It is asserted with much evidence that it wastes from one to two years of a child's school life to master this complicated, irregular, and merely conventional system. But men whose habits are formed are opposed to any change. It seems too that people are less inclined to be progressive in small, non-essential, and conventional things than they are in things worth while. People will fight, bleed, and almost die for the conventional form of a word. It certainly demonstrates that Bacon's "idols of the market" are *idols*, indeed. It is to be hoped, however, that the movement will spread. All teachers, we think, should advocate a sane reform in the golden mean; and, while some of us may not be able to reform our own old habits in this matter, our reason tells us that a simplification of English spelling would be a boon to the rising and struggling generation of children, both native and foreign, who are wrestling with the senseless spelling of our language.

CHAPTER X

WORD WORK: THE INWARDNESS OF WORDS

What is most Important. — In the last chapter we treated of the outward aspect of words: their form, the form of presentation, procedure, etc.; but the most interesting phase of work upon words remains to be discussed. This will include their meaning, their history, their interesting implications, their structure, etc. This is really the phase of word work which is, after all, the aim. All of the work previously indicated and discussed is merely the means to this end, and yet this is the phase which is usually forgotten or neglected. This is probably due to the fact that it is the most difficult part of that work. The mere outwardness of words, their surface and form, are comparatively easy; and hence teachers are too often content with this alone. In the old-time method of teaching, this surface work, this mere whitewashing, was all that was attended to. The consequence was, and still is, where such a method is in vogue, that pupils never become really interested in one of the most fascinating studies in the whole curriculum — the study of words.

For, after all, the aim is to give to pupils a fine sense of discrimination in regard to words: a kind of "feel" which indicates that the word in its full and accurate connotation is grasped. There is probably no better

indication of education and culture than a person's vocabulary and the discrimination with which he uses words. Words, as we saw, are the medium thru which meaning is apprehended. Words may be used either to conceal or to reveal thought; and with different people different degrees of transparency or translucency of language are evident. The purpose of words should be, of course, to reveal thought and not to conceal it.

And so, in all school work the teacher should have in mind the awakening of an intense interest in the mastery of words; and pupils should be enabled to express themselves clearly and unambiguously both thru the tongue and the hand.

Slang Words. — Many people are quite poverty-stricken in their vocabulary. It should be the purpose of the school to start children out and onward so that their vocabulary will be continually growing. There is a class of words known as "slang" which are paralyzing to the growth of one's vocabulary. If a person has accustomed himself to the constant use of slang, it will be impossible for him to express his thoughts in more elegant and appropriate words. His ideas have been associated with slang expressions so long and frequently, that when an idea comes, slang words rush in and no others are available. Consequently, in the presence of educated, refined, and cultivated people, the person addicted to slang must remain silent or else reveal his slang habit by expressions which, for their crudity, arrest the attention of all.

It is not the intention to condemn, *in toto*, the use of what is sometimes called slang. Many words now in

good use had their origin in sources similar to those of words now known as slang. It is difficult to define slang. Some one has said that every word in its origin is a poem, and slang words are frequently very expressive and picturesque because they bring to mind a very vivid and illustrating picture. But a discriminating choice should be made in the tolerance which we accord to such words. If their origin indicate immoral or debasing sources, they should be excluded, and children should be induced in every way possible to eliminate them from their vocabulary. If their origin, on the other hand, be merely one of picturesqueness and vividness, their use may be tolerated.

Abused Words. — Many words in our language are much abused and overworked by some people. The words *fine* and *lovely*, for example, are used upon almost every occasion when other words might be used with more propriety and discrimination. The word *splendid* is a much-abused and overworked word. If we were describing the Aurora Borealis, where flashes of light appear alternately in different directions, from the horizon to the zenith, and where the whole heavens take on a variegated and luminous display, the scene might truly be said to be *splendid*; in other places, where, in winter, they build ice palaces and where, upon a certain night, the fire king makes his attack upon the ice palace and the whole heavens are illuminated by a veritable pyrotechnic display of fireworks, the scene might be truly described as *splendid*; but, if we should speak of a "splendid dishrag," it would be passing from the sublime to the ridiculous; it would

be a use of the word *splendid* which is anything but discriminating.

How Meanings are Learned. — The meanings of new words are gathered by the pupil in different ways :

In the first place, the meaning of a word may be inferred from its context ; that is, from the meaning which has gone before and comes after. If there is at first a blot in our picture on account of an unknown word, by some reflection we may be able to glean, gather, or guess what the meaning must be from the drift of thought in the discussion.

In the second place, the meaning of a word may be gathered by giving the pupil a synonym which he already knows. The synonym may not have absolutely the same meaning but it will let in upon him a flood of light. If *billow* is explained to a child by giving him the word *wave*, altho the two are not exactly synonymous, he will have the meaning in its substantial fullness.

In the third place, the meaning of a word may be grasped by giving the pupil an antonym ; if the word *deceptive*, for example, is defined as *not truthful*, the child is at once enabled to grasp its substantial meaning.

In the last place, the meaning may be gained by logical definition. When this method is pursued, the teacher must be careful that the pupils understand the definition itself. Frequently children learn definitions merely by memory without having any clear grasp of their meaning. Definitions, consequently, are not sufficient in themselves to make sure that a pupil has the meaning when he gives

them. He should be required to put the word in a sentence — to use it correctly in more than one relation. The aim in all of this work is clearness of understanding, and if a pupil can show in any way that he has the actual meaning, it should be satisfactory for the purpose in hand. When a pupil looked up the word *capillary* and found in the dictionary that it meant *a little vessel*, and then said that Columbus came to the New World in three capillaries, the need of further questioning on the part of the teacher and of more accurate discrimination on the part of the pupil became evident. Another boy looked up the word *aperture* and found that it meant *an opening*. As usual, children are satisfied with mere words; and consequently, when he was asked to put the word in a sentence he said, "December is the aperture of the skating season." A man inquired in regard to the meaning of *ferment* and was told that it meant *to work*. A little later he was heard to remark that he believed he would "go out in the garden and ferment a while"! These ludicrous instances might be duplicated by any teacher; but they show that, to secure clearness and fullness of meaning, a teacher should test the pupil in various ways and require him to give a clear account of his knowledge. Pupils should be able to show that they can use in various ways the tool which they have acquired. The test of the pudding is always in the eating.

Word Revelations. — The study of words should be intensely interesting. Many words have an attractive and indeed fascinating history; they contain within themselves wonderful stories; and any side lights which

the teacher in her methods may be able to cast upon a word will help to illuminate it, to illustrate it, to make it interesting. This, like every other subject, will be attractive to children, if properly presented. They should be led each day into some new corner of verbal curiosities. The word-world is a veritable museum, every specimen in which is full of literary and historic interest. Indeed it may be truly said to be a menagerie of live verbal species, each one of which has an interesting evolutionary series of changes, and many of which are genuine "sports."

Words differ in Interest. — The same kind of work should not be done or required upon every word presented. Some words are of interest in one way and others in another. It would be tedious and monotonous to give the etymology of every word. Some words are intensely interesting on account of their structure and make-up and others on account of the tale which they tell. The teacher should seize upon the interesting aspect of a word and let the other aspects go, since it is impossible to do everything.

One Sample of an Interesting Phase. — The following is a list of words that arrest our attention on account of their make-up, and because of their internal implications and suggestions. This list might be added to from day to day as similar interesting examples occur. One of the chief things to be aimed at in the teaching of words is a growing curiosity on the part of children in regard to them. If a person forms a habit and a desire of looking into a word, he is on the royal road to mental growth in this direction.

- don = to do on.
doff = to do off.
daisy = the day's eye.
naught = not aught — not anything.
curfew = couvre feu — to cover up the fire.
vinegar = vin aigre — sour wine.
verdict = ver (true) dict (saying) — a true saying.
privilege = private law.
Philip = a lover (phil) of the horse ('ip).
frankincense = a free burnt offering.
atone = at one.
egotist = one for one's self (ego).
egoism = a state in which self is prominent.
egotism = a state in which self is unduly prominent.
ostracize = to cast out by the shell. (This was the way in which Aristides was cast out of Athens — by a shell vote.)
tantalize = to put into the condition of Tantalus. (Have the class look up the incident.)
bayonet = a sword first made in Bayonne.
laudanum = a thing to be praised; hence, that which deadens pain.
enthusiasm = a god within.
stentorian = after the manner of Stentor. (Have the class look up the incident.)
sarcasm = (literally) flesh tearing.

Meaning of Proper Names. — One of the most interesting studies is that of names, both surnames and given names. Every name had an appropriate origin somewhere and some time, and hence every person's surname has had a history originating in a meaning which was applicable to a forefather. While an extensive study of names would carry a teacher and her class too far afield, some investigation should be made in regard

to the meaning of the names of the pupils in the class. This will arouse their curiosity to push the inquiry further. Every exercise of this kind which adds its interest to words and names should be encouraged.

Word Structure. — Words are also interesting on account of their structure. There are certain formulations of words where the root or the stem corresponds to the surname of a person and the prefixes and suffixes add the variations. In the teaching of word work the class should be given a list of the most common and meaningful prefixes and suffixes; that is, a sufficient number of these should be given to awaken the interest and arouse the curiosity of the pupils whenever they see them. The list of really important prefixes and suffixes is not long. It would be bad practice to attempt to give all the prefixes and suffixes in the language, or to give the impression that all prefixes and suffixes are of equal importance. Some of these occur so seldom that it is not worth while to learn them at all until we meet them, and others occur so frequently that they are important tools to have with us at all times.

Some Important Prefixes and Suffixes. — We venture, therefore, to give a short list with examples, of some important prefixes and suffixes. These may be learned by the pupils in a very short time and thereafter will be invaluable in securing an insight into the meaning of words:

Prefixes. —

ante = before; *e.g.* *ante* bellum, before the war.

anti = against; *e.g.* antipodes, those on the other side of the earth whose feet are against ours; that is, we are feet to feet.

re = back or again: *e.g.* recede, to go back; re-read, to read again.

Where it is not known whether this prefix should mean *back* or *again*, we have to sense the meaning by trial. This must be done everywhere in language and in life.

mis = wrong; *e.g.* misquoted, wrongly quoted.

un = not; *e.g.* untruthful, not truthful.

dis = apart; *e.g.* dismember, to tear apart.

pre = before; *e.g.* prefix, to put on before.

The word *precocious* is interesting for it literally means, "cooked too soon."

pro = forth; *e.g.* propel, to drive forth.

de = down; *e.g.* descend, to go down; depart, to part from.

Delirious is an interesting word, for it literally means, "from one's furrow," or "out of one's furrow." The modern and possibly slang expression for this conception is, "off one's trolley" — in the modern world the street car being responsible for the transfer from the furrow to the trolley.

ad, at, af, an, ac, as = to; *e.g.* admit, agree to; attend, to tend to; affix, to fix to; annex, to add to; accede, to go to another; assent, to agree to.

ab = from; *e.g.* abstract, to draw from.

con, com, co = with, together; *e.g.* connect, to join together; comply, to agree with; coöperate, to work together.

in = into, upon; *e.g.* introduce, to lead into; insult, (literally) to jump upon.

contra = against; *e.g.* contradict, to speak against.

extra = beyond; *e.g.* extraordinary, beyond the ordinary.

Suffixes. —

ful = full of; *e.g.* truthful, full of truth.

ly = in a manner, like; *e.g.* truly, in a true manner.

ing = continuing; *e.g.* reading, continuing to read.

ness = state or condition; *e.g.* sickness, a state of being sick.

Word Work: The Inwardness of Words 111

er, or (added to a verb) = one who; *e.g.* worker, one who works.
er, or (added to an adjective) = more than; *e.g.* richer, more rich.
let, lot, ling, kin = little; *e.g.* ballot, a little ball.

(People originally voted by dropping little balls into a box. This practice is still in vogue.)
brooklet, a little brook;
lambkin, a little lamb.

(Many proper names contain this suffix:
Wilkin, little Will; Perkin, little Peter.)

ic, y, ous, al = of a nature, like; *e.g.* barbaric, of a barbarous nature; milky, like milk; vitreous, like glass; emotional, of the nature of an emotion.

ate, fy = to make; *e.g.* emancipate, to make free; liquefy, to make liquid.

able, ible = capable of; *e.g.* dutiable, capable of or subject to duty; edible, capable of being eaten.

tion = act of or condition; *e.g.* promotion, act or condition of being advanced.

ize, ise = to make; *e.g.* rationalize, to make reasonable; criticize, to find fault.

(According to the reformed spelling the "ise" is discontinued where the sound is one of "z.")

ish = somewhat; *e.g.* brownish, somewhat brown.

Another Interesting Sample. — There is another class of words where the interest seems to be in the root or stem, and where this is played upon by a prefix or a suffix, or where there has been a transfer of meaning, by analogy, from one situation to another of a different kind. This latter is illustrated, for example, in the varied applications of the Latin word, *caput*. This word is taken into the English and with some slight incidental variations, owing to its long and tortuous course in history, becomes the mother of a whole family of words:

From *caput*, meaning the head:

1. capital, the head city.
2. capitol, the head building.
3. capital (adjective), at the head, excellent.
4. capital punishment, head or ultimate punishment or the punishment which, literally construed, means taking off the head.
5. capital letter, head letter.
6. c(h)apter, head division.
7. captain, head of 100 men.
8. capitulate, to give the headings.
9. recapitulate, to give the headings again.
10. capitation tax, tax on the head (poll tax).
11. decapitate, to cut off the head.
12. capital, a man's possessions.

It is difficult to see how the idea of *head* comes into this situation; but when it becomes known that in the pastoral stage of the race a man's wealth consisted of the heads of sheep and cattle which he owned, it becomes clear; consequently, the word *capital*, meaning wealth, contains an epitome of the history of our race.

Samples of Interesting Etymology. —

From *cide*, meaning to kill:

1. homicide, the killing of a human being.
2. fratricide, the killing of a brother.
3. sororicide, the killing of a sister.
4. patricide, the killing of a father.
5. matricide, the killing of a mother.
6. infanticide, the killing of an infant.
7. suicide, the killing of self.
8. regicide, the killing of a king.
9. uxoricide, the killing of a wife.
10. germicide, something that kills germs.

An ingenious advertiser has used the word "fyrecide" as the name for a mixture or preparation that is "death on fire."

From *graphy*, an account or description :

1. geography, a description of the earth.
2. biography, a description of a life.
3. ethnography, a description of the races.
4. anthropography, a description of mankind.
5. physiography, a description of nature.

Other words, as they come to the notice of the pupils, may be added to this list.

From *logy*, a treatise, or scientific discourse :

1. geology, a treatise of the earth (applied to the crust).
2. biology, a treatise on life.
3. ethnology, a treatise on the races.
4. anthropology, a treatise on man.
5. physiology, a treatise on human nature in its functioning.
6. phrenology, a treatise on the skull as indicative (now a pseudo science).
7. terminology, a treatise on terms.
8. psychology, a treatise on the mind.
9. theology, a treatise on God.
10. demonology, a treatise on demons.
11. zoölogy, a treatise on animals.
12. astrology, a treatise on the stars (now a pseudo science).
13. etymology, a treatise on origins (limited to words).
14. neurology, a treatise on nerves.
15. mythology, a treatise on myths.
16. lithology, a treatise on stones.
17. conchology, a treatise on shells.
18. osteology, a treatise on bones.

Again, this list may be increased as other words appear.

Technical Terms in Word Work.—There are certain terms which sooner or later should be learned by the pupils. They are not difficult and should be learned

naturally when the subject presents itself or incidentally as other words are learned. At the proper time and place they might be made the subject of a recitation, and then they could be discussed in full, formulated and applied. For example, if the word *syllable* be made the stem or root, we get the following :

mono-syllable = a word of one syllable.

dis-syllable = a word of two syllables.

tri-syllable = a word of three syllables.

poly-syllable = a word of many syllables — applied to words of more than three syllables.

The syllables of a word are given names as follows :

ultimate = the last syllable of a word ;

penult = next to the last syllable (pen = almost) ;

ante-penult = the syllable before the penult — third from last.

pre-ante-penult = the syllable before the ante-penult — fourth from last.

Words, according to their composition, or structure, are also known as simple, derivative, or compound. A *simple* word is one consisting merely of the root or stem. A *derivative* word is one consisting of the root or stem with a prefix or suffix attached. The prefix or suffix gives the variation of the idea implied in the root. A *compound* word is one made up of two or more simple words. When a compound word is of somewhat new and recent origin it contains a hyphen. When it is of long standing and well established the hyphen is usually dropped.

Lesson Assignment. — The number of words to be assigned for the next lesson in word work will depend

upon conditions and circumstances, and will vary according to the maturity and degree of advancement of the pupils. It will also vary according to the possibilities of the words — to their complexity and richness of meaning. Consequently, no definite number can be assigned as a proper one. It is subserviency to cut-and-dried rules that paralyzes good teaching everywhere. Sometimes five words, if they are full of richness and variation, would be ample. At other times ten or fifteen would not be so difficult. It is not the number of words that is important, but the interest aroused and the fruitfulness of the lesson.

Sources. — The sources of word work may be many and various. A spelling book might be used at least a part of the time, to advantage. At other times words could well be selected from any and all sources directly connected with the life of the pupils. Of course, the use of a spelling book minimizes the work of the teacher, but if the teacher have ability and time to select the words from all other subjects which the pupils are studying, or from other outside and interesting sources, it would, we think, be a better plan. A spelling book, it is true, gives definiteness to the work and the occasion, and this means much. If the same definiteness could be secured when the words are selected from any and all sources connected with the pupils' life it would certainly be a better plan. This, however, must be left to the teacher. No particular rules on this, any more than on any other subject, can be given, which should be applied verbatim to the ever-changing situations of the schoolroom.

CHAPTER XI

WRITING

With Reading at First. — Writing is implied or involved in the subject of reading during the primary grades. During the period when writing is thus wrapped up with reading and treated, in a way, incidentally, the primary accent, or emphasis, is placed upon the gleaning of thought and the effective expression of it. But during this period the subject of writing receives a secondary accent and is supplementary to the reading process.

The Present Status. — But as soon as writing emerges and becomes a separate exercise the tendency is to oversystematize it. The merely formal exercise of writing seems then to be made an end in itself, and in many, if not in most schools, it degenerates into a fruitless and formal routine. If we visit the average school and make a careful examination of the process and of the results of the teaching of writing, we shall soon be convinced that little if any good is being accomplished. If we examine the copy books, we shall frequently find that the last line on a page is worse than the first, and that the last pages of the copy book are as bad, if not worse, than the first pages. This is easily explained when we remember that for the child the mere copying of the line which precedes is the end and aim of his activity. A result follows, similar to that got from the pupil

who has been compelled to stay after school and write, a hundred times, a word which he has misspelled. The whole procedure degenerates into a perfunctory and monotonous task. In writing the first line on a page, a pupil is likely to do his best, for he writes it with much attention, and the copy before him is more nearly perfect. When he writes the second line he is tempted to copy what he himself has written before, rather than the engraved copy at the head, and so the process of degeneration goes on. Mere repetition in writing, as in spelling and in reading, if not filled full of thought, feeling, and effort, is likely to become commonplace and barren of results.

Copy-book Work. — It is customary in the grades to devote a period of about fifteen minutes each day to the subject of writing in copy books. The period thus spent becomes a dull and uninteresting one to the child. The teacher does nothing except to criticize adversely either the children's movement or their position at the desk, and consequently the pupils are always apprehensive of being adversely criticized. They are not deeply interested or indeed interested at all and they do not feel that they are doing anything worth while. With the copy before them the finger movement is induced and a slow, painful copying process is the result. This becomes what can more properly be termed *drawing* than writing, for the children, by this slow procedure and with the finger movement, attempt to draw the letters just as these are made in the copy above. The whole period becomes one of drudgery and the children always experience a feeling of relief when it is over.

The teaching of writing by means of copy books has been an altogether too prevalent practice. No one can become a good writer by means of the copy book alone. As its name indicates, it is a *copy* book, and children merely imitate the copy. It puts the pupil under constraint, for he has to move slowly and along certain grooves; it defeats the proper movement and induces the "slow," and merely "drawing" habit. Writing should be more alive and expressive of what is within than drawing. Real writing is expression, thru the hand, of ideas and thoughts already in the mind, the forms of which are as mental as the ideas themselves. It is the artistic *expression* of these forms that is in need of cultivation and improvement; and this can be done only by the right kind of practice. A boy does not learn to catch or play baseball or to skate by merely imitating the detailed movements of some one who is a "copy." He learns to catch and play by "getting into the game" and expressing over and over again the ideas which he has. It is a process from within outward. He gets some "pointers," it is true, by watching others, but the great problem for him is not a lack of *knowing* what to do but of *doing* it. Writing is like all other arts; it must be learned by intelligent doing. As in reading, the written forms are only go-betweens, means, or media, and should become unconscious and rapid habit.

Copy Books Made to Sell. — As a rule, copy books cost about fifteen cents, and they contain less than two cents' worth of paper. They are simply made to sell and are not at all essential to the teaching or learning of writing — indeed, they are, as we said, a detriment.

If writing is a plain and pleasing expression of thought in written form, done with ease and rapidity, it is difficult to see that copy books are not a real hindrance to the whole process. If it be said that copy books furnish the ideal letters and real forms which the children are to reproduce, it can be replied that the children have already, in their minds, forms more perfect and ideal than they can possibly express. Children have been developing these forms since the first day of their school attendance. Consequently the child, before he has had any *systematic* teaching of writing, as writing, can invariably tell which is the best of several letters. We all have the experience of being dissatisfied with certain standard forms in our minds. When we see another person make a letter which we consider better than our own we are inclined to adopt his and to throw our own away. This is entirely legitimate and is the way in which children develop standard forms which are being built up in their minds. Every pupil has in his mind standard letters, or ideal forms, by means of which he tests the letters which he sees or executes himself. If this is true, why should he need another copy external to him, upon the page of a copy book? This would seem to be a distraction rather than a help, if real writing is the expression of what is within the mind. Since he has, then, upon his mental tablets the standard forms, it is best for him to express these in real writing rather than to imitate in mere drawing a copy that is before him. It is the monotonous and repetitious expression of copies that makes the writing period one of sheer drudgery.

Careful Beginnings. — As in learning to operate the typewriter or in learning to play the piano, the writing habit should be carefully begun and systematically and interestingly induced. It should follow the laws of habit, as does every other art. The habit of writing should be ingrained in the nervous system so that the movement will naturally follow. This movement in writing should be induced in a proper position, and this habit should be cultivated slowly but surely. But while the habit is being cultivated the child should be writing something that is worth while. In learning to write, children should be transcribing something that is of value. The transcribing of beautiful gems of poetry and of prose from the blackboard into the notebooks neatly kept for that purpose, was suggested in the chapter on Reading. The ingenious teacher will always find subject-matter to work upon.

Motive. — In the old, copy-book method which we have described there is no motive to induce growth toward better writing. It frequently happens that children in the eighth grade do not write any better than children in the fourth, altho they have been writing in this perfunctory way for several years. Something must surely be wrong, and there is here a real problem for investigation by every teacher. If there is no fruit from a certain method, it should, like the tree spoken of in Holy Writ, be cut down and destroyed. It would be safe to wager that, if a boy who had been writing for three or four years and had made no progress, were told that if he should become a reasonably good writer in three months he would be taken into a bank and given a good

position, he would attain the desired proficiency in this art. Here there would be an evident motive, and it would be found that "where there is a will there is a way."

But of course such a motive can not be given to every child in school. Some motive, however, must be found if there is to be improvement. If a person learning to skate should find that he could not do so well at the end of an hour as when he began, and could not skate so well the second or third day as he did the first, the probability is that the skates would go into a corner or into the ditch by the highway. Where a person does not improve in any art which he is attempting to learn, he ceases trying. Improvement which will satisfy the mind is probably the greatest motive in the minds of the children in learning to write. It is, we grant, difficult to plant such a motive, for it is the artistic motive; and real art is difficult for children of that age. But there can be simple art — art in its elements; and it is this motive of improvement that the teacher must avail herself of to secure interest and progress. She must inspire children to write better and better as the days and weeks go by, or she and her pupils will fail to solve the problem of writing.

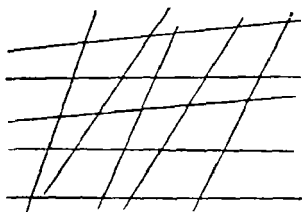
An Artistic Writer. — When the author was a boy he had a teacher who was an artist at the pen; and while we were out playing at recesses and noons he would sit behind his desk with a good supply of plain paper, and there he would practice and write to his heart's content. His head and his whole body would move back and forth in harmony with his arm. He evidently felt the thrill of success thru his whole

nervous and muscular systems. Writing, to be real writing, must be accompanied sooner or later by this nervous and muscular response: there must be the physical thrill and mental realization that we are succeeding.

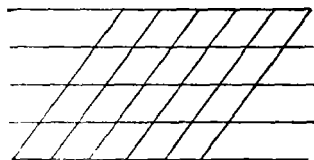
The Teacher's Part. — The encouraging approbation of the teacher will do much to keep the children on the road to success. A word of deserved praise should not be withheld. While the teacher should not be given to flattery or to indiscriminate commendation, neither should she be one of those who never speak the word of encouragement, or what is still worse, who never comment on a pupil's work except in terms of fault-finding. The encouraging word often works wonders. The teacher who knows children will avail himself of every legitimate motive that can play upon the human mind and heart to bring about the desired result.

Aims. — There are certain aims to be accomplished in this whole process and procedure of teaching children the writing art: in the first place, writing, to be good, must be legible; that is, all of the letters must be capable of being recognized instantly. No letter should be, so to speak, ambiguous. Consequently, children should be taught the proper forms, the proper mental pictures, of all the letters. If only one good form of a letter could be kept before the child's mind until he had acquired the art and the habit of executing it, all would be well; but the trouble is, that there has been a cross fire of forms and of habits, so that in practice the nervous and muscular impulse is inclined to go outward in a dozen different ways.

When the correct form or mental picture has been definitely engraved upon the mental tablets of the children, these letters must be combined in such a way that the words and the lines will present as a whole a neat and symmetrical appearance. It is this which makes some people's writing repulsive and the writing of others artistic and attractive.



Look at this picture,



and then at this.

Rapidity also is an aim to be attained in the teaching of writing. Some persons can do in one hour what it takes others two hours to accomplish; the consequence is that the rapid worker is always in demand and will retain a position where the slow worker will fail. So it is in writing: a person who turns out a product in writing that is legible and neat, and that has been secured rapidly, attains the desired end.

Position and movement are also important. If a person were to write only for a few minutes, it would make but little difference whether he had done the work in any certain position or with any particular movement; but if a person were to write continually for hours, and if writing is to become, in any sense, his vocation, the position and movement are very important, indeed. The habit of writing in a correct posi-

tion will, in the long run, save energy and enable a person to write for a greater length of time than he otherwise could. The movement, too, is important in this respect. It would be impossible for a person to write for hours and days with the finger movement alone; he would become subject to what is called "writer's paralysis." Consequently, position and movement are for the purpose of physical ease and endurance. This is well illustrated in learning to operate a typewriter. When one is learning he can undoubtedly secure a greater speed by using one finger only; but while he would save time at the beginning he would lose time all the rest of his life. The same is true of writing: a correct position and a correct movement are essential, in order to save time and energy thru the years to follow.

Writing a Means, not an End. — In attempting to learn from a copy book and by mere writing exercises, as we see them everywhere in school life, the writing seems to be merely for the sake of writing; this, at least, is the impression that the children get. For the real artist with the pen this might be an end in itself, but for children and for ordinary people, writing is a means and not an end. If mere writing is made the end, it becomes drudgery. In manual training, the making and fitting joints, by the day and week, merely for the sake of making and fitting joints, is deadening; and in instrumental music the practicing of scales over and over again without ever being allowed to play a tune is discouraging. The processes become monotonous and repellent. The boy wishes to be making something at the bench, and the girl to be playing something

at the piano. So it is in writing: if children were given something worth writing and told that it would be necessary, or at least most desirable, to have this subject-matter written up in neat and legible form, they would have something worth while to work for — some end in view. There would then be some fruitage from the process; but where there is no fruit, as in every other case, the process of writing becomes monotonous and repellent.

Systems of Writing. — Too much stress has been laid upon the various *systems* of writing. We have had many of them, to the confusion of the children and the teachers in our schools. As in the teaching of reading, some small phase or issue in the whole process is often seized upon by some one highly susceptible to one idea, who wishes to exploit himself and his work, and so he puts forth what is called a “new system.” From a psychological point of view there is no new continent to be discovered in habit formation, and consequently none in the teaching of writing. We have faddists without number in the pedagogical field, and we have likewise had them in the teaching of writing. The question of slant, even, has been made the basis of systems of writing. Too much, altogether, has been made of mere method or rather of devices, misnamed methods. A part has been taken for the whole; mountains have been made out of molehills; and pupils and teachers have been exploited by enterprising adventurers for their own enrichment.

Analysis of Letters. — The analysis of letters into their so-called “principles” is a delusion and a snare. This is “ultimate analysis” with a vengeance. It

makes pupils so self-conscious and so conscious of details that it is death to the writing process. It is similar to the analyzing of our own movements in walking, in order to learn how to walk, or of our own movements in eating, in order to learn how to eat. A few simple observations on the relative heights or sizes of letters is all that is needed. A methodology of the minute details in the procedure of most arts too frequently results in what might be termed the hysterics of the problem. Writing is simply an art that has its roots in observation, imitation, and in habit rightly begun and directed.

Slants. — The slant in writing is quite immaterial. If a person has acquired, by habit, a proper position and a proper movement, and if he expresses his writing in legible and symmetrical form and with reasonable rapidity, the slant is a mere incident. Every person should be allowed, under some restriction in the interest of later efficiency, whatever slant suits him best. Our hands are not at all made alike and it makes little difference whether the slant is one of fifty-two degrees, or twenty-five degrees, or vertical. The writer once knew a young man employed in a railroad office, who said that when he grew tired writing in one slant he fell into the habit, in order to rest himself, of pulling his pen instead of pushing it; and he could write a backhand that was a delight to see. While we should not recommend, for various reasons, the teaching of backhand, it is quite immaterial what individual slant a person practices, provided the great aims of writing, which we have enumerated, are attained. The chief trouble with the backhand is that letters become ambiguous.

The Children Suffer. — Children everywhere have been subjected to these different systems of writing. The consequence is that they have had some partially formed habits broken up and destroyed by other habits induced later. They thus become the prey of different and conflicting habits. This, of course, is ruinous to the rapid and accurate expression of our mental pictures in any stable form. These pictures have been overlaid by others or broken up and blurred: the picture forms have mixed and mingled. It would be better to allow each individual child to produce or to express, in his own individuality, the forms which he has gathered from all possible sources, and improved by comparison from day to day in school, provided his writing be legible, symmetrical, and reasonably rapid, and executed in a fairly good position and movement. Sooner or later he will, in any event, form his own system, regardless of those that have been taught him. It would be much better to allow him to become habituated in a definite way to his own methods and his own forms. There should be room for freedom, for there are infinite variations of excellent forms of writing.

Much Note Taking and Haste. — Too much note taking in schools and colleges has been responsible for spoiling the handwriting of many. Students are compelled under stress and strain to follow a lecturer, and so the habit of partial expression is formed. Too much rapidity compels slovenliness and inaccuracy, for in such cases the hand can not follow as fast as the mind proceeds. Haste on the part of teachers and pupils is responsible for much poor writing. The rapid worker

is likely to become a poor writer, for his mind travels faster than his hand can follow. This induces various kinds of short-cut movements which, expressed in letters, produce an illegible hand. If elementary teachers would practice what they preach, they should put work on the blackboard in such form as to excite the admiration of the pupils. Beautiful blackboard work is not time lost: haste makes waste.

In Adolescence. — The period of adolescence is one of disturbances in writing, as it is in mind and body generally. Children who have become fairly good writers prior to the age of twelve to fourteen, frequently become poor writers all at once, to the great concern of parents and teachers. Many boys and girls have to re-learn in part the writing art from this period on. The nervous and muscular systems, as well as the mind, undergo somewhat of a revolution, and this is manifest in a person's expression in writing. Too much anxiety should not be felt at this occurrence; but it requires careful and sympathetic teaching to tide over the disturbing time. The new habits, or rather the old habits which have been somewhat broken up, can be induced much more rapidly than at first formed.

Can a Poor Writer Teach Writing? — In order to be a successful teacher of writing one should be able to write fairly well himself. It is often claimed that a person can teach what he does not know or can not do, for teaching is only causing or inducing another to learn. It is true that a teacher sometimes does a thing so well that pupils become discouraged and give up attempting to do it at all; and so it frequently happens that one who

does not know so much or can not do so well as another can, by a kind of rivalry, induce other people to put forth greater efforts. But probably the truth will be found here as elsewhere in a golden mean. It is undoubtedly true that a teacher who can step to a board and illustrate fairly well what is in his mind can best induce others to do likewise. Imitation is a power in writing as it is everywhere else. Children even imitate the voice of a teacher. Voice brings forth voice after its kind. The writer once knew a primary teacher whose voice was keyed to a high pitch all day long, and inside of two weeks all of the little children spoke in the same high-keyed voice. Similarly, the teacher who writes well, either upon the blackboard or upon paper, can best elicit a similar activity and a like result in his pupils.

CHAPTER XII

LANGUAGE WORK: ELEMENTARY

The Home. — The home, or the nursery, is the chief agency in the teaching of language. Habits of expression formed in childhood are likely to remain with us thru life. The influences of our childhood and youth are always potent factors in establishing habits of expression. It is on this account that slang words and crude colloquial expressions become abiding possessions. They have been so often and so long welcomed under our roof that they refuse to leave, and then we are no longer masters in our own houses. Fortunate, indeed, from a linguistic as well as from other points of view, is the child who has been brought up in a home where good language is used; and extremely unfortunate is the child who has been born into and brought up in a home where the language is abused and mutilated. Such a child then has on hand the fight of his life thru all his future years. He may later inherit his millions but his language will reveal his culture. It is this situation which gives rise to the contrast between persons of real education and culture and those known as the *nouveaux riches*.

The School. — The school, from a language point of view, is an agency secondary only to the home and companions. Where the linguistic habits established

in childhood are of a detrimental character it is extremely difficult for a school to counteract them and do its work well. The school takes hold of the child after his language habits have become quite firmly established, and consequently the school or even the college should not be blamed entirely for its failure to turn out graduates who use the language with accuracy and facility. The school can not do everything. It can, however, do much in the way of teaching not only a knowledge of language but the art of expression.

United with Other Subjects. — Language work is, like word work and writing, wrapped up with reading during the primary period. In fact, reading, spelling, and writing are only parts of language work proper; for the expression of any subject is essentially language work. Reading must have a proper form; spelling is merely getting the proper form of symbols which denote ideas; writing must have, as we saw, the correct form in order to be good writing; number work must also have its correct form in all operations and problems. Every subject of study, in fact, has an appropriate content and a proper form; and this form is essentially language work. Consequently, language is connected with every subject studied and should receive its due attention in every recitation period during the day. The form is secondary only to the content. No lesson or recitation should be accepted as satisfactory by the teacher unless it is delivered in proper form by the pupil.

No Separate Period. — It is difficult to see, from a logical and psychological point of view, why there should be a separate period for language study as such. The

language, or the form, is always a means to the end. The end is the correct thinking of the subject-matter. The language is the means of expressing or presenting this matter. Consequently, in every subject of study, attention to language should be a close second to the content itself. If there be a separate period for language study as such, it is likely to become so formal that it will lack content, and hence grow uninteresting, perfunctory, and monotonous. There would seem to be a sufficient number of occasions to teach correct language in connection with other subjects. Most subjects lend themselves admirably to both oral and written recitation.

Oral and Written Speech. — In fact, teachers should see to it that these two habits of oral and written expression should be sedulously cultivated. Neither one should be neglected, tho there is a strong tendency always to move along the line of least resistance. When this happens, pupils form one habit only, and are entirely unable to express themselves in the other direction. There are some people who can speak very fluently but who could not be driven to write anything. They have formed the talking habit and not the writing habit. They have been accustomed to let their thoughts flow out over the nervous pathway leading to the vocal organs; while no way for the expression of thought by the hand has ever been opened up. On the contrary, there are others who have formed the habit of writing, and who can not, under any circumstances, express themselves orally, on their feet, before a public audience. Many preachers and public orators fall into the habit

of oral speech and never put anything down in black and white. On the other hand, Thomas Jefferson, one of the greatest writers of his day, could, under no circumstances, give an oral address. Both of these habits should be cultivated and ingrained in pupils' lives during the school age. Bacon said that "reading maketh a full man; writing, an exact man; conference, a ready man." By conference he meant oral discussion. There is nothing that induces accuracy of thought so much as being compelled to express ourselves in black and white and thus be compelled to meet our embodied thoughts face to face. Those who speak much and never write are likely to become eloquently platitudinous or platitudinously eloquent, but not exact.

A Written Recitation. — The writer once had the experience of teaching a class in United States history in the eighth grade. At the first recitation period, after a definite lesson had been assigned, he gave each pupil a topic which had been discussed in the text, and asked him to pass to the blackboard and to write all he could upon the topic assigned him. The total blackboard space was divided among the class, each taking about four feet in width. The members of the class looked somewhat amazed and then glanced at each other, wondering what to do. Two or three gave up altogether and went to their seats. Two or three more wrote a few straggling, almost meaningless sentences; others could express themselves only to a small extent. One or two did fairly well, covering about a fourth or a third of the space assigned them. The writer came to the conclusion at once that the class needed to form

the habit of written expression, and hence continued the plan of written recitation for some time. Each day showed a marked improvement, and at the end of two weeks our blackboard space was not sufficient.

Growth of Compositional Power. — The last paragraph illustrates how the compositional power of a child will grow; like all habits it is capable of rapid development. This is one of the chief purposes of language work: to induce children to express themselves with reasonable accuracy and fluency, either in speech or in writing. The power of composition is very limited at first but may grow rapidly, day by day. To a little child one or two small sentences is a story; but as more thoughts come to him and as he expresses these additional thoughts, his story grows in length. The habit of writing may later become a pleasure. It is said that in one instance, under pressure of his publisher, Marion Crawford wrote seven thousand words a day for six consecutive days. Herbert Spencer averaged five hundred words a day during his writing period. The habit of writing, or composing, tends to grow into such a liking, or desire, for it that writers, on a vacation, begin to feel an inward impulsion, a kind of "hankering" to express what is gathering and taking form in their minds. They feel as tho there is something in their system which they must render *outer*, or express. If pupils can be induced to form and to travel the habitual pathways of oral and written expression until they begin to like the feel of it, the school has won out in its aim — for this is the highest aim of language work. This, however, is the promised land into which few teachers lead their pupils. Both too

frequently become lost in the underbrush and swamps of miasmatic rules and details which lie between.

The Silent Pupil. — Sometimes teachers have in their schools the self-conscious, silent, bashful pupil. It seems almost impossible to elicit from him any expression, either oral or written. Such a pupil should be treated kindly and not severely. His power of expression should be slowly and carefully cultivated and elicited, for it can not be forced. A word of commendation should be given upon the slightest effort on his part. The trouble is not with his will but with his stage in life, his nervous system, his old habits. Habits of expression, however, will grow under proper encouragement and will soon come to flower and fruit. The teacher in such cases should understand the nature of the child and the proper mode of encouragement and treatment.

Not too much Interference. — Language, as we said, is the form of every subject taught by the teacher or presented in recitation by the pupil. It must, consequently, be taught in connection with every subject; but since the content in each subject is the primary aim, too much stress should not be placed upon the form while the children are wrestling with the thought and doing their best to present it. If too many adverse corrections and criticisms are passed upon the form, it becomes a disturbing element and the child becomes fearful and diffident. The pupils should be allowed free rein to deliver the message in as good form as possible. Then, if there are mistakes, either oral or written, kindly attention should be called to them and suggestions for their correction fittingly impressed. These corrections should

always be given in an encouraging and eliciting spirit rather than in a spirit of repression and faultfinding. Education everywhere and in every subject prospers under encouragement only and is always paralyzed by adverse criticism.

The Best only, Acceptable. — In every subject which the pupils are studying they should be induced to offer their best only. It frequently happens that pupils are allowed to hand in to their teacher a product which is in very poor form and which gives evidence of very careless preparation and of slovenly habits. Pupils should be taught that if anything can be corrected by themselves such corrections should be made before the matter is handed in. It is neither polite nor moral for a pupil to deliver a product which is a disgrace to him. But the good teacher will see to it that a pupil's best efforts are induced or elicited by suggestion, rather than compelled thru fear or scolding. So long as pupils hand in written recitations that are not their best they are not being truly educated. In all such situations it would be better to require pupils to do one half as much and to do it well and to the best of their ability, than to require double the amount and then accept it "half-baked." Quality is a greater factor than quantity in education.

The Inductive Procedure. — Oral language is learned in childhood by observation and imitation, in an inductive rather than in a deductive manner. Language as taught and learned in school should follow the same order. Rules are formulated later and express similarities, observed by mature minds; but children do not learn correct language either in the home or in the school by

rule; they learn it thru individual instances and thru using the language itself as they hear it or see it used by others. We all learn to speak by speaking and to write by writing, to a great extent. Teaching language work to children by the use of rules is inverting the proper method; it is beginning at the point which the mature and adult mind has reached and working backward. No one has ever learned language of any kind by rule. Rules come last and are the product of study and reflection by those who have arrived at the end of the road. Language in all its phases should be taught to children where the children are. The processes of language teaching should follow the natural order in which language was at first learned. As soon as children see similarities in a multitude of instances, they are able then to appreciate and realize the rule, but not until then. The rule is of use scientifically, or theoretically, but not practically.

The Criterion of Good Language. — The standard, or criterion, of correct English does not depend upon rules but upon the usage of the best writers and speakers. It is not the dictum of the grammar or the dictionary which decides what is correct or incorrect. These merely record what authorities assert to be the best usage. Consequently, in the teaching of language the ultimate criterion is good usage. The reason that should be given to children as to why certain expressions are right is that such is the way educated and cultured people express themselves.

Capitalization and Punctuation. — Capitalization and punctuation should be taught to children in every subject

of study by examples and imitation rather than by rules. Every device which a teacher may be able to use in particular instances is allowable. Punctuation, it is true, is a difficult subject, and the same selection would be punctuated differently by several educated people; but this only shows that there is much freedom in the matter of punctuation, provided the sense be preserved. Children should always be taught, also, to capitalize and punctuate as they proceed when writing. It is not good practice to write on hurriedly and omittingly to the end and then to go back and cross our *t*'s and dot our *i*'s, capitalize and punctuate. All of this should be attended to as we proceed; we should finish, as far as possible, as we go.

Backbone Words. — Children should be taught early, not by rule but by actual cases, the proper use of *is* and *are*, *was* and *were*, *done* and *did*, *has* and *have*, and such words as *form*, in a way, the backbone of language expression, and which occur almost every instant. Of course if a child has learned the correct use of all such words at home, this will be an easy task; but it will add some enrichment to his language consciousness to make him see that one word is used when only one person or thing is concerned and that another word, or verb, is used when two or more are under consideration. Any device or exercise that would arouse interest and something of a contest in this field without leading to impolite seriousness in school and at home might very appropriately be employed.

The Tabooed List. — It is often said that we should never present incorrect forms to children. This is one

of those rules which we often hear and which are frequently applied outside of their intended sphere. Such a rule is probably good for children who have always had in mind the correct form only. Then, the incorrect form might become an open switch. But if children have been accustomed to incorrect expressions rather than to correct ones, there is nothing wrong in presenting the incorrect form and calling special attention to it, as a warning, impressing its wrongness and showing children the correct form which should take its place. It must be said that most children are more or less inoculated if not seriously infected with a variety of incorrect expressions that are current everywhere. In fact, many of them are in altogether too common use among high school and even college graduates. Consequently, it would be well, in the teaching of language, to place upon the blackboard for a short time what might be called "the tabooed list." Children should then be induced to avoid such expressions and to see who could most successfully free himself from them. There is, we think, no danger in such a process, in the way of imitation rather than of avoidance. The following are some expressions in common use upon the street, upon the country road, and among children everywhere — even in the best homes and families. This list might be added to by the teacher or the pupils as the interest of the class grows.

- (1) It was a long *ways* off.
- (2) He *don't* know *nothing* about it.
- (3) He had *went* at that time.
- (4) I *scen* him yesterday.

- (5) He *done* that easily.
- (6) He *learned* me to write.
- (7) He felt *badly* about it.
- (8) Everybody gave *their* consent.
- (9) He told John and *I* about it.
- (10) Give me *them* books.
- (11) He didn't do *nothing*.
- (12) *Who* did you give it to?
- (13) That is not made *like* this *is*.
- (14) There *ain't* no such thing.

Occasions for Language Teaching. — There are many occasions and various means for the teaching of language. We shall mention only a few, leaving the others to the resources and ingenuity of the teacher and to the interest manifested by the pupils.

The Recitation — Oral and Written. — Every recitation, whether oral or written, is a means of teaching language; it is a language exercise; the pupil expresses his thoughts upon the subject in hand, in speech or in writing. Both of these methods of recitation should be employed. The teacher and the school should not fall into the habit of one to the exclusion or neglect of the other. It is true that oral recitation may be easier. If so, the written method is likely to be neglected, and against such neglect teachers should be on their guard. The rule has frequently been given that pupils in oral recitation should always answer in full and complete sentences. This, like all rules, may be either good or bad. It is, however, only a half truth. In some subjects and on some occasions it is a good rule; in other subjects and on other occasions the practice might be a woeful waste of time and needless repetition. The

trouble with rules is that they may be applied by teachers who do not think things out for themselves, but who are parrot-like in their imitation, and apply a rule to instances for which it was never intended. To answer in full sentences questions in arithmetic, for example, where the answer could well be one word, would be useless and monotonous; especially when the child has already mastered that form of answer. There being no danger of his slipping here, insisting that he repeat these answers in full sentences is a waste of time and effort with nothing gained. In other places it might be a good form of language drill to have it understood that the pupil give his answers in full and complete sentences. The discerning teacher will know where and when to require or dispense with this practice.

Reproduction of a Story. — Another means of language training may be found in the reading or the telling by the teacher of an interesting story, and then having the children reproduce it. It should be said, however, that either in recitation or in reproducing, the children should not understand that they are doing this merely for the sake of doing it. In fact, the end and aim of all these processes should be kept from the children. The highest art is to conceal art. If the teacher should tell the pupils that they are to reproduce a story merely to see how well they can do it, the effect would be bad. Nothing should be said about the teacher's aim. Pupils should have a consciousness that they are doing something worth while, that they are not being used for a purpose — the absolute truth if the pupils are not given the teacher's point of view.

The Interpretation of a Picture. — Another interesting exercise is the presentation of a new and beautiful picture of some kind for its interpretation by the class, either in speech or in writing. One child will see one thing in a picture; and another, another. This is an excellent form of language exercise for written work. After the pupils have given their views as to the meaning of the picture and have expressed themselves in a form worthy to be handed in, each pupil might read his interpretation to the class. But, as in previous cases, they should not be told that these interpretations are for the purpose of developing in them the power of expression. It always injures a process to direct our attention upon it. A person can not walk so well when he walks under inspection as he does when he is entirely unconscious of his walking. And so, if the children are conscious that they are interpreting a picture merely as a language exercise, it defeats, in large measure, the object to be attained.

Letter Writing. — Letter writing is another form of language work with which the pupils should be familiar. It is a form, too, that is sadly neglected; for most people, after they leave school and grow up to adult life, find letter writing very irksome. Many adults who have studied language in a formal manner and have gone thru the grammar from cover to cover can not write, with any facility, an interesting letter. Frequently grown people begin a letter to a friend and after writing a few meaningless sentences, sometimes on the weather, they discontinue and tear it up, feeling conscious that they have said nothing worth while. High school graduates and even college students are frequently unable

to write a good letter. When they come to apply for a teaching position they can not write a letter of application that will help them. There are so many internal evidences of weakness in such letters, that they find their way into the wastebasket of the superintendent or board of education. These things should be attended to in the elementary school. The correct forms of the different types of letters should be presented. Children could then vary these to suit circumstances as their ability in letter writing grows with their growth and strengthens with their strength. Here, as in all other cases, a sample letter actually written from beginning to end would be far better than *telling how* to write a letter or being content with rules. The pupils should see such a letter actually written by the teacher as a foundation for future variations.

Blackboard Work. — Another interesting exercise that will be fruitful of results in language is the writing upon the board of some work for the teacher. We spoke in the chapter on Reading concerning the writing in this way of a beautiful gem of poetry or of prose and of having the pupils copy this into their notebooks. Any pupil, I am sure, would consider it an honor to be chosen by the teacher to write such a selection upon the blackboard, to be copied by the other pupils. In such work favoritism should not be shown. Each pupil, even the poorest writer, should be chosen to do this work occasionally for the teacher. There is scarcely anything that would so elicit effort and a desire to do well.

Compositions. — Another exercise is the writing of short compositions. But the old method of merely

telling the pupils to write a composition upon "The Dog," or "The Cow," or "Water," or some such subject without any discussion of it, should be avoided. If the pupils are merely assigned a subject and if their thoughts in regard to it are not organized, the composition will consist of commonplace, meaningless expressions. A pupil will start out by saying: "The cow is a very useful animal. She has two horns," etc. Now, let us take, for example, a subject like "How to build a Fire." If we remarked to the class that there are very few people who know how to build a fire properly in a wood stove, their interest would be aroused. Then if we should divide the whole question into three parts, considering, under the first, the preparation of the stove (the arrangement of dampers, the cleaning out of the ashes, etc.), and the getting ready of the materials (such as paper or shavings and then the finer sticks and the coarser materials); under the second, the arrangement of these materials in the stove, giving reasons for such arrangement; and under the third, the precautions which should be observed in regard to the dampers, the using of kerosene oil, the turning of the drafts after the fire is started, etc., — we should have a plan for a composition consisting of three paragraphs.

Paragraphing. — This would be a good occasion for the teaching of paragraphing. The class should be told that in the first paragraph they should bring together all their thought in regard to the preparation of the stove and the material. In the second paragraph they should place in consecutive order, as they come to them, all their thoughts upon the placing of the materials in a

particular way in the stove. In the third paragraph would come all of the precautions and care which should be observed. The pupils should be taught that in writing the first draft of their compositions they should leave a little vacant space between the different paragraphs so that if any appropriate thoughts should come to their minds later they could put them in their proper places; for thoughts or sentences which properly belong in the first paragraph should not be put in the second or third, and those which properly belong in the second should not be put in the first or third. The teacher should not insist on a composition that would be too long. After they have made the first draft and properly arranged all of their thoughts, the composition should then be rewritten in the best possible form and handed in. A composition on this subject of, say, four hundred or five hundred words, done in an artistic manner, would be worth incomparably more than merely assigning a subject and allowing the pupils to go about it as they pleased. One can not pump water from a dry well and children can not write thoughts if they have not yet secured them or learned how to arrange them in order.

Correction by Marginal Signs. — Corrections by marginal signs interest pupils very much. This is, too, the method of correction used by proof readers and connects school work in a practical manner with real life. The following are the chief signs used to indicate such corrections:

^ is the caret, and indicates an omission.

δ (dele) is the mark meaning *destroy*, and is placed in the margin.

l.c. means "lower case," or small letters.

Cap. or ≡ means *capitalize*.

tr. or ∞ means *transpose*.

stet means *let it stand*, being the reverse of a correction, or a correction countermanded.

As an illustration of the use of the foregoing we would give the following :

☞ ^ One ship drives east and another west cap.
 ^ With the self-same winds that blow.

☞ ^ Tis the set of the sails, not the gales and /
 ^ That sends us the way we go.

☞ ^ Like the winds of the sea are the waves of FATE c.c.
 ^ As we journey thru along life.

☞ ^ Tis the set of the soul that decides the goal
 ^ And not the calm or the strife that. ^ ∞ ☞

Dictation. — An interesting and profitable exercise which the teacher might employ in language work is the dictation of short selections or of sentences to be written correctly by the pupils and handed in by them in the best possible form. Not many people can dictate distinctly and with the proper measure of time so as to allow the writer to take down the product accurately. The correct habit of copying after the dictation of another is one that should be taught. Many pupils copy by what might be termed the word process; that is, they hear only one word at a time and then write it down, after the word method. Others hear a whole sentence and then, after getting the thought and the form, proceed to write it as a sentence. This is better than the word process. The teacher in dictating and the pupils in listening should become so accustomed to each other that there will be

harmony of action. This measured rate of dictation induces proper pronunciation and distinct enunciation on the part of the teacher and also a keener discrimination, by the sense of hearing, on the part of the pupils.

As a sample of sentences that might be dictated we would give the following :

- (1) There's one left in that box of theirs.
- (2) I, too, wish to get two books.
- (3) Don't fail to dot your *i*'s and cross your *t*'s.
- (4) Three 2's and two 3's equal twelve.
- (5) "'Twas ever thus from childhood's hour
I've seen my fondest hopes decay."
- (6) The plus's and minus's were omitted.

The discussion following such exercises as this should be such as to clinch, for all time, the knowledge of the proper form in regard to all the points discussed. Little is gained if a pupil learns in one lesson that symbols are made plural by an apostrophe, and in the very next lesson proceeds to make mistakes in regard to them. In such cases language goes in one ear and out the other. Nails are driven and not clinched. Such knowledge is merely stuck on and has not sent its roots into the mind ; it is not growing there ; it is dead. Knowledge of this kind counts for nothing, and is all too prevalent in schools everywhere. Again we would say that a little well done should be the ideal.

The Hearing Needs Training. — One of the greatest defects among children is that they do not hear well. They do not hear, not because there is any defect in the organ but because they have not been taught to discriminate keenly what they do hear. If the teacher

should make certain announcements as plainly as it is possible to make them, some one or several would later make inquiries in regard to the very thing announced : it merely shows that they do not hear well.

The Typewriter. — One of the best methods of teaching language would be by the use of the typewriter. It would be a good thing if all children should be required in school to learn to operate the typewriter according to scientific principles and with good movement habits. It would conduce to clearer knowledge in regard to capitalization, punctuation, spelling, and paragraphing. It is obscurity and slovenliness of form that indicate, if they do not induce, indefiniteness and slovenliness of thought. There is scarcely anything that so brings a pupil to a realization of his merits and demerits as to be compelled to face his product in what is equivalent to the printed form. In typewriting and in print everything stands out clearly and every mistake is evident. It would face the pupil and the pupil would have to face it. It would conduce to honesty and would not allow of "bluffing." It is not so easy to dot an "e" when one does not know whether an "e" or an "i" should be used !

The Idea of Quantity too Prevalent. — In the present teaching of English, pupils and students are required to do three or four times as much work in quantity as is productive of any value whatever. Teachers seem to think that in order to keep the students busy and in order to establish a record of not being "easy," they must pile work mountains high upon students. Many of these essays demanded of students are never read carefully

and criticized helpfully. If a quarter of the quantity were required, and that in typewritten form, it would be incomparably easier for the teacher and better for the pupil or student. Of course the school should furnish typewriting facilities and opportunities. But no science teacher would think of teaching chemistry or physics without a laboratory and a full equipment of apparatus. Neither should it be required of teachers of English to do their work without the apparatus wherewith to do it well.

A Textbook in Language. — In conclusion, the question may be raised as to when, if at all, a textbook on language work should be used or required. As in reading, we believe that a textbook on language is of value merely as a source book. It may save the teacher much labor in gathering material or in suggesting directions — in a word, in the way of method. But we are inclined to think that the better teachers would prefer to teach language as they teach morals, upon any and all occasions that may offer themselves during the course of the day, or in connection with other subjects. If a textbook be used, language work tends to become merely formal; to the pupil it then becomes the end instead of a means. This inevitably leads to the result that pupils lose interest in the subject; for whenever the means, or form, becomes an end, interest inevitably declines.

CHAPTER XIII

LANGUAGE WORK: ADVANCED

Language Lessons and Grammar. — It has been customary to make a distinction between language work and grammar. It has been said that the method of language lessons is inductive, while grammar begins with formulated rules and applies them deductively. This is true only in small part. Grammar, like spelling, reading, and writing, is only one phase of language work as a whole. Language work is a much broader term than grammar—it is the genus, while grammar is a species. The former refers to all phases of the expression, or external aspect, of thought, while grammar, properly speaking, is limited to the sentence as a sentence. Some one has defined grammar as “The science of the sentence,” as algebra has been defined as “The science of the equation.” The phase of the sentence with which grammar deals is that of the internal relations of the ideas and hence of the words in the sentence, and of their proper forms. The external relations of the sentence become the subject-matter of rhetoric.

Grammar Somewhat Abstract. — As a sentence is the expression, or the form, of the thought, so words are the expression, or the form, of ideas; and since every sentence implies or involves several words there must be an interplay of ideas among themselves in the sentence;

that is, the words, being representatives of the ideas, must have relations one with another.

Since the words are dependent upon ideas, the latter must be definitely grasped or realized in their relations before pupils acquire a keen insight into the subject of grammar; and since ideas are somewhat abstract for children or even for mature minds, the subject of grammar is a somewhat abstract study; in fact, some one has said that grammar is fully as abstract as psychology.

Grammar, Psychology, and Logic. — Grammar is closely related to psychology and logic. The "proposition," with which logic deals, is the "declarative sentence" of grammar. In psychology we find that there are three primary modes of functioning of the human mind, viz.: (1) knowing, or intellect; (2) feeling, or emotion; and (3) willing, or volition.

The declarative sentence in grammar is addressed to the intellect and gives information; while the interrogative sentence is addressed to the intellect and asks for information. The exclamatory sentence is addressed to the emotional nature and is intended to express or to arouse feeling. The imperative sentence is addressed to the will. The proposition in logic and the sentence in grammar swing upon the copula as a pivot. While grammar is related thus closely to these other two mental and somewhat abstract sciences, it should be remembered that each of them is capable of an elementary and quite concrete treatment and presentation. All people and even children are unconscious logicians and psychologists; and this knowledge which they possess will be all the more interesting and satisfying if it be made some-

what conscious by instruction and concrete illustrations and examples.

Where to Begin. — Properly approached, as we said, either psychology or grammar can be made reasonably plain, at least in their elementary forms, to a child in the upper grades of the elementary school. The trouble is everywhere that teachers do not begin the teaching of grammar where the children are, but from the point of view of adults and of scholars. That is, grammar is too often begun by teaching to mere children the principles and rules which have been formulated at the close of a long process of thinking. Grammar should be begun as every other science is begun — with the facts. There are language facts with which the child may begin as there are facts in every other field. The proper method here as elsewhere is to have the children gather and examine these language facts, classify them carefully, and then proceed by inference and induction. If grammar were taught in this way, it would be an interesting and, indeed, a fascinating subject. But like every other subject it should be begun at the pupil's psychological home. Its central problem is the keen and sensitive discernment of the relations and the mutual interplay of ideas (and hence of words) upon one another. If pupils grow into discrimination in this respect, grammar may be, in the author's opinion, the real logic of the common school, excelling the time-honored subject of arithmetic.

Why Disliked. — The reason that children do not like grammar in the seventh and eighth grades is that they do not clearly grasp the language facts with which

they are dealing, or see the relations between them. We frequently see the same inability among pupils who are studying geometry in the high school. They memorize the words of a demonstration or the letters and lines of a figure and do not get beyond this. They can not see the "point" of the proof and may be induced to go round and round with the demonstration, like a cat chasing its tail. So it is with grammar when poorly taught and when we proceed deductively from the position of one who has reached the goal, instead of one who is just starting in the race. Pupils become enmeshed in the words and the rules and do not arrive at a clear discernment of the ideas and the relations underlying or behind the words. The ideas and thoughts, as we said, are abstract, and children find it difficult to define, realize, or picture them with sufficient clearness to make them the basis of a science. There is such a flux and flow in it all that children often become lost and disheartened. All this, however, can be easily avoided by starting where the children are, and proceeding in the right manner slowly and carefully as in any natural science. This is the problem of the teacher, and few there are who grapple it properly and proceed successfully.

The Sentence, a Cosmos. — The sentence is composed of an aggregate of words, but it is not a mere aggregate; the words have a systematic relation to each other, depending upon the ideas which they represent. Ideas of all kinds are real facts, or things in the mental order, or world. The words are merely the representatives of these ideas. The ideas and words must be in a certain definite order and relation to express sense; if they are

out of order and relation, the aggregate expresses nonsense. If the words of a sentence be transposed about at random and thrown out of their proper relation, they will not express sense at all. Consequently, meaning emerges out of the proper relation of ideas to one another. The materials of a house, strewn about in piles upon the ground, do not constitute a house; they must first be put into architectural relation in order that we may have a building. The situation in regard to a sentence and its parts is accurately analogous.

Thought Material. — Thought material in the sentence may be regarded and treated, in analysis, as we do the materials in a house. There are the *substantive* materials, in the way of lumber, brick, or stone; the modifying, or *attributive* materials, in the way of paint, varnish, or even the cutting and shaping of the substantive material; and the *relation* material, in the form of mortar, nails, or the joinings. So it is, in the kinds of thought material in the construction known as a sentence: we have the *nounal*, or substantive, ideas; the attribute ideas embodied in some verbs, in adjectives, and in adverbs; and the relational ideas in the copula, the preposition, and the conjunction. When a pupil can see what a word or an idea *does* in the sentence there will be little trouble in classifying and naming it. This is the only intelligent way to proceed in teaching grammar, as it would be in the construction of a house. If the pupil is as familiar with his different kinds of thought material as he is with the materials of his skates, his sled, or his house, there will be no difficulty in interesting him in sentence analysis.

Ideas, not Words, Related. — Strictly speaking, words as words are not related to each other at all. One word does not influence another word ; but since the ideas which these words represent are related, and hence affect one another, we speak in grammar of one *word's* modifying another. The language is figurative and merely means that it is the ideas of which the words are representatives, that mutually influence or modify one another. When we say that words are related we mean that it is their implied ideas that are related.

Subject and Predicate. — The fundamental relation of ideas in a sentence is that of subject and predicate. The pupils will have learned these terms during the previous years in the grades. All such grammatical terms should be taught as soon as possible, just as we teach the meaning of words in any other field. It is a mistake to suppose that the terms *subject*, *predicate*, etc., should be left until the pupil begins the study of what is called grammar, in the seventh or eighth grade. In fact, no such wide distinction should be made between what is called " formal grammar " and language. Grammar and language are of the same kind ; and since the pupil's knowledge of language, whatever phase of it we may have in mind, grows from the primary grades to the high school and on to college and university, the meaning of *subject* and *predicate* should be learned as other words are learned, by being heard and used constantly and applied frequently. In this way the pupil absorbs the meaning thru the years. This is the way he has learned words in babyhood ; meanings are gathered thru hearing and using them in constant

repetition and in customary relations. The pupils as they mount from grade to grade in their spiral ascent and come into mental contact with all such technical terms, will be made more and more clearly conscious of their meanings by teachers who understand their business.

The Identical Sentence. — An excellent exercise for cultivating as well as testing the power of discriminating subject and predicate may be found in what are called "identical sentences." In the sentence, "A mighty man is he," it is evident at once that the subject is "he," altho it is out of its normal order. But in such sentences as, "Napoleon was the greatest soldier of the ages," and "The greatest soldier of the ages was Napoleon," some reason or test must be given. It will not do to say that the subject is "what is talked about"; for in the sentence, "He shot a bear," all children and most adults would say that "bear" is what is talked about. But if the *subject* is that concerning which there is a predication, and if the predicate is the new information or additional light cast upon the subject (which is in need of light), we have a cue or clue to the solution. In the sentence, "The greatest of these is charity," the subject will be determined by finding out the idea under consideration, upon which flash lights are being turned, among others the one in this sentence. The predicate is always a better known idea than the subject; otherwise there would be no need of a predication. The predicate is the searchlight turned upon the subject in order to illuminate it; and the subject is the idea needing or receiving the new light or the additional light of the predicate.

Grammar a Part of Language Work. — There is, then, no dividing line between grammar and language work. While grammar deals primarily, as we said, with the sentence in its internal relations, it does not hesitate to deal with and to systematize the varying forms of words which we call inflection. The inflections of nouns, pronouns, verbs, adjectives, and adverbs are consequently made the subject of study in grammar; but these, of course, had been studied in language work from the primary department. Consequently, language work, so-called, moves upward into what is called grammar, and grammar moves downward into what is called language work. The two overlap and flow into each other. Nor do their methods differ otherwise than the elementary and more advanced phase of any other subject of study. As we proceed, similarities and regularities are noted and expressed in what are called rules. These rules, then, are used for further progress. They merely formulate in general statements our observations and conclusions from them, to date. Like systematized, or scientific knowledge in any field, the method of procedure in language becomes more and more deductive. But the deductive rules are tools which the pupils have wrought out by their own efforts or intelligent co-operation.

Sentence Analysis. — The analysis of a sentence is for the purpose of showing or explaining how one part of it is related to another and how these parts mutually affect each other. To analyze a sentence is to show the interplay of the parts, which means the interplay of the ideas represented. A watchmaker can analyze a watch

and show how each wheel is related to another, and how this, in turn, affects a third. When he has taken the watch to pieces and shown us the different wheels he can put all these into proper relations again so that the watch will run and perform its true function. So it is with the sentence. In analyzing it we exhibit the different kinds of words; that is, the kinds of ideas which they represent. And having noted these, we show the relations which they severally bear to one another in order that the whole group may function in meaning and express a thought.

How Ideas Work. — If a pupil can not handle with accuracy and definiteness the ideas with which he is dealing and if he can not see that one idea plays upon and affects another, he is not ready for grammatical analysis. If a teacher should proceed too rapidly with such a pupil, taking him into water which is altogether too deep, he will flounder and finally become lost. A pupil can proceed with safety only when he has the power of discrimination in the mental material with which he is dealing, and when he sees that some parts and kinds are affected or played upon by other portions of it. The pupil can clearly see that when wood is painted the paint plays upon the wood and affects it. Now, if he can see that when an idea represented by the word *sweet*, for instance, plays upon another idea represented, for example, by the word *apple*, he has a situation exactly similar to that of the painted wood. If the pupil can be familiarized with this interplay of ideas, and the way in which one idea is related to another, he is acquiring a knowledge and a discriminating sense which is the

foundation of what is called the science of grammar. It is a comprehensive grasp of the relations and proper forms of words in a sentence.

Parsing. — What we call “ parsing ” in grammar is merely giving the nature or kind, variation, relation, and consequent classification of the words (representing ideas) with which we are working. In the old-time teaching the complete systematized knowledge of the scholar, so far as such variations and classifications were concerned, were prematurely imposed, ready-made, upon the young pupil, with the unavoidable consequence that he became overwhelmed with the vast and complicated system. The whole “ system ” of Latin grammar was imposed upon English grammar, and as a consequence, children could not see any sense in it. They could not see why we speak, for example, of the gender of English *words*; and who can blame them? Gender may be conceived of as a conventional attribute of Latin words, but to transfer it and impose it upon English words is bewildering and nonsensical. The teacher and his class should proceed in regard to the nature, variation, use, etc., of words in an inductive manner and direction, until pupils become quite adept in the discrimination and in the classification of the thought material with which they are dealing.

A Too Common Situation. — The writer once visited a school and witnessed there a lesson in grammar, wherein the teacher and her class were floundering and, indeed, drowning, figuratively speaking, in the subject of *participles* and *infinitives*. The pupils showed plainly that they had no discrimination in regard to the nature, form,

and use of the thought material which they were handling, and the teacher showed that her discrimination was but little, if any, better.

Grammar, a Science, not an Art. — Grammar, like many other sciences, is theoretical rather than practical; that is, it is systematized knowledge of the true relations between words in sentences. It does not necessarily imply that those who study grammar will, on this account, make no mistakes or possibly fewer mistakes in the use of the language. This is probably the real distinction between language teaching, as such, and grammar. Both, as we said, should be inductive, but language lessons properly place the primary accent upon *doing*, while grammar places it upon *knowing*. Consequently, grammar may properly be conceived as a science, while language work attempts to train in the art of expression. The art is learned by the doing, and is begun in the nursery or the home, while the science emerges from the art when our knowledge becomes conscious and systematized. Art in every field precedes science; and so, here, the science of grammar is taken up after the art has been fairly well learned. We should not trust to a knowledge of the science to bring about the art; one may know grammar from cover to cover and yet make innumerable blunders in the art of speech. Correctness in speech hearkens back to the home and to companions.

Does Grammar Aid the Art of Expression? — We would not say, however, that grammar does not aid at all in correct language expression; but it is a mistake to say that it is the science which teaches us how to speak

and write correctly: this is not its primary aim. It is, it is true, of more help in written language than in spoken, for in the former we have more time and opportunity to make corrections; while in the latter, the word is spoken in conformity with old habit before the mistake is noticed. Unless the rules which have been deduced from language facts are applied, and that with great frequency, pupils who have graduated from high school or even from college, with a full knowledge of grammar, may still continue to make grammatical mistakes. Pupils may learn all of the rules governing the possessive case and yet feel very insecure and make many blunders in this direction. We have known persons who could tell with accuracy just the proper use of *will* and *shall*, *would* and *should*, and yet who made no discriminating use of these words in actual writing or speech. It is theory without practice; knowing, without doing.

The Diagram. — The visual picturing of the relations between words in a sentence is frequently found to be of help to pupils in grasping such relations. In some textbooks the subject of diagraming has been wrought out in great detail and into a complete system. It may be that in some instances the diagram may have become an end in itself, and pupils may have become diagram-minded. If this be true, it is simply an illustration of how a good thing may be abused. Some diagraming, or visual representation, however, may be a great help. Knowledge received from two senses is usually more clear and satisfactory than knowledge received from one sense alone; and knowledge received thru three

senses is usually clearer than that received from two only.

Now, since language itself has a usual, visual form upon the printed page and since the eye moves toward the right and downward, there is a certain definite form in which thoughts are actually diagramed upon the page. In English the subject usually comes first ; the predicate, next ; and the copula, wherever there is need, between. If these thought forms be presented visually, the children are given something for the mind to tie to while the attention may play about it. The diagram may serve as a sort of tether by means of which the mind may move around in its investigation. The following is a typical thought form :

<u>MAN</u>	(WAS)	<u>LIEUTENANT</u>
The	formerly	a
<u>we</u>	<u>saw</u> whom	in army
	yesterday	the
		United States

- NOTE :** (1) Subject underscored once ; the predicate twice.
 (2) The main predication written large , the clause and all modifiers written small.
 (3) The limiting element written below the middle of the one modified.
 (4) The copula may stand alone or be wrapped up with an attribute as in "saw."

Grammatical Terminology. — There is a lamentable confusion among grammarians on the technical terms employed by them. So many of these terms are ambiguous that the ambiguity and resulting confusion make a "sea of troubles" for pupils and teachers alike.

The *object*, *object complement*, and *objective complement* may be given as examples of "confusion worse confounded." Even the simple technical term, *predicate*, has no well-defined and uniform meaning. This should mean, as we said under "Identical Sentences," the idea or ideas which immediately and directly illuminate the subject as the speaker or writer intends. This idea may be either attributive or substantive. It may be a simple idea as "red" in "The barn is red," or a compound idea as "painted red" in "The barn was painted red." The part of the compound idea which helps the basic, or verbal part to make the simple predicate is called a *complement*. Of course every word in a sentence is *complementary* in the general sense; but a complement in the restricted, or technical, sense is an idea which helps out the attributive verb in the simple predicate. Consequently what is known as the *direct object* is not a complement in the technical sense any more than is any other limiting, or determining idea. The phrase *objective complement* as distinguished from *subjective complement* is appropriately discriminating, as the complement characterizes the object instead of the subject, as in "He painted the house *white*." In "The house was painted *white*," the complement is subjective, for it characterizes the subject. The pure copula is in no sense a predicate; it merely puts the predicated idea into relation with the subject idea. If teachers and pupils understand clearly the nature and use of the ideas with which they are dealing, they will not be misled by a confusing terminology. It would, however, be well if the technical

terms of grammar were simplified and rendered unambiguous.

Difficult to Teach. — Grammar is one of the most difficult subjects to teach and probably one of the most difficult to present in textbook form. In fact, the ideal text on grammar has not yet been written, tho there are many good books which follow the direction indicated in the foregoing discussion. But the textbook can not teach alone, and as in every other subject, it is the intelligent, wide-awake, ingenious, and inspiring teacher who must be depended upon to “deliver the goods.” But with such a teacher grammar is one of the most fascinating subjects in the school curriculum.

CHAPTER XIV

ARITHMETIC: ELEMENTARY

In Primary Grades. — Arithmetic, or what is usually called “number work,” should be taught during the primary grades in an incidental and correlated manner rather than regularly and systematically. It can best be taught in this incidental and accidental way; occasions without number come up in the child’s life and in the schoolroom when number work of some kind must be used. Moreover, conceptions of number and of number relations are best gleaned and learned by children in this indirect, concrete, and practical manner. A child does not need to thank his teacher for the knowledge of numbers which he acquires during these early years: he would become possessed of such knowledge without her. During childhood pupils play and count marbles; they gather and count eggs; and they hear of measurements of various kinds. The good teacher, of course, can make numerous occasions for presenting numbers incidentally but none the less effectively. Children acquire number ideas without knowing it, and this is the best way to get them. The teacher should have on hand the different standards of measurement and various kinds of concrete objects or apparatus involving numbers. She should have a foot rule, a yardstick, a pint, quart, and gallon measure, etc. They

learn by repeated references how far a mile, a half-mile, a rod, or a yard is, and they may be taught to measure the room or their own height in feet and inches. They learn the paging in their first and second readers and the meaning of it, and they learn to apply their counting in all their practical experiences. During the early years this concrete work is about all they should be required to do.

The Grube Method. — It has been customary in the past, and the practice still prevails to some extent to-day, to follow what is called the Grube or similar method in all its details. An interminable and complicated process is thus imposed upon little children, six to eight years of age. They used to be kept, for example, for the first year upon the number ten, and all the numbers under ten were analyzed in every possible way, and all combinations made in addition, subtraction, multiplication, and division. But the children memorized much of it, not knowing what it all meant. It was to them a vast, complicated system, merely held in memory and was to them an end in itself. This teaching of number work in the early years, when the child's mind is not yet able to grasp number relations, is a delusion and a snare. The number relations implied in such over-systematization are altogether too abstract and complicated for the child's mind. No earthly use is made of it all, and it only helps to impress upon the child the erroneous idea that there is no necessary relation between the school and life outside. A little later, when he grows stronger, such number concepts and number relations come to him without effort.

Abstract Number Concepts from Concrete Experience.

— The concept of numbers or of number relations arises naturally from experience with concrete things. The concept of number implies separate objects or quantities, and ignores *quality*. When we speak of ten trees, we do not care whether they are oak, ash, maple, walnut, or birch, for each comes under the category of *trees* — they are called trees. If we speak of ten men, we disregard the qualities and characteristics of the men. We do not care whether they are large or small, black or white, honest or dishonest; we merely regard them from a quantitative or numerical point of view. Consequently the concept of number is quite abstract. We single out from the numerous aspects which objects have merely the phase of quantity or of individuals as such, and this requires something of a stretch of thought. We *ab*-stract merely the number aspect of things; but this abstraction arises naturally in the experience of the child, from the time he is one or two years of age. Consequently, the systematic teaching of number work should be begun with concrete objects. There is a great deal of number and arithmetic teaching in which the pupils can not *concrete*, so to speak, the general statements; these have no foundation in their experience; they can not form definite pictures of the situations, and hence they fail to work the problems. Clear, definite, and concrete picturing is absolutely essential to an understanding of numbers and arithmetic.

Avoid Slavery to the Concrete. — But after a teacher has presented a concrete object to illustrate a concept or general principle, the use of such object should not be

retained too long. It frequently happens that concrete objects are brought into the classroom for illustrative purposes when there is no need of further illustration. In such cases the object may be a hindrance rather than a help, for if we are tied to the concrete, we are hampered in our progress. The only reason for presenting a concrete object at all is to give the child a clear, vivid, imaginative picture of the situation. If he has this picture, the further use of the object would serve no purpose; it would only be in his way; it would be a stumbling-block and not a stepping-stone, as it was at first.

In the *Evolution of Dodd* the unsuccessful teacher described there had this reputed mischievous boy doing all kinds of little construction work with beans, peas, toothpicks, etc. Dodd was too old for such trifling play. Such concrete material was of no use to him in his thinking; it did not stimulate him to abstract thinking but in the opposite direction. It rather suggested mischievous processes, for he broke up the toothpicks and ate the beans and peas. The teacher should have known that he needed stronger food, and should not have attempted to feed him with a spoon. On another occasion the teacher had Dodd up before her with two or three other children only half his height. He was asked how many eyes he had, how many ears, and how many noses! He refused to answer. The teacher then asked one of the smaller children, and he answered immediately. The teacher then said: "See, Dodd, how this little boy answers;" and Dodd replied, "Pshaw, I knowed that always!" Tony, an Italian boy of considerable size and maturity,

was being asked similar questions by a teacher who did not know when to leave off childish and concrete things. She asked him how many ears he had ; how many noses he had ; and how many heads he had ! Tony could stand it no longer, and replied, " Do you tinks I'm a tam fool ! "

Too Much Time on Arithmetic. — Altogether too much time has been devoted to the subject of arithmetic in our schools. Children have studied number work and arithmetic for eight years. Further than this, they have frequently had two periods in arithmetic, one devoted to what is called " mental," properly *oral* arithmetic, and the other to written arithmetic. We devote three years to geography and two to history, while we give eight to arithmetic, frequently doubling the periods, at that. Furthermore, fully half of the subject-matter of arithmetic is so irrelevant to life, and indeed so worthless as a mental training, that it should be entirely dispensed with. This would mean that subjects and parts of subjects which the normal child of fourteen, on account of a lack of experience (of an " apperception mass "), can not " concrete " and really grasp, should be eliminated. Nothing is good mental training that is not clear and purposeful. If texts on arithmetic were revised so as to eliminate all of the worthless and irrelevant matter, and the advanced parts of subjects spun out by mathematicians, it is probable that all of the number work and arithmetic which would be really valuable could be acquired in four or at most in five years. Here is a case where quantity has been dominant and where quality has been neglected. One problem in arithmetic that would

thoroly arouse the class to a heated and protracted discussion would be worth fifty problems merely worked for the answers or results, most of the processes being copied from others. One problem which is a type, clearly understood, casts its rays in all directions and illumines an extensive territory.

A Revival of Mental Arithmetic. — It is probable that there should be a revival of what is called mental arithmetic. The only reason for written arithmetic at all is that the problem is so complicated that it can not well be held in mind. Any problem which is short enough to be held in mind during the working should be worked orally. Children become such slaves to the written form that the simplest operations and problems must be put on the board or on paper before they can be solved.

A Tool to Fight our Environment. — Mathematical concepts are the tool by which every individual attacks his material environment, and number work and arithmetic are the concrete and elementary forms of general mathematics. Man could not adjust himself at all to the physical environment unless he had mathematical, or number, concepts. He must know distances, the dimensions of objects, large and small, and must have true conceptions of volumes of various kinds to make the first steps toward success. Otherwise he would fail to adjust his environment to his needs, and his life to its imperious demands.

Translation of Arabic Signs into English. — In the teaching of number work and arithmetic children should be taught to translate arithmetical language of all kinds into the English language. The signs of quantities, of rela-

tions, and of operations are merely a language, and whatever appears in arithmetical language should be frequently translated into written as well as into oral speech. This will serve as a good language exercise and will correlate the subject of arithmetic, to a reasonable extent, with that of language work. To illustrate the need of this, it may be said, for example, that many teachers, even, do not know that the language forms for numbers under one hundred are hyphenated, and in the language expression for numbers over one hundred the hyphen is omitted: as ninety-five, ninety-nine; one hundred twenty-five, and three hundred fourteen.

Neat Figures. --- The teacher should see to it from the beginning of number work that the pupils make figures with neatness and accuracy. At first and whenever necessary the teacher should write a figure on the board and point out its characteristics, making it several times while the pupils are watching. If the children have already formed the habit of making figures, as many of them undoubtedly have, the defects in their figures should be pointed out so that they would be induced to improve their more unsightly figures. By giving some attention to this a certain rivalry and pride may be generated, which will result in the making of neater figures. The teacher should dwell upon the peculiarities of the figure and on its good points; the figure 4, for instance, should have, at what might be called the "southwest corner," an acute angle and not a round turn or curve. The figure 6 should have a straight back and not a curved, stooped one. The figure 8 should be begun at the top with the curve toward the left and ended with

the straight upward stroke, and should not be formed, as we frequently see it, in the other direction.

Teaching the Decimal Conception of Numbers. — Pupils should be given a clear understanding of the decimal law in the Arabic system of notation. For this purpose a box of toothpicks would be a valuable and cheap investment. It should be shown that the first figure at the right of a whole number indicates individual toothpicks; the next figure, called the 10's figure, indicates the number of bundles of 10 each; the third, or the 100's figure, indicates the number of still larger bundles of 100 each, or ten bundles of 10 each. These toothpicks and bundles should be placed upon a table between horizontal lines; the first place or column at the right, indicating units; the next, tens; the third, hundreds; etc. In the number 4444, each 4 derives its value from its place or position; that is, the 4 at the right indicates 4 units; the next 4, in the tens' place, indicates four 10's (or 40 units); the next 4, in the hundreds' place, indicates four 100's (40 tens, or 400 units). By this simple concrete plan the "why" of addition and of subtraction can be clearly shown. The good teacher will work all this out plainly and concretely so that the children will see the law in it all; and after they have seen the law there is no further need of the concrete objects. It is, too, sufficient to carry the concrete illustration to three places; they will thus have been let into the law.

Notation and Numeration. — Pupils should be given a clear concept of what is known as notation and numeration. In the discussion and explanation of the decimal

law in the Arabic system they should see that there are *families*, so to speak, in numbers: units are one family, thousands another, millions another, and so on. Then, within each family there are three figures, read in the same manner in each family. For example, we have 9 figures in the following number: 319,817,124. The first family at the right is units; there are 124 of these; the next family is thousands, and there are 817 of these; the third family from the right is millions, and there are 319 of these. There is not much need of going beyond millions. Billions, trillions, etc., will be learned often thru curiosity and a desire on the part of pupils to read larger numbers.

Rapidity. — The “fundamental operations” are tools, and their skillful and rapid use should become a facile and accurate habit. Indeed, rapidity in all these processes is only second to accuracy itself. The nervous system is involved in the fundamental operations quite as much as the mind itself. These processes should become rapid and accurate habitual reactions.

Points in Addition. — In addition of numbers it would be well to teach the practice, which is very prevalent in practical life, of putting down at the side the sum of each column. If an interruption occurs anywhere in the addition, the whole process from the first will not, then, have to be gone over again. One can start where the interruption occurred; as, for example:

$$\begin{array}{r}
 789 \quad 20 \\
 527 \quad 18 \\
 \underline{964} \quad 22 \\
 2280
 \end{array}$$

Pupils should be taught to add rapidly; and in the process to give merely results as they proceed up or down a column, without naming the individual figures as they come to them. The pupils should also be taught to add two figures at once when they foresee a happy and easy combination. The columns should always be written in symmetrical form and the parallelism of strokes or lines and of columns should be preserved.

The Multiplication Table. — The teaching of the multiplication table, which is an essential tool in all arithmetical work, might well be rested, in part, upon memory. To work out the whole table by concrete objects, such as toothpicks, is time wasted and lost. While memory is not the dominant factor anywhere in mathematics, it is not to be entirely ignored, and there comes a time when the multiplication table should be learned, if necessary, in part by this means. It is repeated and used as a tool to such an extent that even when memorized and not reasoned out, it is retained in mind by the law of repetition. Later years will likewise fill it in with more thought and reason. When the multiplication table is being learned, or when it has been learned, an interesting exercise would be a multiplication contest; as pupils "spell down" so they might "multiply down." Here, as in all number work, rapidity is one of the objects to be attained. Accuracy, of course, is the great aim, but rapidity comes a close second. Many pupils and teachers waste valuable time; pupils take twenty minutes to do what ought to be done in five. By awakening interest in the multiplication table as a kind of contest, pupils will attain

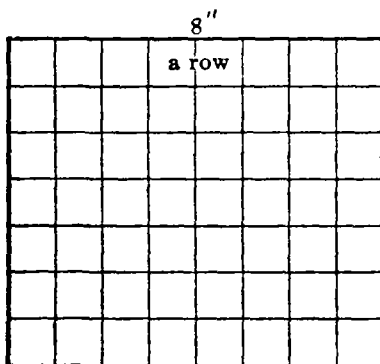
great speed. The following is a good device by means of which the whole multiplication table could be gone thru with without interruption : 39726548

72583964

In the above, if the pupil hold the number 4 in mind as a multiplier, and give simply the products with each figure above as a multiplicand, and then without stopping, hold the number 6 in mind as a multiplier and give the products of each number above, and so on with each figure in the lower line, by the time he will have gone thru it all he will have given every result possible in the multiplication table up to 10. The order of the figures should be changed to break up habit, and the teacher might keep a record of the number of seconds required by each pupil.

Imagination in Arithmetic. — Pupils should have clear, imaginative pictures of the elements and relations in arithmetical problems. As an example of the lack of this, the practice may be frequently observed, of multiplying feet by feet and getting square feet ; and then multiplying square feet by feet and getting cubic feet. Such a verbiage indicates a great lack of clear thinking ; for it is as impossible to multiply feet by feet and get square feet as it is to multiply dollars by dollars and get square dollars. We can take only what we have : the multiplicand indicates what is to be taken and the multiplier simply indicates the number of times that we are to take it. Whatever we start with we come out with. If we have oats in a bin, and take out two bushels at each of three different times, we shall have **taken out three (times) two bushels of oats, and have just**

what we started with — oats. Pupils should be made to see that a long, or linear foot is a different thing from a square foot, and that each of these is totally different from a cubic foot. There is no more similarity between a linear foot and a square foot or a cubic foot than there is between an elephant and a bootjack. A square foot is not made out of long feet, and a cubic foot is not made out of square feet. A square foot of surface may be produced by moving the long foot, but it is not made out of long feet. A well may be produced by moving a shovel, but it is not made out of shovels. If we have a rectangle $7'' \times 8''$ and wish to find the number of square inches, we may divide the rectangle

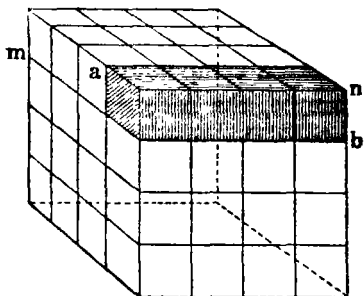


up into squares by imaginary lines one inch apart running each way. Then it will be seen that one row of such little squares is 8 square inches; and since there are seven rows in the rectangle, there will then be 7×8 square inches, or 56

square inches. If some one should ask where we got the square inches, the proper answer would be that they are simply there in the surface under consideration, and that the location of them is merely indicated by the lines. The square inches were all there at the beginning; we do not produce them by multiplying inches by inches.

If we have a cube four inches each way, we may divide it up in imagination by drawing lines, some of them parallel to each other and others perpendicular to these, so as to indicate the location of the little cubes called "cubic inches" in the large cube. Now in one "row" it will be seen that there are 4 cubic inches; there are also four rows in what may be called a "slab."

Consequently there will be 4 (not 4 inches) times four cubic inches, or 16 cubic inches, in one slab; then, since there are four slabs in the cube, there will be 4 times 16 cubic inches, or 64 cubic inches,



in the block. We start with cubic inches and come out with cubic inches. We are not creators—we can take only what we have. To multiply inches by inches or feet by feet is as impossible as it would be to fly to the moon—in fact, it is more impossible, for it is unthinkable.

The Sign of Multiplication. — The sign of multiplication has three different names: if the multiplier comes first, the sign is called "times"; if the multiplicand comes first, the sign is called "multiplied by"; and if it be between two fractions it is called "of." " $2 \times \$3 = \$6$ " is read, "two *times* three dollars equals six dollars"; " $\$3 \times 2 = \$6$ " is read, "three dollars *multiplied by* two equals six dollars"; and " $\frac{1}{2}$ of $\frac{2}{3} = \frac{1}{3}$ " is read "one half *of* two thirds equals one third." Such

observations as these always arouse thought and stimulate interest in the direction of clear thinking.

The Precedence Signs. — A discussion of the precedence of signs in arithmetical operations is also an interesting piece of knowledge to pupils and should be made clear. It is somewhat of a revelation to a pupil in arithmetical thinking to see clearly the relations that exist between the abstract numbers involved in a merely indicated compound operation. If we should take, for example, the following: $24 + 4 \times 2 - 12 \div 2 = ?$ and perform the operations in the order indicated, the result will be 22. If, however, we perform the multiplication and division first, as the texts suggest, we get for an answer 26. Which, then, is clear thinking? The question may then be raised as to whether the precedence of the multiplication and division signs is merely due to convention or whether such precedence is necessarily inherent in the operation. Thus if we concrete the above as follows, it will be seen that it is inherently necessary to perform the multiplication and division first: $\$24 + 4 \times \$2 - \$12 \div 2 = \$26$.

Algebra would also indicate this: if $24 = a$, and $4 = b$, and $2 = c$, and $12 = d$, the problem would be as follows: $a + bc - \frac{d}{c} = ?$ In examining the operation more closely it will be seen that the signs *plus* and *minus* indicate *parts* of a quantity that are as yet separated or separable, while the signs of multiplication and division *do not* indicate *parts of a quantity between which such relation obtains*, but are already merged or united in some way.

Basis of Cancellation. — Because pupils do not see or understand the relations indicated in the foregoing they will often perform the process known as cancellation upon the following: $\frac{2 + 5 \times 6}{8 \times 40 - 6} = ?$ Of course it should have been evident at once that since cancellation is merely the striking out of equal *factors*, and not the elimination of *parts*, it can not be employed in simplifying this expression. When equal factors are eliminated in two numbers, the ratio is not changed, but when equal parts of two numbers are eliminated, the ratio is changed.

Figures Should Tell the Truth. — Figures and processes should always tell the truth. Teachers frequently allow forms which do not do this. Take, for example, the following: $7 \times 2 - 4 = ?$ A pupil will often give the following form of solution: $7 \times 2 = 14 - 4 = 10$. Now, in the interest of clear thinking it should be understood that all on one side of the sign of equality must be equal to all on the other side; and while the pupil evidently has in mind the truth in regard to the foregoing, the form indicates that $7 \times 2 = 14 - 4$ and that each of these is equal to 10, which is not true.

While it may not be well, in teaching, to adopt too much of a martinet system of procedure, it should be insisted upon that forms and processes should conform to the truth; otherwise there is danger of vagueness, if not inaccuracy, in mental pictures and in results.

The Proper Form in Multiplication. — In the teaching of multiplication the pupil should be taught, in the interest of economy and of neatness, to place the figures

in the proper position with relation to each other. If, for instance, we are multiplying 24600 by 13000, different pupils will place these digits differently and in some cases produce an unnecessary number of figures by often actually multiplying thru by the zero. The following is the correct form :

$$\begin{array}{r}
 24600 \\
 \times 13000 \\
 \hline
 738 \\
 \times 246 \\
 \hline
 319800000
 \end{array}$$

Here, again, the uprightness and parallelism of the figures and the lines, both vertical and horizontal, should be insisted upon.

The Form of Division. — The question is often raised as to whether pupils should be first taught the form known as *long division* or that known as *short division*. Sometimes such small topics are discussed at great length, over and over again, in teachers' institutes and elsewhere, and are made to seem very important. Since the children know the law of the decimal notation, and since they also know the multiplication table, it is difficult to see why division should not be taught and practiced in the form known as short division within the limits of the multiplication table. Then a person knows at once the number of times the divisor is contained in a certain part of the dividend, and also knows the remainder; consequently short division is the proper procedure under such circumstances.

But where the divisor is above 10 or 12, and consequently where the divisions involve numbers outside of the ordinary multiplication table, we resort to what is known as long division, which is simply trying out how many times the divisor is contained, and then subtracting to find the remainder. It should be made plain to children that there is really no difference, except the slight difference in form, between the two processes.

CHAPTER XV

ARITHMETIC: ADVANCED

Acquired Incidentally. — By the time children have arrived at the age when they should be introduced to a systematic treatment of common fractions (which will be about the fifth grade), they will have learned a great deal about many fractions incidentally and accidentally in the course of their school life and of their experiences. At a very early age they form definite concepts and clear pictures of $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{3}{4}$, etc. They have divided apples fractionally; they know what half an apple or a quarter of a pie means; they have learned the meaning of half an inch, half a foot, half a mile, etc. Having known a quarter, they will have a clear understanding of three fourths, of two thirds, and probably of other fractions in lowest terms. Indeed they will have a fairly good knowledge of most of the common fractions as applied to the various needs of everyday life.

"Fractions," not New. — It frequently happens that when children are introduced to a systematic study of fractions in the textbook, they think they are getting into a new subject and into a new field of thought; indeed the subject is often presented in such a way as to give good grounds for so thinking. The systematic study of fractions should be begun, just as language and grammar, where the child is; that is, his apperception

mass of mathematical knowledge should be used practically for further procedure.

A Clear Conception of Fractions Important. — Fractions form one of the most important — if indeed, not the most important — phases of arithmetic. Some one has said that he who knows fractions knows arithmetic. Consequently it is essential that instruction be given here with great clearness. The imagination is needed in all the processes of arithmetic, it is especially valuable in fractions, and hence every process should first be illustrated in the concrete. As soon as it becomes evident that the *why* of the process is clearly comprehended and that the pupil has a vivid imaginative picture, the concrete material should be dispensed with. While it is essential to begin with the concrete, it is just as essential not to be tied to it. It might be permissible in teaching the word “cat” to a class of beginners in the chart, to bring in, if convenient, a real cat, but it would be the extreme of the concrete, if not silly teaching, to bring the cat into the class every day. All pupils are endowed with imagination, and this faculty supplies a good substitute, and one much more convenient for practical purposes than the real things themselves. Beginnings in fractions should, however, be *concreted*.

The teacher should be sure that the children have clear, definite pictures of all the terms used and of every process and operation, and know just why these take place. A pupil should vividly realize that the word *denominator* indicates the kind of piece under consideration. A half is different in size from a third or a quarter, and a pupil should no more make a mistake in

confusing one with the other than he should in confusing a man with a ten-year-old boy. The denominator, or *namer*, of the fraction indicates the size of the piece. The *numerator* indicates the number of such pieces under consideration. There is also another term which should be clearly in mind: as the denominator indicates the size of the piece, the pupil should have in mind the thing or unit, of which it is a piece — in other words, “the unit of the fraction,” or thing which has been *pieced* or *fractioned*. The child should clearly see, once and for all, that when something has been fractioned, or divided, into two equal pieces, one piece is called a *half*; if the same thing is divided into three equal pieces, one piece is called a *third*, and so on. If we divide an apple into equal pieces and take a certain number of them, the apple is the unit of the fraction: it is the “*what*” — the thing, a part of which is indicated by the fraction. It is the concrete object under consideration. If one should say $\frac{3}{4}$, it means nothing until the person indicates that of which it is $\frac{3}{4}$. If a person should send an errand boy to a store and tell him to buy $\frac{3}{4}$, it would be meaningless; he would say, “ $\frac{3}{4}$ of what?” And so every fraction has a unit of which the expression under consideration indicates a part.

Only Like Units can be United. — In whole numbers it was very clear that in order to add two concrete numbers they had to be of the same kind or denomination: three *feet* and two *rods* can not be united till one is transformed into units of the other. We can add oats to oats and call it oats; we can add wheat to wheat and call it wheat; we can add bushels to bushels and call the result bushels; but we can not add chairs to tables

and call the result either chairs or tables. Consequently, in order to add two numbers they must designate the same kind or unit.

Now, in fractions the denominator indicates the size or kind (in volume) of a piece. If, then, we wish to add a third and a fourth, we have two things to be added but they are different in size, or kind. It will, then, be impossible to unite them and call them either *thirds* or *fourths*. If, however, we could change the form of one third and one fourth in such a way as not to change their value, they could have the same kind of unit name, or denominator, and we could then add them together. The pupils could be shown concretely that a third is the same as four twelfths; and a fourth, the same as three twelfths. We now have *twelfths* as the "size of piece" to be added, and we have 4 of them in one case and 3 of them in another, making 7 of them in all.

If the denominators be written out in words, and the numerators be written in Arabic figures before the words, the adding of fractions receives a change of form which makes the process similar to the addition of whole numbers, and hence finds a response in the pupil's past knowledge and experience:

$$\begin{array}{r} 4 \text{ twelfths} \\ 3 \text{ twelfths} \\ \hline 7 \text{ twelfths} \\ 14 \text{ twelfths} \end{array}$$

This form is exactly similar to the following:

$$\begin{array}{r} 3 \text{ horses} \\ 4 \text{ horses} \\ \hline 7 \text{ horses} \end{array}$$

"G. C. D." and "L. C. M." — It is probable that if a pupil has been studying a textbook with several teachers, he has been thru a desultory discussion and presentation of what are called "Greatest Common Divisor" and "Least Common Multiple," prior to his study of fractions. It may be that he did not know just why he was learning such things. Indeed, except in the field of fractions, greatest common divisor and least common multiple are of little value in everyday life. But in fractions he will come to a time and place where it will be necessary, in order to add or subtract fractions, to reduce them to the same denominator; in other words, to bring the fractions to terms which will represent the same kind of pieces, without at the same time changing the value of the fractions. Greatest common divisor (or measure) and least common multiple should, themselves, be kept in their simplest form. They are a means, and not an end. They are a tool and should be used as such. The teacher should see to it that pupils know just how, when, and why they should be used. When necessary to use them the pupils should have clear and definite concepts and pictures of every stage in the problem.

Employed in Fractions. — Frequently fractions must be raised to higher terms in order to bring them to represent the same kind of piece so that they may be added or subtracted. The denominator, or namer, may need to be multiplied, in order to make the pieces smaller; and hence, in order to preserve the value of the fraction, the numerator must be correspondingly raised in order to take a proportionately larger number

of these smaller pieces. The least common multiple will represent the smallest number — or largest piece — that may be used in the operation. This will enable us to keep our problem in its simplest and lowest terms and thus avoid large and unwieldy numbers. It frequently happens, also, that fractions whose numerator and denominator are large numbers, may be reduced to lower terms by dividing each by the same number. This increases the size of the pieces and takes a correspondingly smaller number of them. It is here that we need to know how to find a divisor of both numerator and denominator in order not to be reduced to guessing; and to know how to find the greatest divisor in order to expedite work by one division. Hence it is that in the field of fractions what are called the greatest common divisor (or measure) and the least common multiple are of great value.

Terms Should be Explained. — The teacher should here show the propriety and aptness of each word in the above terms — why “greatest,” why “common,” and why “divisor,” or “measure”; why “least,” why “common,” and why “multiple.” It will be found that technical terms have some reason — usually a good reason — for their use. If the pupil can be made to see that the term used is the best one possible, he will thereafter use it with clearer insight and more satisfaction. This is true in arithmetic as in every other field. Pupils should know the actual value and meaning of the terms and words which they are using. It frequently happens that pupils get the idea that the least common multiple and greatest common divisor are

things which are an end and aim in themselves. They hardly know why they are studying them, but think that perhaps they shall find out some time in the future. The teacher and the children should approach these subjects, as all others, from the point of view of the children and should graft them upon the pupils' experiences.

"Invert the Divisor." — Much discussion takes place in teachers' institutes and teachers' gatherings generally over the *why* of inverting the divisor in the division of fractions. It is a good subject for talk and discussion; it uses much time and is never ending in its repetition. We shall not here go into the reason which would probably be plainest to the children, for it is not our purpose to write a course of study or a methodology in detail. We merely raise questions and points of interest that would be pivotal in the study of these subjects, and consequently the detailed procedure must be left to the teacher. We would say, however, that while the "inversion of the divisor," as it is called, can and should be explained to children by concrete illustrations, there is no harm done if they depend, for a time and in the main, upon their memory for the retention of this principle. It is one easily remembered — in fact, it can not be forgotten — and when such is the case it is probably best not to waste too much time in fine distinctions and philosophic discussion in regard to the *why's* and *wherefore's*, but to leave it as a form which will be held in mind, largely by memory but partly by insight, and which will be filled in and completed in later years. The reason for inverting the divisor will appear plainer

and plainer as the years go by. Curiosity and the annoyance at being "stumped" by it will provoke investigation for one's self. Time might possibly be wasted in too protracted an attempt to explain to children all the why's and wherefore's of every process. While the memory is not the fundamental faculty in arithmetic, neither is it a faculty to be despised and neglected, for it aids all the other faculties of the mind in bringing about a more complete understanding later on. The same thing is true, as we said, in regard to memorizing to some extent the multiplication table. There are two extremes equally to be avoided: that of memorizing everything in arithmetic and that of memorizing nothing.

The Unit of the Fraction. — In previous paragraphs we called attention to the importance of having in mind what is called the "unit of the fraction;" that is, the unit, or thing, which has been divided, pieced, or fractioned. In solving problems in fractions pupils frequently lose sight of the thing under consideration. They may truly be said not to know what they are talking about. This may be made plain by the following problem and its solution:

Problem: My crop this year is $\frac{5}{8}$ of my last year's crop, and in both years I raised 4400 bushels. What was each year's crop?

Solution: To solve this problem the pupil should proceed as follows:

Let $\frac{5}{8}$ of last year's crop = last year's crop.

[In many schools pupils are taught to say: "Let $\frac{5}{8}$ = last year's crop."

But the question, " $\frac{5}{8}$ of what?" is pertinent. $\frac{5}{8}$ alone is meaningless; it is similar to telling the messenger to go to the store

and get $\frac{1}{2}$ for you. Consequently, if a pupil lose sight of the "what" in this expression he does not know what he is talking about.]

Then, the problem says that this year's crop was $\frac{1}{2}$ of last year's crop; consequently,

$$\frac{1}{2} \text{ of last year's crop} = \text{this year's crop.}$$

Then, $\frac{3}{8}$ of last year's crop (last year's crop) + $\frac{1}{2}$ of last year's crop (this year's crop) = $\frac{5}{8}$ of last year's crop = both crops.

It will be seen that our unit, last year's crop, appears in all expressions. Last year's crop was made the standard; it is the unit of the fractions; it is the criterion; it is the yardstick by which we measure each crop.

We see, then, that $\frac{5}{8}$ of last year's crop = both crops = 4400 bushels.

$$\text{Hence } \frac{1}{8} \text{ of last year's crop} = 4400 \text{ bushels} \div 8.$$

Hence, $\frac{3}{8}$ of last year's crop = 3×4400 bushels $\div 8 = 1650$ bushels (last year's crop).

And $\frac{1}{2}$ of last year's crop = 5×4400 bushels $\div 8 = 2750$ bushels (this year's crop).

It will be seen that these fulfill all the conditions of the problem. It should be noted also that we never let go from our minds for an instant the *unit* of the fraction: the "what."

The Question, "Of What?" — A teacher well known in the west was training his class in fractions on such problems as the foregoing and was constantly insisting upon the pupils' never losing sight for a moment of the question, "of what?" When the pupil would say " $\frac{3}{8}$ = the number," he would say " $\frac{3}{8}$ of what?" He kept up a running fire of this kind for some weeks, never allowing the pupil for an instant to forget what he was talking about. When Christmas came the pupils in his class presented him with a beautiful gold-embroidered

banner with the words "Of what?" on it. He turned the tables on them by hanging it on the wall over his desk. After that when a pupil would say " $\frac{3}{4}$ = the number" he would simply stamp his foot on the floor and point to the banner on the wall. It was a good lesson in fractions.

Some Algebra, or General Arithmetic. — Instead of using the phrase, "last year's crop," as the unit of the fraction, the pupils might be taught to use a letter instead. This is the origin of the algebraic letters x , y , z . The thing under consideration, the unit of the fraction, should be expressed in every case, either in language or in representative symbols. The latter practice would initiate pupils into general thinking and into algebraic processes, so that when they come to the subject of algebra they will not think, as many do, that it is an entirely new and foreign subject.

Old Friends in New Masks. — It is a weakness of teaching everywhere to allow pupils to labor under the false impression that every new part of a subject and every new subject is entirely new and isolated from anything that they have ever had before. There is an old adage, "*Commune vinculum omnibus artibus*," which means, "There is a common bond among all the knowledges." All subjects are more or less related, and different parts of a subject are so essentially similar that a so-called new topic in arithmetic is practically an old friend in a new mask. There should be a reasonable amount of correlation between subjects, and a large degree of correlation between parts of the same subject. Each part should grow out of the part preceding. All

new knowledge should be the natural sequence of what has preceded. If this be the case, instead of being unable to remember, a pupil would be unable to forget.

The Decimal Plan. — Decimal fractions are frequently thought by pupils to be an entirely new topic, when in reality they are only another form of the common fraction. They are not only a form of the common fraction, but they are equally a form of the whole number. Take for example, the following number: 4444.4444; we see here what is usually called the decimal point, separating the whole number, or integer, from the decimal fractional part. Now, each figure in whole numbers takes its value, as we saw, from its place or position in the scheme of 4's at the left of the decimal point. The first 4 at the left of the point means 4 units; the 4 at the left of this is ten times as large, and the 4 still at the left is again multiplied by 10; and so on to the left. This is the scheme; this is the device; this is the plan of the Arabic system of decimal notation.

The same law which holds toward the left also holds toward the right; as every 4 in the above number is ten times the 4 at the right, so every 4 is one tenth the value of the 4 at the left. Consequently the 4 at the right of the decimal point is only $\frac{1}{10}$ the value of the 4 at the left of this point, or $.4, \frac{4}{10}$; the second 4 at the right is one tenth the value of the first 4 at the right, or $.04, \frac{4}{100}$; the third 4 at the right is one tenth the value of the second four at the right, or $.004, \frac{4}{1000}$. Hence, it will be seen that the decimal point does not indicate a break or a chasm of any kind; the same law reigns from left to right and from right to left unimpeded and unchanged;

it is the law of tens and of tenths. The following form will illustrate the law of decimals, both in whole numbers and in decimal fractions:

Million ^s	Hundred-thousand ^s	Ten-thousand ^s	Thousand ^s	Hundred ^s	Ten ^s	Unit's place	Ten ^{-ths}	Hundred ^{-ths}	Thousand ^{-ths}	Ten-thousand ^{-ths}	Hundred-thousand ^{-ths}	Million ^{-ths}
4	4	4	4	4	4	4	4	4	4	4	4	4

However plain we may make this and however well the pupils may seem to understand it, they frequently fail when they come to apply the law of decimals to a problem like the following: Put upon the board the following expressions, and ask a pupil to translate into ordinary language:

- (1) $.12\frac{1}{2}$
- (2) $.02\frac{1}{2}$
- (3) $.00\frac{1}{2}$
- (4) $.0\frac{1}{2}$
- (5) $.\frac{1}{2}$

He will say that the first is "twelve and one-half hundredths"; the second, "two and one-half hundredths"; the third, "one-half hundredth"; the fourth, "one-half tenth"; the fifth "one-half" is a puzzle; he will stumble and balk; he can not answer.

He is likely to change his mind and say that he was wrong: that the fifth is "one-half tenth"; the fourth, "one-half hundredth"; the third, "one-half thou-

sandth"; the second, "two and one-half thousandths"; and the first, "twelve and one-half thousandths."

But if you give him the following: \$.12 $\frac{1}{2}$ and ask him what it means, he will have to say that it is "twelve and one-half cents." If his attention be called to the fact that "cent" comes from the Latin word "centum," meaning 100, and that 12 $\frac{1}{2}$ cents is the same as "twelve and one-half hundredths" of a dollar, he will not know what to think or say. Altho he had apparently seen and understood the law of decimal notation, he seems now nonplused by the expression, one half with the decimal point before it ($\cdot\frac{1}{2}$).

The Use of the Decimal Point. — We may then enter upon the discussion of the use of the decimal point. If it were understood by all that the figure in units' place is to be written large, we should have no need of a decimal point, for the units' place would be indicated; and the value of every figure to the left and to the right would be determined by its position; each would fall into line with its own value derived from its position with respect to units' place. We should then not need a decimal point at all. The trouble with this plan, of course, would be that people, thru negligence, would make all the figures so nearly equal in size that there would be ground for interminable disputes.

If we should write the figure of units' place in red ink and all the other figures to the left and right in black ink, there would be no need of a decimal point; for, as before, the values of the figures would be determined by their position with reference to this figure. But this would be inconvenient also.

If, instead of a decimal point, we should use the hand () to indicate units' place, there would be no need of a decimal point. Or if we should put the point or the period *above* the units' figure in order to indicate it, we could dispense with it where it is now placed; but another sign, that of the repeating decimal, has pre-empted this position. Consequently, it does not seem that it is the decimal point which gives value to a figure at all. The figure derives its value from its position, or its place with reference to units.

A common fraction combined with a decimal does not occupy a place by itself. It has the same name and position as the integer at its left. Consequently in the expression, \$.12 $\frac{1}{2}$, the 1 means $\frac{1}{10}$ of a dollar; the 2 means 2 cents, or $\frac{2}{100}$ of a dollar; the $\frac{1}{2}$ following it belongs to the same place, or position as the 2; it means one-half cent, or one-half hundredth of a dollar. If we wish to change the form of the .12 $\frac{1}{2}$ so as to give the $\frac{1}{2}$ a position of its own, we see that a half in the position of tenths (where it is) is equivalent to 5 in the next position at the right. Consequently twelve and one-half hundredths equals .125 thousandths, for one-half hundredth is the same as five thousandths. The puzzle, then, in $\frac{1}{2}$ has been solved. The half with the decimal point before it does not take its value from the decimal point at all. Its value is determined by its position, and its position is that of the figure normally at the left of it, which would be units' place; consequently, one-half with a decimal point before it, if perchance it be placed there, is really one-half of a unit. In other words, the decimal point is

useless and misplaced, but does not affect the value of the fraction at its right.

Origin of the Decimal System. — It would be an interesting piece of information to show the class in arithmetic that the decimal system had its origin in the fact that the human race are a ten-fingered race. People were accustomed to use their fingers in computation and the decimal system is based upon ten for this reason. Some other system, if it had been inaugurated and all texts on arithmetic and all mathematical knowledge made to conform to it, would answer just as well. Many have advocated a change to the duodecimal system as being more convenient in many respects; but a change would be utterly impossible. Under the duodecimal system, instead of the figure's increasing in value to the left by ten it would increase by twelve, and decrease, of course, to the right, in the same ratio.

Beware of the "And" in Mixed Decimals. — It would be a good language lesson and would bring pupils to a realization of the necessity of accuracy in written language, if we should ask them to put into English the following expressions :

.126423
100.026423
126400.000023

The importance of the *and* in mixed decimals will be seen in the above. The careless use of *and* might make the difference between twelve cents and a quarter of a million dollars, if it were left to the usual careless reader of such expressions.

When the problem is one of whole numbers only and has no relation to decimal fractions, the insertion of an *and* is not a criminal offense, arithmetically speaking, for then there is no ambiguity in regard to it. But when we come to whole numbers and decimals combined, an *and* may play havoc. Consequently children should be alert in regard to it and be taught to act accordingly.

Imagination in Arithmetic. — Everywhere in arithmetic there is great room for the play of the imaging power ; in fact, no person can be proficient in mathematics unless he has a reasonably lively imagination. As we said in another place, the reason why children as a rule do not get their problems and their lessons is that they can not picture the situation. The following are a few samples taken at random to illustrate imagination in arithmetic :

(1) *The Area of a Circle.* — To give pupils a clear picture of how to find the area of a circle it would be well to take special pains with the first concrete illustration. An accurate circle should be made out of paper. This should be divided minutely into sectors. These should be cut almost thru to the circumference so that the circle could be opened up and laid out lengthwise, upon its back, with the numerous sector points standing straight up. If, now, we take a half of this circle, containing just half the number of sectors, and turn this half over upon the other so that the sectors will mutually fit and fill all the spaces, we shall have a perfect rectangle whose length will be one-half the circumference and whose height will be equal to the radius of the circle. The pupils can very plainly see, then, that the area of

First, have a pupil draw a square (1, 2, 3, 4) upon the board. This is the beginning, and we construct the proof as we proceed. Then have him place a point at equal distances from each corner going around in the same direction. Connect these four points and we have an inscribed square. Then draw two lines (ap and ob) perpendicular to each other as indicated in the figure, and we have a right-angled triangle, a , b , c , plainly visible. We also see that the inscribed square, spoken of above, is a square on its hypotenuse (ab) — turned backward rather than forward. We also see that there are four equal triangles, w , x , y , z ; we also see that there are two equal rectangles, mn and op . It is also evident that each triangle is half a rectangle or, in other words, that each rectangle is equal to two of the triangles; consequently the two rectangles are equal to the four triangles.

Now, if we take from the original square the four triangles, we have left the square on the hypotenuse; and if we take from the original square the two rectangles (which are the same as the four triangles), we have left two squares, one on each of the other two sides of the triangle (abc); consequently the square on the hypotenuse is equal to the sum of the squares on the other two sides; for if equals ($4 \triangle$'s = $2 \square$'s) be subtracted from equals, the remainders (square on hypotenuse and squares on the other two sides) must be equal.

(3) *A Lumber Problem.* — As another example of a situation where the imagination is of vital importance, let us take a simple problem in lumber measurement:

If we have a stick of sawed timber $4'' \times 6''$ and $10'$ long, and should ask a pupil how many feet of lumber there are in it, his working it successfully will depend upon his ability to picture it in mind. He must first, of course, have a clear picture of a "board foot," or a "foot of lumber." This means a board one foot square and one inch thick. This is the unit, the criterion, the standard in thinking lumber. If the pupil has not this in mind, he is lost everywhere. Such a piece of lumber should be in the schoolroom among other concrete specimens. Now, in the solution of this problem he will have to see that this stick might be sawed into 6 boards $4''$ wide or 4 boards $6''$ wide; it does not make any difference which. Suppose it be sawed into boards $4''$ wide; we shall have 6 of these. If these 6 boards, each $4''$ wide, were placed edge to edge, they would make a floor $24''$ wide. This is why the rule says to multiply dimensions in inches together. But the stick is $10'$ long; consequently, the number of "board feet," or the number of "feet of lumber," would be 10×2 board feet, or 20 feet of lumber in all. If a pupil is able to solve a few such problems as this and shows proficiency in manipulating the material and also in imaging the situation; he can solve practically any problem in lumber measure. The pupil should picture the above situation on the blackboard.

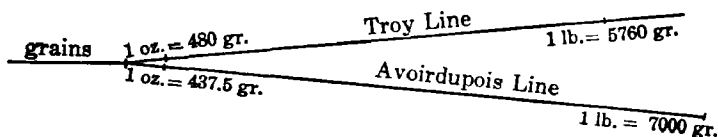
(4) *The Bushel*. — We find in the arithmetics that a bushel contains 2150.42 cubic inches. Pupils take this for granted and seldom know whence it comes. It would be interesting and really valuable from the standpoint of clear thinking and clear picturing for the class

to know that the original Winchester bushel was a bronze or copper circular measure exactly $18\frac{1}{2}$ inches in diameter and 8 inches deep. Being able to figure out the area of the circle, the pupil can compute for himself the solid contents of such a bushel: he will find that the result is 2150.42 cubic inches. Again, the pupil should be required to draw a picture of this measure.

(5) *The Gallon*. — The same may be said in regard to the gallon. The arithmetic says that it contains 231 cubic inches. It will here be of interest to the pupil to learn that the original gallon was a rectangular cubical vessel 11 inches long, 7 inches wide, and 3 inches deep. The British government had such a standard measure constructed and called it a *gallon*. This will give a content of 231 cubic inches. Draw the picture.

(6) *Ambiguous Terms*. — Pupils are often required to change Troy weight to avoirdupois, and *vice versa*. The difficulty in a problem of this kind is one of ambiguity of the terms *ounce* and *pound*. One ounce, avoirdupois, contains only $437\frac{1}{2}$ grains, while an ounce of Troy contains 480 grains; hence the word *ounce* has two meanings, or values. The pound, avoirdupois, contains 7000 grains, while the Troy pound contains only 5760; hence the pound is likewise ambiguous. Clearness would have been subserved by using different words altogether. There are 16 of the (smaller) avoirdupois ounces in an avoirdupois pound, and this will, of course, be more than the 12 Troy ounces in the Troy pound. The only way to change from one of these weights to the other is by going back to the common ground, the *grain*. We should go back upon the

avoirdupois track beyond the switch and then come up on the Troy track. It is as impossible to go from ounce to ounce or from pound to pound as it would be for a train to go from one track to another without going down to the common track beyond the switch. Vivid illustrations of this kind will always serve to clarify knowledge. Draw the illustrative picture on the board. The following would be one view :



The Metric System. — It is unfortunate for us in this country that we did not adopt the metric system for all our weights and measures at an early date. The mental habits and customs of business and social life are now so firmly set that it will be difficult to change them. In the metric system the centimeter is the common ground, the source of the standards of measure. A cubic centimeter of distilled water is a *gram* in weight and the common measure of translation to capacity in the liter. Being a *decimal* system, we may transfer from one denomination or system to another merely by moving the decimal point. It would be useless, we think, to spend much time in America teaching children the metric system, which does not have its roots in practical, everyday experiences and which, consequently, must remain merely theoretical for them. There would really be no good reason subserved in having the children of the nation spend time in mastering a theoretical system

that has no practical application in the life of most of them. When they come later to the laboratories as students they will be able to learn the metric system in a few days.

The Commercial Part of Arithmetic. — In the whole subject of commercial arithmetic pupils are usually very much at sea. Under poor teaching they often remain under the impression that *percentage* is an entirely new subject-matter. It is not correlated with decimals or with common fractions and the pupils do not suspect their fundamental identity. It should be clearly shown to children that common fractions, decimals, and percentage are only three forms of the same process, and of the same kind of mental picturing. Pupils should be taught and required to change from one of these forms to the other *ad libitum*. A common fraction should be put into an equivalent decimal and then into its equivalent percentage form, and *vice versa*. Pupils should be taught to give the answer in the form required, but usually should be allowed to work the problems in the form which seems best and plainest to them. *Interest* is merely fractions, decimals, or percentage applied to money matters: it means a certain fraction, part, or percentage of the whole amount lent or borrowed, allowed for its use. It does not differ at all, except in mere form, from a fractional part of anything else. Undoubtedly the reason why pupils do not seem as interested or as proficient in percentage or interest, or often in decimals as they are in ordinary common fractions, is that the former are becoming more and more remote from their actual, everyday expe-

rience. In other words, they are proceeding outward to a field which is becoming more abstract for them.

Allied to percentage and interest are such subjects as discounts, stocks and bonds, partial payments, etc. Much of such matter should be eliminated from texts altogether. The older texts used to treat at length of what they called *true discount* and *bank discount*. Such distinctions merely confuse. Whether justly or unjustly, such distinctions do not exist in practice. It should be shown, of course, just what discounting a note means and how it is done in a bank. Work should not be piled upon work and problem upon problem in the working of discount merely for the practice; like merely formal activities in other fields, it then becomes an end instead of a means. When pupils grow more mature and when they have some experience in giving or taking, in buying or selling a note, they will learn more fully and clearly just what interest and discount mean. The same is true of stocks and bonds: children in the eighth grade do not know and can not possibly realize just what is meant by these. It requires more age, maturity, and experience, and when these come it will become evident to them that the buying or selling of stocks and bonds does not differ very much from the buying or selling of dry goods, groceries, or horses. It is because children do not realize what all of these transactions are that they become confused and dislike the whole subject of commercial arithmetic. It is vague and unintelligible to boys and girls of thirteen or fourteen years of age. Most of it should be eliminated from textbooks altogether.

The same is true of what is called *Partial Payments*. In the old books problems used to be put in which had to be solved according to various *Rules* by boys and girls in every western state: the *Vermont Rule*, the *Connecticut Rule*, the *U. S. Rule*, etc. Just think of compelling little boys and girls in Wisconsin, Minnesota, Iowa, or the Dakotas to spend days, weeks, and months solving problems by the Vermont or Connecticut rule!

Ratio and Proportion. — Ratio and proportion are really worthy subjects of study. The idea of *ratio* is most valuable and should be concretely and carefully taught. There are many quite lengthy problems also which can be solved very easily by proportion, which would require a long and tedious operation by means of detailed analysis. There is no method of solving such problems in proportion better than that which may be called the method of *cause and effect*. In the author's experience it seems clear that children between twelve and fourteen years of age may be enabled in a short time by careful cultivation to pick out what is *cause* and what is *effect* in a problem. This may require a slow building up of the *sensing* of what is causative and what is effected by such cause. If, then, children can select in a certain problem and situation the causes and effects, they may then put them down in the following form:

1st causes : their effects :: 2nd causes : *their* effects

Rule: The product of the extremes is always equal to the product of the means.

The unknown term, or the required result, may then be easily secured. Here is another instance where it would be well to depend largely upon memory and the rule as stated above; otherwise, it will require a long, tedious process of analysis entirely beyond the comprehension of childhood. If children can once sense the cause and effect, they will see the complete reasons for the processes later, and their understanding of the whole will grow with their growth and strengthen with their strength. In fact, it seems to the author that the only desirable result attained by problems in compound proportion is the ability to sense cause and effect. Because ratio and proportion are here mentioned as a somewhat pivotal topic for the teaching of cause and effect, and hence true thinking, it should not be inferred that the subject should be long drawn out. The end is attained when the pupils grasp and use such causal processes.

Square and Cube Root. — It is probable that some attention should be given, in the most concrete way possible, to square and cube root. Here, again, the author believes that children can be given a fairly clear insight into the reason for both square and cube root by means of a square upon the blackboard and of cube root blocks. It is true that the memory will have to play a part here as it did in the multiplication table, in the inversion of the divisor in division of fractions and in proportion. It is an enviable achievement to be able to extract the square or the cube root, and a class may be worked up to a keen desire to accomplish the feat. The teacher should aid them, in every way possible, by

the law of reason, but at the same time should not ignore that extremely useful faculty, the memory. The conception of squares and cubes and of square and cube root is forced upon children, especially upon boys, in numerous concrete things and situations in their experience. Such knowledge would "keep," no doubt, till revealed in algebra and geometry, but fascinating situations implying it occur prior to high school. Then, too, the pupil may never go to high school. Such knowledge may act as an interesting thought center for life. A short time on this might render better service than the long time now often spent with children on the intricacies of stocks, bonds, discounts, and other topics that interest or serve adults only.

Wake up Mind. — Thruout the school life of children, interesting practical problems should be given to them for solution. Sometimes it is not entirely objectionable to propound one which is in the nature of a slight puzzle, or knot. Such interesting and practical problems should be given, on the side, as a sort of special flavor, in connection with their most closely related subject. Such problems as carpeting, shingling, and stoning a well would be interesting to wrestle with and could be found practically applicable in the life of the pupils. To clear up concepts in percentage a problem like the following would be valuable: "If a milkman should put one gill of water in his quart measure, what percentage of fraudulent profit is he making?" This would raise quite a discussion as to whether the proper answer is one seventh or one eighth. Each side would be required to defend themselves against all objections

and to give reasons for their faith. Problems like the foregoing would be centers of thought, both in school and for people in the neighborhood. A single problem that will arouse much discussion is preferable to a vast number that will elicit but little thought.

CHAPTER XVI

GEOGRAPHY

Purpose of the Study. — The purpose of a knowledge of geography is to make one familiar with the world in which he lives, and somewhat at home, mentally, in important world situations. Geography means a knowledge of the earth. This knowledge is a substitute for the first-hand experience got by travel, and is to the latter as a picture is to the original. Every one desires and needs this knowledge and experience, even if second-hand and merely representative, of the world around him. Every person, in order to have what is called an education, must have made the world his own in a true sense. By imagination each of us may have this second-hand but nevertheless indispensable knowledge in regard to situations and peoples on the earth; and for most of us this is the only kind of geographical experience possible. If one had the time and means at his disposal, the best way to learn geography would be by travel; but this is not possible to any great extent even for the few who have both means and leisure.

First Knowledge of Geography Incidental and Correlated. — For the first few years of a child's life and schooling, geographical knowledge comes, like many other things, incidentally and accidentally. During the first years of our school life many fields of knowledge are mixed and mingled. Geography is wrapped up

with reading, language work, spelling, writing, and our total experience. Our consciousness, or mind, has been *geographized* to a certain extent; that is, our bundle of experiences which we have acquired and which really has become ourselves has become colored, or tinged, geographically. All persons, before they have begun the systematic study of geography from the textbook, have become more or less cosmopolitanized. During the years from babyhood up to the fifth grade in school, children have asked all manner of questions in regard to the world and the peoples inhabiting it. Children have acquired a more or less definite conception of the surface of the earth and its relations to mankind. This is the way in which geography is acquired during these early years. It is the only way in which such knowledge should be imparted during the first few years in school. There should be no definite period each day in the early years for the teaching of geography. It is sometimes thought that unless the subject-matter is taught by system and by textbooks it is not being taught at all. But this idea is a mistake: the human mind is hungry and thirsty for knowledge during all its waking hours. A child is extremely inquisitive, and knowledge of every kind, geographical included, is being constantly absorbed and systematized. Consequently, when a systematic study of geography is begun in about the fifth grade, the child has an apperceptive mass by means of which he is enabled to interpret and proceed more scientifically.

The Systematic Teaching of Geography. — But there comes a time when this subject should be treated more

systematically. Geography is a bundle of organized knowledge, and this knowledge can not be acquired to any extent, as was the case with language, in connection with other subjects. Language work was done in connection with reading, arithmetic, spelling, and in fact, in connection with every subject, for language is the form in which every subject is presented. But geography can not be acquired in this way, for it is a subject by itself; and the best way to study and present it systematically is for the teacher and pupils to have a good textbook. Geography is the representative, in the elementary school, of the whole field of the natural sciences, which are to be investigated and studied more extensively in later years. Such an elementary text should be scientifically arranged and should have, in a high degree, the quality of interest. For this reason only the important things should be treated and these only in an elementary way. This elementary textbook could well be completed in one year, or in the fifth grade.

The pupil should then return to the subject, in a kind of spiral manner, by means of a more comprehensive text during the sixth and seventh grades. The pupils would then make a deeper, more intensive, and more extensive study of geography. In connection with the textbooks supplementary readers should be used and books of travel of various kinds should be read and narrated. During these three years the pupils will have secured such a knowledge of geography as will make them feel somewhat at home mentally in regard to the surface of the earth and its relations to

mankind. The pupils should have, after these three years of study a reasonably *easy* mind in this subject.

As we are assuming that a good textbook is to be used as a foundation for the systematic teaching of geography, it is not our purpose in this discussion to give a detailed outline of either subject-matter or procedure. We merely aim to bring to mind certain interesting features of geographical study that should not be forgot. These should be attended to at the right time and in the right place. We merely indicate dangerous places and open switches where pupils and teachers may become sidetracked. Our paragraphs are intended merely as fingerboards indicating the best road to the true geographical destination and possibly some side paths that might lead astray.

The Proper Procedure. — Some one has said, paraphrasing the maxim on charity, that geography should begin at home; but maxims are frequently only half truths, and while the teaching of geography should begin at home, it should not extend outward consecutively from the home to the earth as a whole. What is really meant by beginning this study at home is that the child should be somewhat familiarized with the home surroundings first; that is, the larger features of these surroundings should first be noted. It would be a mistake, however, to study these home surroundings intensively before going outward extensively to other geographical fields. In fact, it would be a mistake to proceed, in any intensive way, from the study of the schoolhouse and grounds to a study of the township, the county, the state, and then of the nation, before

starting at the other end and securing a clear conception of the world as a whole. What is nearest to us is not always clearest to us; what is nearest to us geographically is not always nearest to us mentally. The Nile river is much nearer to most of us than is some obscure boundary of our county or state. Consequently, it is not geographical proximity that determines our procedure, but our psychical, or mental, proximity. The sequence also is not geographical alone but psychological as well. Consequently, teachers who drive the maxim of beginning at home and proceeding from there to an extreme, run counter to the laws of mind. Many maxims and rules are similarly carried to an extreme never dreamed of by those who first formulated them; they are usually intended for a certain situation and when applied outside of these limits they become falsehoods rather than truths. Here is where the merely imitative, parrot-like teacher is likely to fail; and it is here that a deeper insight into educational principles will save a teacher from the slavery of rules and maxims.

Clear Picturing. — In our discussion on Reading we pointed out the necessity for clear and definite pictures in every subject. We fear that the lack of true imaginative pictures is the cause of much of the hazy knowledge of geography which we all possess. It has never been vital and much of what we learned has slipped away; most people remember but a small portion of the geographical knowledge which they possessed at one time or another. This is due to the fact that much of it was unrelated and hence uninteresting, and most of it relatively unimportant. Much of the so-called knowledge

which we have all possessed in regard to the thousand and one small places in obscure and foreign countries contained nothing vital; there were no interesting associations connected with such places. The consequence was that all of this obscure knowledge fell away from us. The time would have been better spent in making interesting some geographical facts of the first magnitude, and in establishing between these such relations as would make them our own for life.

The Idea of Location. — Very early in their geographical study all pupils should get a clear and distinct picture of what is meant by location. Children should locate objects in a room by actual experience and describe such locations. They will then see that in order thus to locate an object, two lines must first be established. These two lines must, it will be seen, be perpendicular to each other. Any two lines may be chosen, as for example, the south and the east walls of the room. If the location of a tack is said to be ten feet from the south wall and seven feet from the east wall, it may easily be found: its location is indicated.

The same is true in regard to locating a place upon the surface of the earth. Geographers, astronomers, navigators, and scientists generally have decided to take two lines corresponding to the walls of the room; namely, the equator and a specified line running north and south, called the meridian of Greenwich. To locate a place, geographically, we then say it is so many degrees north or south of the equator and so many degrees east or west of this meridian. This locates it on the globe.

The same process is seen in locating a tract of land in what is called a survey. Two lines must first be established, a *base line* and a *principal meridian*. The country north and west of this line, say, is then divided up into townships, sections, quarter sections, etc. The tiers, or rows, of townships running east and west are numbered from the base line northward, and are designated *Town 1*, *Town 2*, etc.; and the tiers of townships running north and south are numbered from the principal meridian to westward and are called *ranges*. Likewise, the sections, or square miles, in each of these townships are numbered in a certain order, and hence any quarter section of land can be located definitely and accurately in the surveyed territory.

Such systems of locating things should be discussed carefully and minutely. Other methods of location should also be described, as, for instance, a river or a state in the Union. The teacher should see to it that the pupils have a very accurate imaginative picture of each situation and should be sure that the pupils are not deluding themselves with a half knowledge of the subject.

The Idea of Direction. — The idea of direction should also be definitely impressed. Some people do not care, in traveling, whether they have the right direction in mind or not; being "turned around" does not seem to disconcert them in the least, for it is their usual condition. There are others who, by instinct or by cultivation, have acquired a keen sense of direction and are always uneasy when they are, so to speak, lost

in regard to directions in a strange city. It would be a good thing to make children conscious and sensitive of direction in studying geography.

The Globe as a Whole. — Before the child has proceeded outward very far from the study of home geography he should be introduced to the globe as a whole. He should learn clearly that the globe, which is before him, represents, or symbolizes, very accurately this earth on which we live. Most children hear very early in life that the earth is round and they wonder much as to how this can be. Their thoughts are probably crude in regard to the whole situation. This fact should be made a subject of considerable study and discussion when the class begins what we have called the systematic study of geography. A good globe should be at hand, and this is preferable to the large and expensive tellurians *made to sell*, and on which unsophisticated school boards so frequently get "sold." It would be well to have in addition a plain blackboard globe, so that representations made upon it might be erased at will and the globe left serviceable for other instruction.

Analysis as well as Synthesis. — Analysis is one of the first and most fundamental operations of the mind; and so, instead of proceeding by synthesis from the home, outward to the geographical study of the globe itself, the other process, supplementary to it, of taking the globe as a whole and of analyzing it should soon be begun. It would be well, in handling the globe and in giving instruction from it, always to place it in its true and real position; that is, the north pole of the

globe should point toward the north star, which the children would then learn to know and to point out. Even if they can not get, at this age, a complete conception of the actual astronomical movements of the earth and its situation in the solar system, they can be made to see just how the earth moves, both on its axis and around the sun, the north pole remaining constantly toward the north star. The children can not help forming a more or less definite conception of the earth's situation, for all manner of questions will be suggested to the children and answered and illustrated by the teacher.

Topics and Questions on the Globe. — The following topics should come up at the right time and place in connection with the earth, its position, and its movements. The teacher should be guided in the kind of topics to be given to the class for study and investigation by their discussions from day to day. The following are merely samples which indicate, if properly answered, a real knowledge of our relations to the earth and of the earth's relations to day and night, the seasons, etc. :

QUESTIONS

- (1) What is the shape of the earth?

Discuss in full and make clear.

- (2) How do we know this?

All the reasons which the children can appreciate, brought forward by them or the teacher.

- (3) Why does the earth appear flat?

Here it can be shown that in a small circle placed upon the blackboard an arc of one inch is noticeably curved. If we should make the circle larger, it will be noticed that an arc of one inch is

not so curved; and if we make the circle as large as our black-board will allow, the arc of one inch will appear straight. This will indicate the direction of the reasoning, in making children understand how it is that, altho the earth appears flat or straight, it may, in reality, be curved.

(4) What do the terms *up* and *down* mean?

(5) The diameter of the earth?

All information in regard to the meaning of this is brought out, even the etymology of the word *diameter*.

(6) The motions of the earth and the effects of each?

(7) The relative position of the earth in what is called the Solar System?

It would be well to represent in diagram the relative positions of the other planets and how they and the earth move around the sun.

(8) If a person should stand at the north pole and throw a stone at an object located near by, in what direction would he throw the stone?

Such a question will always raise discussion, and this always leads to a more comprehensive understanding.

(9) Would *right straight thru the earth* find us in China?

A discussion of this question will always clear up the pupils' knowledge of the earth's situation.

(10) Terms: Such topics as pole, axis, equator, tropics, polar circles, meridians, etc., should be discussed so that the pupils would have as clear pictures of these as they have of any objects with which they are familiar.

It would guard against such obscure knowledge as the boy had who said that the equator was a "menagerie lion running around the earth"!

(11) How many meridians are there?

The discussion of this question should lead to a clear conception of meridians and their use.

(12) Why are the tropics and the polar circles placed where they are?

Here the question might be raised as to whether or not these could be placed elsewhere if people should agree to do so. Their location can be illustrated very clearly by the globe. If necessary this should be done at night when the lamp may be lighted to represent the sun. In discussing and answering this question full information can be obtained in regard to the width of the so-called zones.

- (13) Why is the polar diameter of the earth shorter than the equatorial?

The answer to this will give the pupils an interesting piece of information in regard to the past ages of the earth. It will give a terrestrial vision.

- (14) How far around the earth is it at the equator?

Here is an opportunity for correlation with arithmetic.

- (15) Why do not people fall off the earth?

This should bring about much thoughtful interchange of knowledge and a clear understanding of our relation to the earth. Here the terms *up* and *down* will find their full meaning.

- (16) How high is the atmosphere?

In regard to this it might be asked whether the earth turns around *in* this atmosphere or whether the atmosphere moves with the earth, to see how pupils think the situation.

- (17) Why is it cold on the top of a mountain?

Much clear knowledge might be the result of this discussion.

- (18) Is the north star in the same direction in the daytime as it is at night?

Relative Magnitudes of Geographical Facts. — A distinction should be made everywhere in geography between what might be called facts of the first magnitude and facts of lesser magnitudes. In the neglect of this lies much of the trouble with geography teaching; usually no such distinction is made and all the facts are one vast jumble of equal things and a mere aggre-

gation of memorized statements. The consequence is that we have a very *uneasy* mind in the subject of geography.

The writer, for example, would not fear an examination in arithmetic or grammar, for in these fields he could move from one thing to another by reasoning; he has an *easy mind* in regard to these subjects; he would be willing to carry, so to speak, a kind of grammatical chip on his shoulder. But in regard to the subject of geography he has a very *uneasy mind*, for he would be apprehensive lest facts of the tenth magnitude or the hundredth magnitude might be asked in the examination and he would be graded as if such matters were of primary importance. In geography what is valuable to one person may be of little value to another. It is often just as well to know where to find some things as it is to know these things themselves; and unless a person were a very reasonable examiner, the examinee, no matter how well versed he were in the chief things of the earth, might be caught in regard to a geographical location and situation in some foreign country with which he has had no occasion to deal.

Mere Isolated and Barren Facts. — For most children and for most people, geographical places, rivers, etc., are only dots or lines upon a map. This must necessarily be the case in regard to most places upon the earth, for a person would have to spend his whole life traveling to have it otherwise. Only the important places, rivers, etc., should really be required in geography, and then the most interesting and important information in regard

to them should be made known. The place should be made to *live* in our minds and should not be left a mere dot upon the map. So much of what is called *sailor geography* has been taught to children that all that is known of most geographical places is that they are *located* within a certain territory. It would be better if ninety-nine hundredths of all such facts were omitted and the other one hundredth were made interesting and essential in our geographical world of thought and discourse. Cases have been known where children have thought that certain states were naturally colored in a certain way because they were so represented on the map!

Some Dependence on Memory. — It is true that many important things will have to be learned by memory and thus held for future enrichment unless we can spend all our time traveling. This is true in every subject of study. A child's memory is strong and tenacious and can hold the forms of many important things, which will be filled in later by supplementary knowledge and interesting experiences. It would not be good pedagogy to say that because a child can not learn everything now about a city, therefore the city should not be named or discussed at all. We must not forget the power of a tenacious memory.

Reason in Geography. — But we should teach the relation of cause and effect in geography as elsewhere. If a class were discussing the city of Minneapolis, it would not be sufficient to locate it in eastern Minnesota upon the Mississippi river. There is so much fruitful material available that Minneapolis might be made

extremely interesting. It could be made to stand out and live in the child's mind. The question should be raised as to why Minneapolis has grown so rapidly. The children should bring forth all the reasons which occur to them. Many interesting truths in regard to it would come out in the discussion :

Minneapolis is not on a navigable stream ; consequently, navigation would not be one of the reasons for its growth. This could be given in favor of the growth of St. Paul, but it certainly can not be given for Minneapolis. The class would have to cast about for other reasons.

Some one might mention the fact that the State University is located there. This would certainly be one reason, for it brings to the city thousands of students every year who spend hundreds of thousands if not millions of dollars in that city. An educational institution like the State University adds to the city, financially, socially, intellectually, and in every other way, and makes it a desirable place to live. Parents move there in order to have their sons and daughters educated. And so the teacher and the class might go on showing what the University would do toward the growth of Minneapolis.

Some pupil might mention the great flour mills as a factor in the growth of Minneapolis ; and then the question would be raised as to why the flour mills are located there. It would be noted that west of Minneapolis, in Minnesota and in the Dakotas, is what has been called the " bread basket of the world " — the great wheat fields of the Northwest. It will also be observed

that right in Minneapolis are the Falls of St. Anthony, furnishing wonderful water power. Discussion would then bring forth the necessity for the manufacture of a number of other things in connection with the manufacture of flour, such as barrels, sacks, tools, machinery, etc.

Some other pupil might know of Minneapolis as a lumber center, and this could be related on the one hand with the Falls (water power) and, on the other, with the great pine regions northwest of Minneapolis and accessible to it by means of rivers and railroads. It will be clearly seen that such manufacturing establishments would bring to Minneapolis thousands of men and their families and thus add to the growth and diversity of the city.

Then, too, looked at from a geographical point of view, it will be seen that Minneapolis is in a direct line between the great, fertile Northwest, both in the United States and in Canada on the one hand, and the eastern centers of trade and commerce on the other.

Thus the discussion might go on until Minneapolis would be the object of much interest. It would, too, be the center of a system of knowledge which has been correlated with it.

Map Drawing. — The pupils should be taught to draw maps in the right way. By the old method pupils were taught to put upon the blackboard a form, or framework, of construction lines, or a system of measurements which had to be first learned by the pupil; and after this had been carefully drawn the pupil was taught to draw the map upon it. When the writer was a boy he put upon the board in this way a map of South

America which took him some two or three weeks to complete. It was left standing during the term, either as an example or as a warning — he has never been able to figure out which. This was a great waste of time, without any useful result. When a map is drawn in this way the form of the map and most of its parts depend upon the retention in memory of the measurements of the framework, and when these numerous measurements are forgotten (as they surely will be) the map will disappear also.

Now, the sole purpose of putting a map upon a board is to present to somebody else, with reasonable accuracy and in a short time, a representation of the country or district under consideration. A pupil should be able to do this in a few minutes or even in a few seconds, and as soon as the purpose has been attained the map might well be erased.

A child, too, will learn the *form* of a section of country, such as a state or a county, in a very short time — as quickly as he will learn the form of a word or a face. There is no reason why a framework of construction lines should first be drawn. If we put a picture of an object upon the board, any person familiar with it can tell at once whether it has the right shape or not. So it should be with the map of a state: we should be able to draw it offhand and free-hand, and to do so in a short time. On this map all the important things and these only should be placed, free-hand. Nothing should be put on this map that can not be named. It frequently happens that when children draw a map and put in the rivers, they indicate all kinds of little branches that do

not exist at all. They seem to think that they must fill out the picture artistically, as if it were the drawing of an ideal tree and did not make any difference whether or not they put in a few more branches. But in a geographical map everything should be definite and true. It would be better to omit all details that are not necessary and to put upon the map only what is under consideration or what we wish to call attention to.

Relative Sizes and Distances. — The relative size of states or of countries and relative distances should be carefully noted. We should not allow children to carry with them the impression that New York is about as big as Texas. In making maps, until the conception is clear, a small state should be drawn upon a small scale and a large state upon a large scale; otherwise, distorted pictures will remain in the mind. The same is true of distances. It is farther from Chicago to New York than it is from London to Rome, and yet few of us think it in that way. It is farther from New Orleans to New York than from London to Jerusalem; and yet thousands of people pass every day from New York to New Orleans, while very few indeed go back and forth between London and Jerusalem. If the state of Rhode Island were placed in the center of Cass county, North Dakota, there would still be a walk six miles wide all around it. About two hundred and fifty states of the size of Rhode Island could be carved out of Texas alone. I mention a few of these simple facts to indicate that relative size should be called to mind continually in teaching geography.

Other Helps. — In order to make mental pictures vivid the school should have a good supply of books of travel, of stereopticon slides, and of apparatus of different kinds. Knowledge at first hand is the best kind, but clear representative knowledge comes next. The school board who disciplined the teacher because she took her class to see a mill near by, in order that they might have first-hand experience, little understood the teaching of geography, or indeed, pedagogy or psychology of any kind. In fact, a teacher of geography should, whenever possible, and in every way possible, visit all the places and things of interest in the surrounding country, such as near-by towns and cities, factories, mills, etc. These things enrich and concrete the experience of pupils; they throw interesting sidelights upon the subject; they correlate it with others and give a base of operations for further conquests and progress.

An Outline. — In the study and teaching of any unit of territory, such as a state, some outline should be in mind and every topic should be fully developed. We suggest the following as a sample, which may be varied according to needs:

- (1) Position
 - (a) on the globe
 - (b) in the United States
- (2) Size and shape (comparative size)
- (3) Surface and drainage
- (4) Soil
- (5) Climate
- (6) Productions :
 - (a) vegetable
 - (b) animal
 - (c) mineral

- (7) Occupations
- (8) People
- (9) History (in short)
- (10) Government (in its principal outline and function)
- (11) Institutions
- (12) Its map (free-hand and offhand)
 - (a) principal rivers and lakes
 - (b) principal railroads
 - (c) mountains, and elevations above sea level
 - (d) scale

Practical Applications. — Before pupils drop the subject of geography at the end of the seventh grade they should have a comprehensive knowledge of where the various things that are found around us and upon our tables, come from. The following is a short list of articles which should be associated with the places where they are found or produced :

Oysters, petroleum, lumber, flour, cotton (raw), cotton (manufactured), sugar, coffee, tea, cocoa, silk, wines, leather, tobacco, woolen goods, paper, spices, dates, figs, fruits, linen, furs, coal, iron, gold, silver, musical instruments, rice.

Pupils should also be able to tell in a fairly accurate way the cargoes that ships would carry between the great commercial ports of the world and return ; as for example : from New Orleans to Paris ; from Baltimore to India ; from Charleston to Madrid ; from Boston to Mobile ; from Philadelphia to Rio Janeiro ; from San Francisco to Sitka ; Duluth to Cleveland ; Fargo to Chicago ; St. Louis to New Orleans ; New York to China or Japan.

CHAPTER XVII

HISTORY

At First Wrapped up with Reading. — As is the case with practically every subject in the elementary school curriculum, history is at first and for several years wrapped up with reading and literature. It does not emerge as a separate subject of study until probably the sixth or seventh grade. Prior to that time children have heard, in the home and in the school, stories of discoveries and explorations, anecdotes in regard to the lives of great men, and numerous incidents in the history of their own state and locality. They have probably read simple biographies of people in military and civil life who have become ideals to them. In their reading books and in their choice of selections to be read in class, they have come across innumerable historical references and allusions which have been made plain either by the teacher or by their own reading and inquiry; and so history is usually correlated with reading and literature for several years. The pupils have been studying history without being really aware of the fact. This for children — and indeed for adults — is probably the best method of education. When a subject has been absorbed, so to speak, slowly and naturally, it then becomes a part of ourselves all the more effectually. And so, during the primary and intermediate grades children have been forming for themselves an

historical apperceptive mass to be used later on in the systematic study of the subject.

The Beginning and Sequence. — History, like geography and, indeed, every other subject of study, should, like charity, begin at home. *At home*, as we saw in the discussion of geography, does not always mean what is nearest to us in space, but rather what is nearest to us mentally. Consequently, interest plays a great part in determining what is psychically near to us. Children in the United States naturally begin the systematic study of history with that of their own country; children in England begin with English history; in France, with French history; and in China, with the history of the Chinese nation. From the study of the history of his own country the pupil moves outward to the history of those peoples and nations most directly and vitally related to his own. The sequence, consequently, in history is psychological rather than chronological or logical. If the latter were the case, the proper way would be to begin with the history of the first known peoples — with ancient history, beginning as far back as there are any records available, and then coming on down the stream of time, investigating and discussing the various influences which have been at work in the world. But to start thus would be to impose upon a child a subject which is remote from his interests and from any knowledge that he now possesses. He could not correlate this ancient history with his own experiences and with the information which he already has in regard to those who have been factors in the making of the history of his own country.

Use a Good Text. — When pupils begin the systematic study of history, probably in the seventh grade, a good text should be chosen. In this subject a textbook is absolutely essential, for the teacher is not, supposedly, a specialist in history. Those who have thought out the subject and who have devoted their lives to it have organized the subject-matter for us, and it would be pedantic to ignore their experiences, their learning, and their labors, and to attempt to do again in our own small way what has been better done by masters, a hundred times before. In this respect the teaching of history is altogether different from the teaching of language; for history, like geography, is a systematized bundle of knowledge which can not be acquired in connection with other subjects, while language is the form which embodies every subject-matter and which should, therefore, receive its due share of attention everywhere.

While history can never be *completed*, an elementary treatment of United States history may be given and a reasonable elementary understanding of it may be secured in two years, with well-chosen material, a good textbook, and an enthusiastic and efficient teacher. Consequently, at the end of the eighth grade a child should have a fairly comprehensive grasp of the history of our own country.

Correlation by Side Excursions. — In the teaching of history, side excursions may well be taken into interesting fields of knowledge directly related to this subject. Civil government is one of those fields into which we could profitably make frequent excursions of this kind. Civics and history are so closely allied that it is impossible

to tell where one ends and the other begins. A teacher should never hesitate to tarry by the wayside in order to supplement the historical knowledge of his pupils by information in cognate fields. This is always mutually supporting and supplementary to each subject. Side lines and issues always lend interest and support to the main line under consideration. The teacher, of course, should see to it that he and his class do not get lost in the wilderness. The teacher of discretion is always able to tell when the side excursion should end and when the return should be made to the main road. The habit of losing the thread of one's discourse, of losing one's road, is a common one with many speakers, preachers, and teachers. But, like every good thing, because side-excursions are sometimes abused is no reason why they should not be used with discretion. Leaving the highway and going into the byways to note interesting and relevant facts is always indicative of a good teacher, and is in line with the natural process of education and growth.

Geography, the Handmaid of History. — In the teaching of history, geography should receive much attention. It is the handmaid of history. The two should be closely correlated. Geography is a *local* phase of social movements, while history is a *temporal* phase. It is geography that gives to historical events "a local habitation," if not a name. It is in the subject of history that the pupil finds the study of geography of vital and practical use; it is here that he finds the geographical tool of service to him. In reading an account of a war or a battle or of The Hague Conference, we wish to know

where each is, on the map. Consequently, in the study of history a teacher should see to it that pupils have a clear and definite conception of the country or the locality connected with the movement or event under consideration. It too often happens that children, after studying historical movements, such as the great campaigns of a period, do not know, often, with any definiteness, just where such events took place. In such cases geography is neglected; the pupils form no conception of the topography of the country under consideration. The whole situation is indefinite, obscure, and hazy; it is "up in the air" — nowhere. Such knowledge is of little value. A few historical facts or situations of the first magnitude, well and clearly understood in their principal relations, would be incomparably better than a host of unrelated facts, all left in this indefinite condition.

Kings and Wars too Prominent. — The old-time textbooks in United States history were altogether too military in their treatment. In fact, history from time immemorial has been written from a military point of view or from that of court life. These two points of view have always been closely related. Wars have frequently been the game of kings, and their peoples have been merely pawns that have been moved in different directions for the defense or aggrandizement of thrones. The writers of history have been most interested in military life, in kings, dynasties, and aristocracies. It is true that, for all children, a military or warlike aspect of history is attractive and interesting. Combat and struggle appeal to them and it is probable that

writers of history have not only moved along the line of least resistance, but have, in a measure, supplied a demand. But history of this kind is only a skeleton form: a kind of skull and crossbones.

History not "a Narrative of Events." — History is often conceived of as *a narrative of events*. Such a conception indicates merely a surface view of history, for an "event" is something that *crops out* and the narration of such events would be merely the arranging of these like beads upon a string. In the pupil's mind one of these events was connected with another only in a superficial way; there was no underlying natural relation, no connecting link, no mutual causation between the two. Such a grasp and conception would scarcely be history at all; it is too superficial. Concealed beneath are great social forces which play upon one another and occasionally come to the surface in *events*. It is these social forces underneath — the real life of the people — that constitute the fundamental subject-matter of history. All the great battles (which are mere *events* in history) had been previously fought out, in a kind of way, around the family firesides of the nations involved. Humanity is a great seething caldron of forces interplaying upon one another and causing, at particular times and places, events to appear on the surface.

Should not be too Philosophical. — While the old-time histories dwelt too much upon kings and wars, there is probably a danger, in the newer histories, of going too far in a philosophical and sociological direction. Children are much interested in spectacular events. The pugnacious instincts play no small part in the

child's life, and consequently he is greatly interested in contests, struggles, battles, campaigns, armies, and navies. It is probable that histories which go too far below the surface and discuss, in a somewhat philosophical way, the forces which play between the units of society, whether in family, tribe, or nation, are likely to be too abstract for the youthful mind. Some United States histories have appeared which are so philosophical and sociological in their treatment that children are repelled by them. They are analogous to Browning as an author prescribed for children's reading in the fifth grade. Lengthy discussions of causation, which are particularly abstract to the child, find no appeal in his experiences and are, to a great extent, lost upon him.

The Golden Mean. — The best method would be a happy combination of the history of struggles and events, on the one hand, with a reasonably elementary sociological treatment, on the other. While persons interested in kings and wars have been the writers of our histories in the past, it too frequently happens now that our authors are specialists who have spent years on problems of research and on deeper investigations which are of interest only to those of similar situations and attainments. The research specialist is likely to go to an extreme in this direction, as the military writer did, in the other.

Facts and Principles of First Magnitude. — As in geography, minute details in history are not of much significance to the child of twelve or fourteen years of age. What he needs is great, vivid pictures *in the large*. He should be acquainted during the two or three years

of his biographical and historical study, with the great highways in the history of his country; and it is a mistake to attempt to acquaint him with all the byways and paths leading outward from these highways. In later years, as his knowledge increases in this and in all related fields, he will investigate many of these byways for himself. In history, as in other subjects, the teacher should carefully distinguish between facts of the first or second magnitude and those of the tenth or fiftieth magnitude. As in geography, there are likewise innumerable facts in history which, for a child of this age, it were better not to attempt to learn: it is sufficient to know where to find such small, unimportant facts. Teachers often have their pupils commit to memory a host of names and dates without enriching them in such a way as to make them either interesting or useful. Such history teaching is analogous to what is called *sailor geography* in the teaching of that subject.

Memorizing History. — In regard to the proper part which memory should play in the study of history, two extremes confront us. While the teacher of former days went to one extreme in the wholesale memorizing of facts, of names, and of dates, without enriching them, some teachers of to-day are adopting the practice of not having children memorize the names and dates of even the most important historical happenings. This is ignoring the value of memory. Children should hold in memory many important forms in every subject of study, which later life and experience will fill in and enrich. Consequently, all important events and all important dates should be memorized as definitely as the

multiplication table was in arithmetic, so that when the name of the event comes to mind the date comes also, and *vice versa*. This is of untold advantage in later life. Every person should have well-defined landmarks in the thought system of each subject of study. These will serve as signs or finger boards along the highway. They will be to him the stakes and monuments by means of which he can find his location and direction at any time. To have no such centers of orientation, consciously and definitely in mind, is to have a dark historical world, a world of historical chaos. Even if these names and dates are not philosophically and sociologically enriched, they become centers of ever-increasing knowledge and interest. They give us our bearing and our direction at once and they give us a feeling of satisfaction and of security in the midst of a more or less chaotic field which surrounds all of us.

History and Patriotism. — History offers a great opportunity for the teaching of patriotism. This, in its beginnings, may be only a "Hurrah for our side!" But this partisan feeling may exist whether "our side" be right or wrong. History offers a good opportunity, then, to teach a moral patriotism. There are also numerous and excellent occasions for the correlation of history with reading and literature. Many gems of poetry and of prose, breathing the spirit of true patriotism, should be read in connection with the study of United States history. In the saying, "Let me write the songs of the nation and I care not who makes her laws," there is much truth, for the songs and poems of a nation breathe a people's spirit. And it is the spirit of a people

and not their particular acts that is of most value. We would recommend that pupils in the history class commit to memory all such poems as *America*, Scott's *Love of Country*, Longfellow's *The Union*, Holmes's *Flower of Liberty*, and numerous others like them.

Ideals and History. — In the study of United States history there is also an excellent opportunity to imbue pupils' minds with high ideals. The study of great heroes, both in military and civil life, will unconsciously establish wholesome ideals in the minds of the children. This is of inestimable value, for it is a law of life to grow like unto our ideals. The virtues of chivalry, of justice, and of toleration can be instilled in the study of wars and of controversies. Children should not be left with the idea that there has been only one side to every one of our national quarrels, and that we have always been on the right side. The reasons and arguments for the other side should be fairly and squarely presented, so far as we can get them. Pupils should acquire the conception and the feeling of putting themselves in the other person's place — of seeing themselves as others see them. There is probably no greater virtue to instill into the minds of children than that of toleration for other persons' opinions. People should be able to disagree in their judgments and yet remain friends. This is one of the great lessons which history should teach. Children should and can be made to realize early in life that there are *others*. It will depend, however, in large measure upon the spirit, the attitude, and the treatment of the historical subjects by the teacher; consequently, it is essential that teachers be open-minded,

intelligent, fair, tolerant, and sympathetic, and that they breathe this spirit in their teaching of history.

Is History "True"? — Pupils should be made to see that there is no historical account of anything that has ever happened, that is absolutely true in all its details. No two witnesses of any event will tell exactly the same story. No two soldiers or officers, even, on the same side in a battle, would write the same historical account of it. It is absolutely impossible to tell the whole truth and nothing but the truth. It frequently happens, as Macaulay has said, that "one writer will tell *less truth* merely because he tells *more truths*." Consequently, an account by a particular historian of the battle of Gettysburg may not be true in its details. A southern historian does not see it as a northern historian does; and it behooves us to be open-minded and to hold ourselves ready to change our verdict if new facts should come to light. It is this spirit of open-mindedness as well as of truthfulness, of justice and of charity, which should be instilled in every lesson in history teaching. ∴

Method and Results. — We shall not go into a discussion here as to whether it is better to treat of all the different social currents in our history, up to a certain date, before investigating any one of them further; in other words, whether it is better to drive all of our historical horses abreast, or to drive some of them tandem. We would lay down no rule in regard to this. It might be well to change at times from one method of procedure to another.

Grasp of Movements in the Large: Samples. — But there are many topics concerning which the pupil should

have a fairly complete and comprehensive grasp when he has completed United States history in the eighth grade; that is, he should have an elementary understanding of such topics in their main outline and in true perspective. A few samples would be as follows:

1. Our territorial growth.

Here the pupil should be able to go back and give our acquisitions of territory, and the occasions and circumstances surrounding their purchase.

2. The growth of our population.

Here he should be able to explain the spread of our population westward across the Alleghanies from our earliest settlements on the Atlantic coast, and to correlate our population with our growth in territory as the generations and decades went by. He should understand the movement of population from foreign countries and the portions of our country in which different nationalities have settled. He should also be able to correlate with this information, the influences which each class of people has had upon our history.

3. The industrial and commercial progress of our country.

The pupil should be able to trace this in an elementary but definite way.

4. The growth of our science and literature.

He should have gained some knowledge of, and thus have an adequate tho elementary conception of this topic, according to his age and ability. In his reading he has been introduced, as we saw, to selections in literature from all our great authors. He would, of course, be interested in scientific inventions and discoveries and should have been made acquainted with art in its chief outlines.

5. The growth of political parties and religious freedom.

These would be interesting topics to have investigated and reported in systematic form. Great lessons in political and religious toleration might well be taught here and the impression

left upon the youthful mind that two things are especially repugnant to American thought and life, composed as we are of people of different races, nationalities, and religions; namely, extreme political partisanship and religious animosity.

6. Slavery.

It should appear at the end of the eighth grade that slavery has been the cause of discussion, of controversy, and of war from the time when slaves were landed upon our shores until the present time. Slavery is the thread on which nearly all our historical problems have been strung. Every pupil should be able to give an elementary summary or true account of the growth and decline of slavery, with the great conflicts that have been caused by it.

7. The Peace Movement.

School children should be imbued with the spirit of the Peace Movement. War has been, from time immemorial up to within a hundred years ago, the great business of mankind. Literally speaking, the chief occupation of man in ages past has been cutting one another's throats. With the growth of education and civilization thruout the earth, war in the twentieth century should become a thing of the past, notwithstanding the present deplorable explosion in Europe. All the peoples of the earth are brought closer together by the innumerable facilities for communication and transportation which now exist. Great ocean *greyhounds* cross the Atlantic in five days; time and distance are practically annihilated by the railroads, the telegraph, the telephone, the automobile, the flying machines, and wireless telegraphy. Peoples are brought closer together and as soon as they come to know one another they become friends. Even the Great War can not nullify this tendency and law. The subject of peace should be presented so clearly, sympathetically, and suggestively that children would become advocates of the peace movement. It is hoped that the rising generation may be imbued with the thought and the wish that the day may come "when the sword of international warfare may be laid upon the table of international arbitration."

CHAPTER XVIII

HYGIENE

Importance. — Hygiene is one of the most important subjects of the elementary school; for health, after all, is of more vital importance to human beings than any amount of knowledge or any degree of intellectual attainment. If it be true that it profiteth a man little to gain the whole world and lose his own soul, it is likewise true that it profiteth little to gain all knowledge and lose our health. And yet it is true that we are all somewhat oblivious of many things that are of vital importance, such as fresh air, sunlight, friends, contentment in our work, and physical health. When we are deprived of any of these, we are brought to a realizing sense of our great loss.

Hygiene Taught Topically. — The subject of hygiene may be best presented in oral form and at opportune times rather than by means of a regular textbook and set recitation periods. This is especially true in the lower grades. In the elementary school it is hygiene rather than physiology that should receive the emphasis, and there are so many problems forced upon our notice every day which could be treated with interest and profit in an oral and informal manner that a textbook would be in the way most of the time rather than be of any service to the teacher or to the pupils. After the subject

has been thus presented in the primary and intermediate grades it would probably be advantageous to round it out by a more consecutive and systematic study of a good textbook on physiology and hygiene.

Not Anatomy. — A generation or more ago when the schools began to act upon the adage that "The proper study of mankind is man," teachers began their instruction, not with hygiene, or even with physiology, but with the dry bones of anatomy. Pupils "named all their bones" and spent days and weeks upon the study of the structure of the human body. Such knowledge was of practically no use in real life, for none of it could be applied by the layman. Details of human anatomy were discussed which are known only to the physician, and indeed, which are forgotten by most doctors after they have left the medical school. Knowledge of this kind remains dead in the minds of children.

Nor Physiology. — A little later it was customary to make an extensive and intensive study of physiology, and systematic textbooks were introduced as low as the fifth and even the fourth grade. With the knowledge of anatomy and physiology thus obtained, pupils lived the same unhygienic lives as before; there was little or no fruitage in after years. The knowledge of anatomy and of physiology did not seem to function. It stopped short of the real valuable information which would result, in after years, in the maintenance of health and strength.

Knowing and Doing. — It is one of the lamentable facts connected with knowledge in all fields that it is not always or indeed often translated into conduct.

Everywhere we find theory without practice. Knowing and doing seem to be, to a great extent, divorced. And yet the chief reason, if not the only reason why we acquire knowledge, is that it may be of use or of service to us in some way in actual life. Knowledge is not an end but a means. The knowledge which a pupil should acquire in regard to his body and its functions should have as its end and aim good health and a wholesome life generally.

Hygiene. — It is not, as we said, a knowledge of anatomy or of physiology, on the part of the child, that leads to the preservation of health and strength. This is the specific field and function of hygiene, which has its roots, not in anatomy, nor in physiology chiefly, but in common knowledge, common sense, and common experience. There are hundreds of topics in hygiene which could be discussed, explained, and illustrated from the experiences of everyday life which need but the most elementary knowledge of physiology and anatomy as such. These are the topics that could well form the subject-matter for the teaching of hygiene without a text, thruout most of the elementary school. These subjects force themselves on us from day to day and could well be taken up one by one and presented clearly and forcefully to the pupils.

Clear Presentation. — In this, as in all subjects, a clear understanding on the part of the pupil and hence a clear presentation on the part of the teacher are essential to good results. Here, as elsewhere, hazy knowledge counts for little; it is clear, definite pictures that result in action and in conduct. A clear understanding on the

part of the pupils will tend strongly to express itself in actual life. A definite idea, a clear, imaginative picture, impresses itself, works itself out, and realizes itself in conduct and in life. And hence if each topic be presented in such a definite way that it will really awaken and impress the children and produce in them good resolutions, the end will have been accomplished. It will be impossible for them to forget knowledge of this kind, and hence they will be continually urged by suggestion to do what is hygienic and to avoid what has been shown to be harmful.

The chief aim in the presentation of every topic should be to make it so clear and striking that it will become a subject of thought and of conversation among the pupils and thus become a real motive in their lives. It would be better still if it stirred the parents and the community at large. There is nothing better than discussion to clarify and make effective any subject of study.

The Chief Topics Branch Out: Samples. — We shall discuss in this chapter only a few topics, as samples, under the principal divisions in the treatment of hygiene. In the classroom these will, of course, branch out from day to day into scores and hundreds of minor and subordinate topics. The teacher should be guided in her sequence by the correlations of the day and by the needs and the experiences of the pupils and the community.

1. *Respect for the Body.* — Children should be taught that their bodies are sacred things and hence deserving of the highest respect. They are temples of the mind or the spirit and should be treated as such. A person who

has a wholesome respect for his body is the person who has, as a rule, the most self-respect. Children should be taught that the body should be kept clean, that it should never be abused or debauched, and that it should be regarded as our most sacred possession. A sound body is the basis of a sound mind, and any abuse of the former, whether it can be measured or not, has its effect upon the latter. The teacher should select for illustration of this subject portions of the discussions found in the various elementary textbooks on hygiene in her possession. She will have, of course, on her desk several or many elementary texts on physiology and hygiene, and these may be used as source books in her work.

A poem like *The Living Temple* by Oliver Wendell Holmes, and other such selections, read here to the pupils and by them, in an intelligent and appreciative way, either in connection with the hygiene lesson or in the regular reading lesson, but correlated with this discussion, would be full of interest and profit. The old book by the Allens, called *The Man Wonderful in The House Beautiful*, was a wholesome and interesting allegory and the reading of it to the pupils would give occasions and opportunities without number for the teacher to instill into the pupils' minds a genuine respect for their bodies.

(a) Bathing. — In the discussion of "Respect for the Body" many subordinate topics will come to mind or be brought up for discussion by the pupils themselves. One of these, which I discuss here in brief, by way of illustration, is the subject of bathing. This subject, of course, should receive treatment adapted to the personnel of the school. Probably in some schools but little would

need to be said, for in those cases the children would be found to come from good families who, as a rule, practice cleanliness in all its forms. It should be shown, however, that the skin is one of the great excretory organs of the body. Waste matter which clogs the system is constantly being produced in the body, and this can find an exit only thru the pores of the skin; consequently, these pores should be kept open. This can be done only by frequent and regular bathing. Remarkable as the fact may be, it is true that many people and many children, not only in rural districts, but in large cities, scarcely ever bathe. If after a clear and plain discussion of the necessity of cleanliness in this respect such children could be induced to bathe even once a month, much would be gained. If those who now bathe once a month could be induced to bathe once a week, so much the better! If those who bathe once a week could be impressed with the desirability of opening up the pores as often as necessary — once every day or two — for the keeping of their bodies in a healthy and cleanly condition, a great work would have been done. Indeed, there seems to be a prejudice among some people against bathing. What the origin of it is we do not know: it may be a mistaken idea of modesty and of respect for the body; but if children could be made to see that it is by cleanliness rather than by filth that we cherish and respect our bodies, it would be a step gained in the teaching of hygiene.

(b) Sex Hygiene. — The question of teaching the hygiene of sex has been much discussed during the last few years. This subject should, it seems to the author,

be avoided by the ordinary teacher. Of course, if a child should ask his teacher for information or advice in regard to sex questions, it would be eminently appropriate for the teacher to give such information in confidence, but the discussion should be minimized and reduced to its lowest terms. The public discussion of sex problems before a class in an elementary school is an egregious blunder. If information be given privately and modestly to an individual when it is asked, it will be considered by that child a privileged communication, a secret to be kept in honor; but if such information be given indiscriminately, it is likely to spread out mischievously into vulgarity and incipient immorality.

2. *The Germ Theory of Disease.* — The germ theory of disease is one of those generic subjects which would radiate out into a variety and multiplicity of specific topics. The subject of germs should be presented in as vivid a manner as possible. These little organisms should mean something definite so that children will know what they are and what they do. Some of these germs are our enemies, but others are our friends. It should be made clear to the children that every so-called "germ disease" is caused by a specific kind of germ, that as this particular kind is taken into the lungs or the stomach or the blood they multiply at an enormous rate, producing waste matter that the system can not dispose of and thus causing fever. When these germs have run their course, — when their generation has suffered decay, — the vital forces of the body regain the ascendancy. It should be shown that the greatest enemies of these hosts of germs are sunlight and fresh

air and that, consequently, people should live in such conditions as allow and furnish the greatest fullness of these life-preserving and germ-destroying agencies.

As in previous cases, the author would here merely indicate by a few samples the direction which such discussions should take :

(a) Consumption. — Suggested by the foregoing, the dread disease known as the white plague, or consumption, should be discussed fully and freely. Consumption, it should, for example, be explained, is a form of tuberculosis — that form which attacks the lungs. Many old notions and prejudices in regard to consumption should be thoroly rooted out. Before the germ origin of diseases was known, and hence before the danger of consumption was realized, it was thought that this disease was not infectious and that there was no danger in coming in contact with it. Elderly people, even yet, sometimes feel offended if friends and neighbors show signs of fear and avoid their homes or their consumptive relatives. But consumption is exceedingly infectious and should be as carefully guarded in every way as smallpox or cholera. Pupils should be told just how the germ in consumption is communicated — thru the saliva or the matter ejected from the lungs, and hence often by the breath in close proximity. In the coughing paroxysms in consumption the germs in great numbers may be expelled from the lungs, and these, when they become dry and float in the air, may be inhaled by other people. If, however, the patient be careful to confine and burn the saliva and other matter ejected from his lungs, there is little danger to others from this source.

But eternal vigilance is the price of exemption. Tubercular germs may also be taken into the system thru infected meats and other foods.

(b) Typhoid fever is another of the germ diseases which is very prevalent thruout the country. Children in school should be on their guard against it. Thousands and thousands of people die needlessly every year in the United States of typhoid fever. Most of the cases come thru negligence or thru ignorance of the cause.

Some years ago the writer was discussing typhoid fever in a lesson on hygiene before his school. The disease was somewhat epidemic at the time in the neighborhood and he wished to put the children in a position to protect themselves and to prevent the spread of the disease in the community. He told the class that typhoid fever is a germ disease and that this germ propagates best in filthy or *foul* sources. He explained that these germs are taken into the system with such foods as milk and butter, which rapidly absorb the germs and form a good soil for them; that water contaminated from foul sources is probably the most fruitful cause of this fever. He then went on to explain that sometimes these germs get into the air and as spores are *breathed in*, or inhaled, and thus find lodgment in the system.

Here again we would warn teachers in regard to the imaginative pictures which children form during a discussion. The good teacher should always call back instruction to see if the pupils have a true understanding. He will often find conceptions which he has been trying

to convey very much distorted when returned to him. In the foregoing lesson on typhoid fever the word *foul* played havoc with one youth in the class; he had also noted that the germs were *breathed in*. When later the teacher called back the instruction in a test and asked "What is the cause of typhoid fever?" this youth wrote: "Typhoid fever is caused by breathing in of the fowls of the air!" This shows the necessity of making things clear.

(c) Lockjaw. — Another disease that is somewhat common, and very violent when it does occur, is what is known as lockjaw, or tetanus. The class should be told that this is a germ disease, but that the germ finds entrance into the system by means of a puncture in the skin. Frequently a boy steps on an old nail and the germ finds entrance in this way. The germ of tetanus is most frequently found in the soil or on rusty nails that have come in contact with the soil. If some of these germs are on the nail when it pierces the skin, they will increase and multiply in the body, causing extreme heat and swelling and such a stiffness that a person can not open and close his mouth. This is why it is called *lock-jaw*. When the disease progresses this far, it is extremely dangerous and frequently results in a painful death.

(d) Trichinosis. — This subject would lead to an interesting short discussion, and when effectively presented, might frequently result, we think, in the avoidance of danger. Trichinosis is caused by eating raw pork, which is often infected by little organisms known as trichinæ. When these permeate the system and completely fill it, a

person dies a protracted and agonizing death. Consequently, the danger of eating raw pork should be made plain to children.

(e) Flies. — An interesting and helpful lesson might be given on the common house fly and its notoriously unclean habits. Charts showing the construction of the mouth and proboscis of the fly may be easily secured. Flies visit sources of filth of all kinds and then, with their feet and bodies contaminated, they alight upon the foods on our tables, leaving there the germs which become a source of many diseases. Germ diseases of all kinds rise and fall with the number of flies and the ease with which they enter our homes and contaminate our foods. Children should thus be taught the necessity of exterminating the fly, and better still, the ways by which the fly pest may be prevented. It should be shown how individuals and families and communities should clean up all sources of fly propagation and should spread the good gospel of fly extermination. Children should be impressed with the truth that the fly is one of the great enemies of mankind, but that the fly can not be blamed if we cultivate him.

3. *Fresh Air.* — In the presentation of this topic, as in others, it is important to give some striking phase of it and to supply illustrations that will arrest the attention and arouse such interest as will result later in better living. It might be mentioned, for instance, that many people nail down and hermetically seal their windows during the winter so that no fresh air can get in anywhere. Indeed, the idea seems to be prevalent in some households that fresh air is a dangerous thing which

must be excluded by all means; that it is the cause of drafts and hence of colds in various forms. And so, the family live night and day, when they are not in the open, in a condition in which their lungs are being not only starved, but poisoned, for want of fresh air.

(a) *Unventilated Public Buildings.* — We have all noticed, on visiting an unventilated schoolroom, the blast of vile odor that strikes us upon entering the door. Those who are inside, of course, have become habituated to it and do not realize the condition. Most of the sickness and much of the inattention and lethargy, the drowsiness and headache, in many schools is caused by a lack of fresh air. Many churches, too, are lung-poisoning places. Many of them are without an efficient system of ventilation, and after the congregation leaves the building on Sundays the doors are closed and a churchful of foul air is preserved for the next meeting.

(b) *An Illustration.* — It could be shown by the teacher that a lighted candle placed in a closed box which will not admit fresh air will burn dimly and will go out for want of oxygen. A similar condition exists in many schoolrooms and other public buildings. There is not a sufficient supply of oxygen to feed the flame of life, and children go thru a process of lung starvation from week to week.

(c) *The Black Hole of Calcutta.* — To show the importance of fresh air, striking incidents like the horrible experience in "the Black Hole of Calcutta" should be told or read. It is necessary frequently to arouse and even to startle pupils in order to bring them to a realizing sense of what should be done. The Master's

method of teaching by parables and by illustrative material is best here, as in every other subject.

(d) *Breathing Exercises.*—A friend of the author says that when he was a young man, going to Yale University, he had to leave on account of what everybody thought was consumption. He went home, and he could read in the faces of the old ladies, as they came in to see him, the verdict that he was not long for this world. But he heard of a specialist in breathing exercises and went to consult him. This specialist, along with prescribing some medicine, gave him a program of breathing exercises. Paying but slight attention to the medicines, he proceeded to carry out his program. The first time that he made the attempt, taking in a long, full, deep breath, he grew weak and fainted, and had to be carried in. But he never gave up the idea that lungs are made for breathing; and so he continued with renewed energy but with more carefulness. After a few months he could allow two minutes to intervene between the beginning of an inhalation and the end of an exhalation. Standing before a vast audience, the very picture of health and strength, and bringing his right arm up and pounding his chest so that the sound could be heard thruout the room, he exclaimed, "There is no consumption there!" Children could hardly forget an illustration of this kind. Correct breathing could well become with them a habit, and such a habit can not fail to result in better health thruout life.

4. *Care of the Eyes and Ears.*—Much valuable information could and should be given to the children in regard to the care of the eyes and of the ears. In

fact, teachers themselves often remain oblivious or ignorant of the condition of their pupils' sight and hearing. Many children do not see well, and do not know that their eyes are imperfect. They do not see what is written on the blackboard and think that it is their own fault. Many children do not hear well, and do not know of this defect. Teachers should be constantly on the watch for defects of this kind in their schools.

(a) *The Lighting.* — It should be made plain to children that it is dangerous to read without sufficient light. The author remembers a sentence which he read in his boyhood days and which he has never forgotten. It is this: "A thoughtless hour of reading by twilight may impair the sight for life!" Statements like this and illustrations that are vivid are never forgotten and are very sure to result in better doing. The danger of front lights and of cross lights, constantly playing upon the eyes of children, should be guarded against by the teacher and should be clearly explained to the pupils.

(b) *Restful Colors.* — Useful lessons might be given, not only in the care of the eyes, but also in elementary æsthetics along the line of colors. Children and savages, as a rule, like loud and flashy colors and violent contrasts. Certain wall colors are injurious to the eyes if we are constantly subjected to them. The colors of the school-room should be neutral and restful.

(c) *Defects of Vision and Hearing.* — The children should be tested for near-sight, far-sight, astigmatism, and color blindness. As we said, many children have eye

defects of which they and their parents are entirely unconscious. It would be well for the teacher to have a set of what are called the Snellen Tests. Such tests are simple and could be made by any teacher. She could merely determine whether the child is afflicted with near-sight, far-sight, or astigmatism; and in such cases could tell the child or its parents. The children should be given sound advice as to what to do. They should be told to see a resident oculist or optician. Attention at the beginning may prevent grave trouble later. Defects of the eyes frequently cause headaches and other ailments of which neither the children nor their parents know the cause. Such useful information should be presented to children in as interesting a way as possible so as to arouse their curiosity and their desire for information in these matters.

The teacher should also test the ears of children. This may be done by a watch: if when one ear is closed to sounds, the ticking of a watch can be heard by the other about at arm's length, the hearing is normal.

5. *Care of the Teeth.* — The care of the teeth is also a very important subject and should be explained fully and concretely. The pupil should realize that his second set of teeth must last him all his life and hence that the teeth are worth taking care of and preserving by all possible means. In the old days, before the advance of dental surgery, the tooth which became troublesome was extracted; now the practice is to save it if at all possible, thereby increasing the masticating surface. Children should be taught that it is well to have their

teeth examined by a dentist at least once a year, and all defects or cavities filled. Frequently, tartar, a concrete substance, gathers on the teeth and pushes its way up under the gums. Children should also be taught that they should have a toothbrush and use it night and morning. A good mouth wash is simple salt water. They should also be taught, in the preservation of their teeth, not to crack nuts or bite substances that might injure the enamel. Reason and illustrations should make clear what the teacher is attempting to impress.

In the discussion of the teeth, as in all other subjects, the children will have many questions to ask and may furnish some good information. In any event discussion will help to awaken in their minds a clear knowledge of what to do or what not to do and a resolution to act accordingly.

6. *Exercise and Play.* (a) *Outside Games.* — This is another important subject from the point of view of hygiene. In the rural school, where the teacher controls the situation, she should see to it that the pupils learn to play a great many games. It seems to the author that children nowadays hardly know how to play. A generation ago there was a variety of games in which they all participated. One of the best things a teacher could do would be to interest the children in various kinds of plays. One of the pleasantest memories of the author goes back to the rural school playground where the teacher joined in all kinds of sports. The whole school should turn out after lunch and at recess and engage in play. If the community can be interested, so as to make the movement more extensive than the school,

so much the better. Races, horseshoes, baseball, tennis, basket ball, prison base, anything — even marbles have their merit.

(b) *Indoor Gymnastics.* — Nor should indoor exercises be forgotten. Frequently between classes fresh air should be admitted freely so as to attain outside conditions as nearly as possible, and the whole school should be put thru some energetic and really warming-up exercises for about ten minutes. The time thus spent is not time lost. If it is not possible to have regular outside games, there should be at least one and preferably two regular periods for physical exercise on the daily schedule.

Such exercises are needed in rural as well as in city schools, for the chief aim is to increase the circulation, develop fuller respiration, and aid digestion. Gymnastics rightly taught and engaged in tend to counteract the cramped position of pupils and overcome bad tendencies of sitting, standing, and working. *School Gymnastics*, by Harriet Trask, containing graded exercises, some games, and a few fancy steps, would be a great help to the average teacher.

(c) *What to Emphasize and Avoid.* — Good posture should be emphasized at all times. Many young people as well as adults have slight spinal deformities as a result of bad habits of standing and sitting. In all gymnastic work the head should be held up, the chest out, the shoulders back, and the feet together. The pupils should be taught the cause and the effects of round shoulders. It is not the looks, but the injurious effects on health that is most important. When the chest is

narrow and the shoulders round, the lungs can not expand so well, we get less fresh air, and the blood is not so well oxygenated.

Athletics and games which demand too severe a strain should be avoided, especially by girls. The health of many a girl, for example, has been injured by basketball work on account of a lack of care on her part and oversight on the part of those in charge. In the case of young children one individual should not be pitted against another. Contests should be in groups. If it be a case of jumping, the average for the group should be the standard.

7. *Alcohol and Narcotics.* — This is a subject which should be treated in a frank and sincere way and without exaggeration. It is probable that some of the textbooks during the last generation have made too much of this subject. Hygiene should be the unit, and both alcohol and narcotics should be subtopics under it. Sometimes the less said the better in regard to these subjects, if what is said is given in a friendly, sincere, and brief discussion. “If ’twere done when ’tis done, then ’twere well ’twere done quickly.” Long, drawn-out lessons on both alcohol and narcotics are sometimes analogous to nagging and scolding. The author is inclined to think that a personal example and the personal and friendly touch of the teacher is worth more than long discussions. All the facts in regard to both the cause and the effects should be presented according to the grade and the ability of the pupils, but the teacher should assume the attitude of the true teacher rather than that of the direct moralizer. The plain truth in regard to the influence of

alcohol and narcotics is more strange and more powerful than fiction.

8. *Miscellaneous Specific Topics.* — The author has thus far contented himself with merely giving a few samples of the presentation of topics in hygiene. Others without number will be suggested from day to day :

(1) The whole subject of *vaccination* should be covered in a simple, elementary, and concrete way, and the right impression should be left.

(2) The subject of *anger* should be discussed, and it should be shown that anger, or bad temper, indulged to a habit, results in a kind of souring process which generates a subtle poison in the body and militates against health.

(3) The *common drinking cup* should be discussed at length with all its attendant dangers.

(4) *Foods* and their relative values would make an interesting subject of discussion.

Other topics too numerous to mention, which the children or the lesson may suggest, offer subject-matter in hygiene that is rich, varied, and fruitful in good results when presented by the wide-awake and impressive teacher.

References. — The following books selected from a large and growing literature on this subject are good samples of valuable sources for the teacher :

Bancroft: *The Posture of School Children* (The Macmillan Co.).

Bancroft: *Games for the Playground, Home, School and Gymnasium* (The Macmillan Co.).

Cornell: *The Health and Medical Inspection of School Children* (F. A. Davis & Co., Philadelphia).

Dressler: *School Hygiene* (The Macmillan Co.).

Pyle: *Personal Hygiene* (W. B. Saunders Co., Philadelphia).

Rowe: *The Physical Nature of the Child* (The Macmillan Co.).

O'Shea and Kellogg: Health Series of Physiology and Hygiene (The Macmillan Co.). 1. *Health Habits*. 2. *Health and Cleanliness*. 3. *The Body in Health*. 4. *Making the Most of Life*.

CHAPTER XIX

THE TEACHING OF MORALS

Indirect Teaching Best. — In the teaching of good manners and good morals the writer is convinced that instruction should not be given in a formal manner, at regular specific times, or from a textbook. The occasions for driving home a moral lesson are innumerable. The teaching of morals implies a fine, intangible, and indirect influence which should not be cast in cut-and-dried lessons. Such teaching is one of the most difficult of arts, and to cast it into molds and deal it out at regular times, as in the case of arithmetic, grammar, and other subjects, would be to do violence to it. These latter subjects are best taught when pupils are most conscious of the content ; while morality is instilled more effectively in an indirect way and when pupils are least conscious that they are being moralized. If there be a definite period on the program for the teaching of morals, some, if not most, of the pupils will think and say to themselves, "Here comes the sermon again!" Neither children nor adults like to be lectured or preached at in this direct manner. The best time to bring a moral lesson to bear is when the occasion naturally gives rise to it. The time to strike is when the iron is hot, when there is a propriety in the lesson or the illustration. Indeed, it is best not to point the moral at all ; this will be inferred

by the pupils and has the best effect when they themselves draw the inference and silently make the application to their own lives.

The Moralizing Power of the Teacher. — The teacher's life is, after all, the greatest moralizing power in the schoolroom. Everything that he says and does and his whole method and manner of procedure are moralizing, either positively or negatively. Many teachers so impress themselves upon their pupils that a stranger who knows both could tell the relation: the pupil acts in so many ways like the teacher. Children may forget the specific lessons of grammar, arithmetic, geography, or history and yet carry with them thru life a vivid mental picture of an inspiring and enthusiastic teacher. Such a teacher becomes a model and an ideal. All his characteristics are in a measure transferred to his pupils: his manners, even, become theirs; his virtues influence their lives. This means that his qualities of mind and heart flow into their lives and become a part of them. A pupil can not come under the influence of a great teacher for any length of time without being morally impressed, morally formed and fashioned by him. Consequently the teacher should bear in mind at all times that his ways and his words are silently having their effect upon his pupils, who will act later in a manner quite different from the way in which they otherwise would. The true teacher realizes the importance of his calling; he feels that a responsibility rests upon him and that he is producing results in the lives of others, either in the direction of good or of evil. As a teacher can give only what he is, it is all important in the life of a

school and possibly of a community what kind of teacher is employed. The commonplace teacher will produce commonplace lives, both academically and morally; while the great, moral, impressive teacher will generate lives after his kind. If a teacher is sincere, truthful, honest, simple, just, sympathetic, and kind, these qualities will be evoked and developed in the lives of the children, and this is the highest kind of moral teaching.

The Moralizing Power of Schoolmates. — Altho the home is the greatest moralizing agency in the life and the education of a human being, since it impresses itself upon the child so forcefully during the early and plastic period of its life, probably the next factor in importance is that of companions. Children are imitative and suggestible in a high degree, and the companions, the group, the *gang*, or the school is most potent in the formation of some kind of character in each individual. There is safety in numbers, and especially in a school that is carefully supervised in regard to manners and morals. The greatest danger lies in the small group or gang. One bad boy in an hour can tear down more character than the home, the school, and the church combined can build up in a whole year. Hence it is that the teacher should be careful in regard to the play and the conduct of children upon the school-grounds during intermissions. The wholesome presence of the teacher should restrain evil and stimulate the good. The teacher, of course, should not be a too dominant factor upon the playground, inhibiting free activities or guiding them in too narrow grooves. While freedom

should be allowed, the presence of the teacher would be wholesome and should even be stimulating and suggestive of good activities. The school is, for each individual child, the larger world, the larger *self*, and is socializing, properly conventionalizing, moralizing. Some mothers who have children who rule the household wonder what the teacher will do when "Johnny" goes to school. But when Johnny enters, he is caught up by the spirit of the school and the crowd and is as meek and obedient as a lamb. He is changed from a conscious little egoist to an unconscious altruist. On the playground, too, he must take as well as give, and this is the effect, in every situation, of schoolmates, in the moralizing process.

Habits of Preparation and Presentation. — The ordinary subjects of study and their methods of preparation and presentation constitute an excellent field for the teaching of morals. If a pupil is taught how to prepare a lesson honestly so as to acquire the habit of studious, consecutive, and thoro work, this is in itself moralizing. If, then, at the time of recitation he forms the habit of explaining his work clearly and intelligently so that his recitation as well as his preparation will be, from first to last, an honest expression of his own individuality, he will feel not only the self-indorsement that comes from work faithfully and successfully done, but he will also have the commendation of his teacher and classmates; and this afterglow of work well done has an excellent effect in steadying a person to honest resolves. Hence it is that in the preparation and presentation of work the teacher should see to it that it is all

moralizing. In many schools the work is not only dishonestly prepared but deceitfully presented; and into the lives of children who are allowed to work in this way there must insidiously creep the habit of sharp practice and of slipshod work. The pupil who habitually copies from others and presents the work as his own, and the pupil whose aim is to get the correct answer or result by whatever means he can, are not being moralized in the true sense.

The Subjects Themselves Moralize. — Even the subject-matter itself of the different branches is conducive to morality when prepared and presented as above indicated. There is no subject in the curriculum which can not be made highly moralizing in the hands of an artist teacher.

(a) Arithmetic, for example, like all other branches of mathematics, is so accurate and clean-cut that of itself it compels a facing of the truth. It teaches the habit of clear thinking. In such a subject as arithmetic there is little opportunity for obscurity and for what is called "bluffing"; with the right kind of teaching the pupil must be honest with his subject, honest with himself, and honest with his teacher. It is a subject in which dishonesty is easily caught. Straight and definite thinking is in the direction of corresponding conduct.

(b) Language study is a subject which, of itself, has a tendency to improve the moral conduct of children if effectively taught; for language is closely connected with thought and feeling. One is easily judged in his thinking and often in his conduct by the words and language which he uses. Thought and language, as

we said, are intimately connected, and where there is accurate language there is usually accurate thought. Where thought and language are accurate there is less room for dishonesty in the personality. Clear thinking is directly conducive to moral conduct; many people do not do the right things because they can not think the right things; and while it may be true that conduct does not always come up to one's knowledge, it is true, nevertheless, that accurate knowledge is a concomitant and a cause of morality. Socrates went to the extreme and held that clear thinking is fundamental to morality, and Plato called ignorance the "lie of the soul." In fact there are few subjects which admit of so many moral lessons as do language and its elements — words and their meanings. Nearly all the great controversies of the ages and of to-day rest upon the ambiguity of words and of language. If people understood each other and the language that they use, there would be fewer quarrels, feuds, controversies, and wars. People often disagree and quarrel because the words and the language passing from one to the other do not produce accurate *replicas* of thought in the minds of each.

(c) Geography, too, is a socializer and hence a moralizer. Children become acquainted, if only in imagination, with other places, other countries, and other peoples. They are brought to know the manners, the habits, and customs, the ideals, and the modes of conduct of the peoples who live in other parts of the earth. And to know other peoples is, as a rule, to like them. The words *stranger* and *enemy* are the same in some of the ancient languages. Peoples who do not know each

other — who are strangers — are enemies. Those living on the other side of a river or on the other side of a mountain range have been enemies only because they have been strangers. Even to-day a boy from the country who comes into town is attacked by other boys only because he is a stranger. Now, to become socialized, to know other peoples, is, in large measure, to become moralized; and geography is a subject in which children are or should be introduced in a sympathetic manner to the various peoples of the earth, their manners, their customs, their occupations, and their stage of culture.

(d) The teaching of the elements of science, whether it be nature study, agriculture, physics, chemistry, or botany, is inherently moralizing, for it opens up to children the great realm of nature and induces in them a profound respect for truth and law. Science in its various phases is a great destroyer of superstition. The poor savage, when he goes forth and sees a comet or other celestial phenomenon which he does not understand, says to himself, "That means me!" When children are introduced to the why's and wherefore's in the great fields of nature, there is elicited in them a respect for law and a sense of reverence and of mystery in it all, which must awaken in them a moral attitude toward life and nature. The philosopher Kant said that there were two things which always inspired him with reverence and awe: the starry heavens above and the conscience within. If children could be inspired in any such way by being impressed with the great realm of nature and with the idea of a Divine Providence behind

it all, they are given an attitude which is in the highest sense moral and religious.

(e) The subject of history is an excellent one in which to instill into the minds and hearts of children a moral attitude. Here the lives of great people — the lives of men in times of a nation's trial and in times of peace — are held up before them and they naturally respond to the ideals presented. In the past the ideals embodied in the lives of warriors have probably been altogether too dominant. There are heroes of peace no less than of war, and the former deserve our attention and admiration quite as much, if not more, than the latter. In the city of Richmond, Virginia, there is a monument erected "To a Good Citizen." If such monuments were erected more generally thruout the country, such a practice would be in the right direction; for it is incomparably more difficult to fight the battles of peace and to win out in the race for good citizenship than it is to fight the battles of war. In history there is an excellent opportunity for a discussion of the right and wrong of every question and of the ideals presented in the life and character of every historic personage.

Here there is an excellent opportunity, too, to allow honest differences of opinion. This open-mindedness and toleration of the judgment of others indicates probably more than anything else the thoroly educated, cultured, and moralized person. In the study of history children can learn that another person's judgment may be challenged without in any way impugning his motives or denouncing him personally. Here the great lesson could well be taught that a person's judgment is not

himself, and that we may differ in this respect and yet lose none of our love or respect for him. This is difficult for the prejudiced, the ignorant, and the intolerant to understand. But in the educative process, sympathy, toleration, and large-mindedness are the very essence of morality.

(f) Reading is, of course, the great subject which furnishes material for the moralizing of children. Every day the teacher and pupils read selections that are real gems of thought and of emotion, and these selections, from the first grade to the eighth, many of them being memorized, form in later years a real gallery of artistic pictures hanging upon memory's wall. A person who has such a collection of pictures is better enabled to live a happy and successful life; for it would be vastly easier to live in conformity with the suggestive and beautiful pictures with which the mind is filled. They build up in us our ideals, and these grow with our growth and strengthen with our strength. Like the old familiar songs, they remain ever new, reviving in us our ideals and strengthening our resolves. Thus, the seeds of morality, sown in reading and its subject-matter, if duly cultivated, come later to flower and fruit in good deeds and good lives.

Subject-matters Ethicized. — In the Ethical Culture School in the city of New York, the moral element in each subject of study, such as geography, history, science, reading, etc., has been systematized so that moralization will be somewhat accented throughout the school. The school is organized with the ethical element dominantly in view, and it has exercised the function of selection and

rejection in the content of every subject. The school, owing to circumstances, is selective and rejective also in its patronage. The whole institution is permeated with the conscious ethical ideal. This is certainly an excellent thing. But this extent of systematized and conscious moralization is not possible in the schools thruout the country for many reasons. There is not sufficient like-mindedness, and teaching is not on a sufficiently high and professional plane. But it is quite possible for every teacher worthy of the name to single out and emphasize the ethical idea and the moral practice at all times and in every subject. In the last analysis it is the kind of teacher that determines the kind of school. Every teacher in the public schools should keep clearly in mind, whatever else is done or not done, that character in the pupils is, after all, the chief aim. The teacher is the guide who is supposed to have been over the road, to know the dangers and pitfalls in the lives of children, to be able to guide them carefully thru such dangers, and to hold up before them the goal toward which they are moving. The bee gathers honey and poison from the same flowers; and so the same subjects, in their treatment by the teacher, may serve either as a source of poison or of sweetness. The problem of seeing to it that morals and character issue out of every situation, surely but silently, should be always present in the teacher's mind or in the teacher's habit.

Good Pictures. — Beautiful pictures are a great factor in the moral education of children. As one can not live with a great personality for some time without being

influenced by it, neither can one live in the presence of a great picture without being impressed. In this age when the art of photography has been developed to such a high degree, even the poorest may have beautiful pictures. There should be a few good pictures in every schoolroom. Too many should be avoided as it makes against simplicity; it is not artistic to have a room literally cluttered with all kinds of pictures. A good picture serves as a continual uplifting suggestion. If "artists are nearest God," really fine art makes for Godliness. A school under the direction of a teacher of good taste will improve rapidly and wonderfully in artistic appreciation. If a child makes a picture book one year, the next year he will probably eliminate not a few of the pictures chosen the year before and replace them with others more artistic. The teacher who is a lover of art could raise the standard of her school rapidly in their artistic discrimination and appreciation of the beautiful. Beauty and goodness are closely related, and the person who loves the beautiful will also usually love the true and the good.

The Influence of Music. — As pictures are a great influence for good in the lives of children, music is probably more truly moralizing. A teacher who is in no sense a specialist may awaken in her pupils a love of music and cause them to enter heartily into the musical exercises. The immediate purpose of music is to awaken and refine the higher feelings and emotions. These in turn tend strongly toward the good. On the other hand, if the music be inherently or intentionally bad, it will conduce to that end. But, granted that music and song are

elevating and ennobling, they inevitably result in more refinement of character and more harmony of life.

It would be an excellent plan to have a phonograph and a variety of good records in every school. By this means the pupils may be accustomed to the best music. It will be found that their tastes can be transformed from a love of the frivolous and the worthless to a desire to hear only the finest selections. This is no small gain. As the art of photography has enabled schools to have copies of the finest pictures, so the phonograph has brought within the reach of all excellent reproductions of the great masters of vocal and instrumental music. In addition to this the faithful reproduction of the speeches of some of the greatest living people may be heard by the children.

The School Organization. — The organization of the school, with its rules and regulations and its management generally, is constantly impressing upon the children habits of regularity, punctuality, politeness, truth, honesty, economy, honor, justice, and, in fact, all the virtues. It is these things that constitute morality, and it is the ingrainings of these virtuous habits that constitutes character. A pupil is required by the rules of the school to be regular in attendance; he is made to realize that it is his duty to be present unless he has a good and sufficient reason not to be. He learns to feel that it is his duty to be there every day, and that if he is not, he should account for his absence. This is learning responsibility. He is also made to feel that it is his duty to be on time. In these matters he learns a sense of justice to his class, as well as duty to himself, to his

teacher, and to the school; he also learns, under pressure of the school spirit and without any direct compulsion, to be polite upon all occasions; he learns that veracity is necessary and required and that falsehood and deceit have no place in the schoolroom; he is taught to be honest with himself, with his schoolmates, and with his teacher; he is taught that honor is to be highly prized, and that no dishonorable thing is to be done; he learns that justice is a great virtue, that the square deal, both in the schoolroom and on the playground, is due to others as well as to himself. In many schools a savings-bank system is established whereby pupils are taught economy thru savings. In all of these things virtue is being built up in the life of a pupil. The teacher should recognize that children are not perfect; if they were, it would not be necessary to go to school. In the inculcation of these virtues the teacher should practice kindness rather than severity, for he can nourish them by love and kill them by sternness. When all these virtues are carefully watched, and when they are nourished in the children's lives, morality is having a healthy growth.

Watch for Defacements. — In carefully guarding the morals of the pupils the teacher should supervise carefully and constantly the condition of the closets and outbuildings. Teachers and school boards often neglect this. It may be due to modesty, but if so, it is a false and culpable "modesty." If these environments be not carefully watched, they may become sources of corruption for childhood. Parents would prefer to have their children grow up in their native wildness without such so-called "education" than to have their minds and hearts

befouled and debauched by the vile words, pictures, and insinuations which frequently meet the eye in such places. A hint to the wise is sufficient. This problem should be grappled in earnest, and no teacher and no school board should be derelict to duty in these matters; for, after all, it is character that is the chief aim in education; and a knowledge of arithmetic, grammar, history, or geography is a poor recompense for the loss of virtue.

By Reading and Telling Stories. — The telling of numerous stories by the teacher or the reading of them by the teacher and by the pupils may be made an important agency in moral education. While the regular reading lessons may do much, it is always well for the teacher to select some simple stories and to read or tell them effectively to the appropriate grade and at an opportune time. These will sink deeply into the children's minds and hearts and will bring forth in their own good time, fruitful results. I need give here only a few samples of what I mean:

Down in the primary grades such stories as *Little Red Riding Hood*, *The Boy at the Dyke*, *The Bunch of Sticks*, *The Boy who cried "Wolf! Wolf!"*, *The Dog in the Manger*, *Adam and Eve*, *Cain and Abel*, and *Noah and the Flood* might be told to the delight and moral edification of the children. Others would, of course, be selected from day to day and from week to week by the teacher who is in vital touch, ethically, with her pupils. Grimm's *Fairy Tales* and Æsop's *Fables* should be familiar to the teacher. Such stories are not problems to be solved and should not be analyzed or discussed — they are flowers to be enjoyed. The teacher who can

tell or read a story artistically, sympathetically, and effectively has a great power over children, and this means that both she and the story are transforming in their moral influence.

Farther up in the grades the teacher should read or tell many of the heroic incidents of the Bible. Selections from literature and history in regard to great patriots, legislators, or military leaders should be read or narrated. Plutarch's *Lives* should be read to the children, somewhere from the fifth to the seventh grade. Here the whole field of literature, ancient and modern, opens up, and the teacher who is a reader will have a fund of illustrations of moral significance.

A Collection of Literary Gems. — In addition to the regular reading lessons and the telling of stories or narratives that have become classics, it is an excellent practice for the teacher and the school, together, to make a collection of favorite literary gems of thought and to express themselves repeatedly in these selections. These may be taken from any source whatever, even clipped from the daily papers. It would teach the children to be on the watch for good and beautiful things wherever they may occur; it would also make them discriminating as to what is worthy and what is not. Selections might be chosen for consideration on special occasions, such as the Fourth of July, Thanksgiving, Christmas. Ella Lyman Cabot's *Ethics for Children* is a good collection of moralizing selections and should be in the hands of every elementary teacher.

If the teacher and the pupils should find themselves coming to school some morning in the midst of a beautiful

snow, the following short poem by John James Piatt could appropriately be given. They would then make it their own, and would ever afterward remember it. They would also recall the occasion on which they first made its acquaintance :

The wonderful snow is falling
Over river and woodland and wold ;
The trees bear spectral blossom
In the moonshine, blurred and cold.

There's a beautiful garden in Heaven,
And these are the banished flowers,
Falling and driven and drifted
Into this dark world of ours.

Such memory gems make an appeal to our minds and hearts that is especially moralizing.

If the children live in a prairie country, like the great Northwest, I should select some day the little poem by Hamlin Garland, called *My Prairies*, which runs as follows :

I love my prairies, they are mine
From zenith to horizon line,
Clipping a world of sky and sod
Like the bended arm and wrist of God.

I love their grasses. The skies
Are larger, and my restless eyes
Fasten on more of earth and air
Than seashores furnish anywhere.

I love the hazel thickets ; and the breeze,
The never resting prairie winds ; the trees
That stand like spear points high
Against the dark blue sky,

Are wonderful to me. I love the gold
Of newly shaven stubble, rolled
A royal carpet, towards the sun, fit to be
The pathway of a deity.

I love the life of pasture lands; the songs of birds
Are not more thrilling to me than the herd's
Mad bellowing or the shadow stride
Of mounted herdsman at my side.

I love my prairies, they are mine
From high sun to horizon line.
The mountains and the cold gray sea
Are not for me, are naught to me.

Mary D. McFadden's *Evening on the Prairies* would be an interesting companion poem to the above. *The Calf Path*, by Sam Walter Foss, and *The Heavy Past*, by Sidney Lanier, are two poems which illustrate the same moral lesson of slavish imitation, the former rather humorously and the latter seriously and inspirationally. John Boyle O'Reilly's *What is the Real Good?* and James Foley's *Town of No-Good on the River Slow* are examples of choice little poems that would serve as artistic moral lessons.

For patriotic selections might be mentioned *The Flower of Liberty*, by Oliver Wendell Holmes; Scott's *Love of Country*; Lincoln's *Gettysburg Address*; and Kipling's *The White Man's Burden*. In connection with the reading of Lincoln's *Gettysburg Address*, the little pamphlet entitled *A Perfect Tribute*, by Mary Raymond Shipman Andrews, should be read. Supplementary contributions to any poem or selection under consideration should never be neglected when they are available.

First, Prepare the Soil. — Before the farmer sows the seed he carefully prepares the soil; and when the seed is sown, he gives the young plants careful cultivation in every way possible. So it should be with the teacher in planting the moral seed thoughts which are found in beautiful selections. The minds of the children should first be prepared for the reception of the story; the teacher should give the pupils, in an informal way, the background of the selection, so that when it is told or read, it will find an appreciative response in the minds and experiences of the children.

Favorite Maxims. — Another excellent way of inculcating good morals is to have a list of what may be termed "favorite maxims." These will be memorized on one hearing, and can never be forgotten. They are pithy sentences, each of which contains a great moral lesson; and they will arise in one's thoughts as excellent illustrative material on all occasions in life. When we illustrate our thoughts by using such maxims, we give ourselves an impulse in their direction. I give only a few which may be added to indefinitely by the teacher and the pupils. None should be admitted to the accepted list unless they are truly worthy:

1. Cleanliness is next to Godliness.
2. Habit is ten times nature.
3. A good name is better than a good face.
4. The wages of sin is death.
5. Order is heaven's first law.
6. Birds of a feather flock together.
7. Nothing is so base as ingratitude.
8. Straws show which way the wind blows.
9. All looks yellow to the jaundiced eye.

10. It is never too late to mend.
11. It is always too late to be what you might have been.
12. Opportunity is always knocking at our doors.
13. Before honor is humility.

Short Biographies. — Biography is a great source of moral teaching; for ideals are thus held up before us.

“Lives of great men all remind us
We can make our lives sublime.”

Emerson says, “Hitch your wagon to a star.” The short and simple biographies of great characters become guiding stars; they are all important to children, and lead them on. They embody the human element to such an extent and in such a way that children are deeply interested in them. The subjects of these biographies are like themselves. They have had their childhood and youth, their weaknesses and their strength; and so the biographies of the men who have won renown upon the field of battle, in legislative halls, in literature, and in art should be read and re-read. The lives of men and women who have lived for the happiness and succor of others, like Florence Nightingale, Frances Willard, Jane Addams, and George Peabody, should not be overlooked. These would be powerful influences in the lives of pupils.

The School Spirit. — One of the greatest moral influences in the life of children is that intangible something called the “spirit,” or the “atmosphere,” of the school. It is that condition that prevails when everything moves smoothly, when no discords are felt, when there is an atmosphere of mutual love and respect

between the teacher and the pupils; when the latter are in such a condition that they are highly suggestible and will do, without hesitation, what the teacher intimates. Such an atmosphere or spirit transforms the pupils in harmony with it. It is socializing, moralizing. Thought and feeling, like water, seek a level, and they are constantly leveling up toward a great teacher.

Self-assumed Law. — When all the foregoing conditions prevail, the pupils begin to take laws upon themselves; that is, they begin to be self-governing. There is nothing more hopeful, as there is nothing more pleasant, either to the teacher or to the parent, than to see children assume laws in accordance with which they are to govern themselves. This is really the goal of the school. When children move in the direction of self-government; that is, when they take upon themselves laws to protect themselves against themselves, they are already well-nigh moralized, and indeed educated, in the true sense. The end and aim of education is to turn out self-governing, moralized, efficient human beings.

Morals in the Public Schools. — It is frequently charged that there is a lack of morality and of its teaching in the public schools. Such a charge is usually made by two classes; viz. those who are chronic faultfinders, whose minds tend to destructive criticism, and who belong to that class who stand around and ask why it is not done some other way; and, secondly, those who have selfish interests to further and who feel that the public free schools are impeding those interests and their own ambitions. The fact is that there are no schools so thoroly moralizing as those of the great public school

system. Here the teachers are not, as in private schools, subject to the whimsical beck and call of individual patrons. In private schools the teacher is subservient to the masters, who are the supporters of the school. She works for them. In the public school the teacher is an officer of the state and not a servant of a caste or clique. The great State stands back of her; and if there is one place where children who fear neither God nor parents outside the school have to submit to the moralizing processes indicated in the preceding pages, it is the public schoolroom. The public school has been called "Godless," but if religion pure and undefiled is proper conduct and justice and kindness to others, the public schoolroom is one of the most Godly of places. There is, it is true, less teaching of abstract, metaphysical, and denominational religion there, but as a consequence there is more genuineness and less hypocrisy. The highest religious ideals are assumed and granted by the public schools; just as these are assumed by our government and our political and social life. The public schools are anything but Godless or immoral in their ideals and motives, in their tendency, or in their results.

CHAPTER XX

THE SPECIAL SUBJECTS

The School, a Sample of Real Life. — There are several subjects which have become very popular in recent years and which have been introduced quite extensively into the elementary school. Some of them have what might be called a vocational bearing, and all of them are extremely valuable in making a vital connection between the school as it has existed in the past and life as we now find it all around us. The charge has frequently been made that the school and life are entirely separate and that the former does not prepare to any extent for the latter. Dr. John Dewey, a few years ago, wrote a valuable and timely little work called *The School and Society*, in which he maintains that the activities of the school are not typical of those outside. The school, he maintained, should be only a sample, or cross section, of real life and of the life of the child.

The Newer Subjects. — The subjects alluded to above are music, drawing, nature study, agriculture, domestic science, and manual training. These are usually taught by special teachers, but for the convenience and help of the general teacher, whether in the rural school or in the town or city, we give, all in one chapter, a brief discussion of each, and some specific directions that may point the way and guard against pitfalls and dangers in the method and procedure of the teacher in regard to them.

I. MUSIC

Importance. — Music is, without doubt, one of the most valuable subjects of study and of practice in the education and culture of a human being. It is fundamentally the expression of the emotions, and good music awakens and ennobles this part of our nature. Moreover, the feelings are the greatest motives in conduct and life, and hence the necessity of developing and of controlling them. A human being nearly always acts on account of his likes and dislikes, his feeling and emotions, and hardly ever from the mere dictates of his reason. We may flatter ourselves that we do thus and so, for *reasons*; but deeper down, below the reason, will be found, in nine cases out of ten, a motive in desire and feeling. It was Professor James who said, "What is the use of reason if we cannot give reasons for what we wish?" And it frequently happens that after a person has given various reasons for doing or not doing a certain thing it is evident to all others that his fundamental motive lies in his desires.

An Advantage in School Government. — Consequently, one who can teach music, and, better still, who can sing soulfully and induce others to participate, has a great advantage, a great leverage, in the government and discipline of a school. If a teacher is able to open her school in the morning by a rousing song in which all heartily join, the government of her school will be easier thruout the day. And it is incomparably better to end the school day with a good song, in which all will heartily join, thus sending the pupils home with a

feeling of harmony, than to close with injunctions, prohibitions, advice, or scolding. A singing exercise, both at the beginning and at the end of the day, in which all freely participate will be remembered in future years when the specific lessons in grammar, in arithmetic, or in geography will have been forgotten.

Not Merely Formal. — Whatever the detailed methods of teaching music may be, pupils should not be kept too long on the merely formal aspect of it. When children are learning to play on the piano, they wish to *play something* as soon as possible; and when children are learning to read music and to sing, they wish also to sing something. To keep children too long merely playing scales or practicing notes is likely to paralyze, if it does not kill, the musical impulse and spirit. Here as elsewhere the tool should be used in something worth while as soon as possible.

Not a Merely Feminine Subject. — There is need in America of a real musical renaissance. The sentiment is quite prevalent among boys that music is distinctively a feminine acquisition. Such a delusion should be dispelled, and the elementary schools of the country should take the lead in the disillusionment.

Should not be Discredited. — Accomplishments in music, vocal and instrumental, have been discredited by some high schools and colleges. A young person may have spent years in voice training and vocal music or on the piano or violin, but this has been considered of little or no educational value in the traditional curriculum of the school or college. What a commentary on our conception of educational values!

The Proper Procedure. — In beginning the teaching of music it would be advisable to secure some good songs which would recall the living experiences of the pupils. These could and should be taught by rote. Children should learn to enjoy singing as an expression of their lives before the technical details of notation are presented. Notation should not be presented till the pupils have become acquainted with the musical elements to which names are then given, such as rhythm and pitch. As everywhere else the real thing should precede the symbol or the name.

What to Avoid and Emphasize. — Songs and music that are too difficult from a musical point of view should be avoided. This caution obtains not only in regard to songs, the words of which do not find a response in the life experiences of the children, but also to those musical compositions which are altogether too classical and too difficult of appreciation for any but the musically trained. Music should be developed as one of the natural forms of expression. While music and song should always be such as to elevate and refine the emotions of childhood, they should also be within the range of the children's appreciation and liking, so that they will enter into the expression in a whole-souled manner. Musical notation is only a means to this natural expression of life. In the teaching of music the rhythm and the phrase should be emphasized as the unit — the sentence rather than the word.

Materials and Equipment. — In the grades of the city school an appropriate series of books will, of course, be used. Music should be graded just as is reading,

arithmetic, or any other subject. Herein lies the difficulty in the rural school. But even here a teacher of tact can make a combination of the rote singing of the old familiar and ever enjoyable songs with lessons on musical study and notation which will put the pupils in possession of the musical tool. The reading of music is analogous to the reading of English—it is acquiring the ability to gather and to appreciate the musical content by means of the symbols. A piano or organ and a phonograph should be a part of the school equipment. If a lively interest in music be generated in the school and the neighborhood, there will be little difficulty in securing these instruments, either from the school board or by means of entertainments given by the school, to which a nominal admission is charged. Voluntary subscriptions will not be lacking under good leadership.

The Aim.—The chief aim of musical study and musical expression is the development of character thru the refining and the ennobling of the emotional nature. It is chiefly thru this side of our nature, as we said, that we are all motivated in our lives and conduct. The special and technical aim should be to read music intelligently. Herein it is similar to the reading of English.

II. DRAWING AND ART

The Danger of Formalism.—Drawing, also, in its various phases, including as much of color work and art generally as is possible under the circumstances, is a most important subject. Too frequently, it is true, it remains a formal, perfunctory, deadening exercise, just as writing does. This subject used to be taught chiefly

by means of drawing books, just as was the case with writing, by means of copy books. The drawing was merely copying the specified figures and forms in the books. There was no element of art or of life in it.

Drawing, like music, should be an expression of the personality. As singing is an artistic vocal expression, so drawing, in order to be artistic, should be an expression, *in form*, of the beautiful. The artistic impulses are in every normal human being; but they need to be awakened and cultivated in order that they may come to flower and fruit.

Content Needed. — As the study of music should soon result in the playing of tunes or the singing of songs, so drawing should rapidly progress into the attempt at the artistic expression of the beautiful as it exists all around us. If a person has had “drawing,” so-called, for several years, and can not step up to a blackboard and represent, in reasonably accurate and artistic form, the beautiful as it exists in flower, bird, animal, or man, it is of little use to him or to any one else; it has never ripened. The teacher who can express in the presence of his pupils the beautiful as it exists all around him, and who can elicit in them both the desire and the ability to do the same, has, like the teacher of music, a wonderful advantage over the teacher who has no such accomplishment.

The Aim. — The aim of drawing and art work generally is the development of one phase, and that a most important one, of the life and capacity of the normal child. This cultivation should conduce, among other things, to greater accuracy of observation, a better visual memory, a love of the beautiful, power to express it,

manual skill, originality, neatness, order, and some knowledge of the well-known works of art.

The Equipment. — As is the case in every subject of study, good results can not be secured in drawing and art unless the teacher and the pupils have the necessary materials and equipment. A science teacher can not do justice to his pupils unless he has adequate laboratory facilities. Drawing and art work, generally, are essentially laboratory subjects. As the name implies, the *doing* is their very essence. To attempt to teach such subjects by talking *about* them or without the various materials needed for the pupils is simply to spoil the subject and destroy a taste for art in the pupils themselves. The following specific mention of some of the materials needed may indicate the range and variety of supplies necessary to good work in the field of visual art and design :

1. Paper of various kinds and colors for design, construction, mounting, water color, crayon, ink, and pencil, as designated by any good manual on this subject.
2. For water-color work : Prang's water-color box No. 3 A (containing red, blue, yellow, and black), pan, and cloth.
3. For crayon work : Prang's Crayonex No. 3 (with eight colors).
4. For construction : scissors, paste, and rubbers.

Care of Materials. — All materials should be handled in a systematic and orderly way. The teacher should care for the paper and distribute it at the beginning of each lesson ; she should plan the size, to avoid waste. Scissors and materials used in construction should be in

her keeping. The children might care for their own paint boxes. Pencils and crayon should be collected at the end of each lesson.

Topics. — The following topics in art education are suggested to indicate the range of the work. These would be developed and presented as the pupils and the grades demand :

(1) Nature work, (2) Object drawing, (3) Design, (4) Color study, (5) Construction, (6) Pose, (7) Landscape, (8) Illustration, (9) Picture study, and (10) Perspective. In the presentation of these, the more natural and real the situation and the work, the better.

Sources of Information and Supplies. — It would be advisable for the teacher to have the catalogs of the Prang Company, Chicago; The Milton Bradley Company, Springfield, Massachusetts; Thomas Charles, Chicago; Metzger & Grover, Boston; and to write the Waldcraft Company, Indianapolis, Indiana, in regard to dies, blocks, and stencil materials.

III. NATURE STUDY

Importance. — Nature study, so-called, is another interesting and, indeed, fascinating subject. Nature is full of beauty — in stone, in leaf, in flower, in bird, and in animal. The school life of the child, too, is the period when the senses are most widely awake and when observation is naturally keenest. Consequently, this is the period when all the senses could most easily be cultivated and habituated to become keenly observant of the ways and of the beauties of nature. A teacher who has some knowledge of nature in her various forms has

here also a great advantage over the teacher who has no such ability. All children like to know the names and the ways of the things of life around them. Flowers, insects, birds, and beasts arrest attention and enlist their interest. When these are once awakened, the problem of school discipline is solved. And when the right atmosphere and spirit are thus generated, pupils become highly suggestible, and the instruction of the teacher becomes acceptable. When this mutual cordiality prevails between teacher and pupils, the educational process is most natural and effective. Nature study is a large factor in generating such a spirit and atmosphere.

Not Microscopic. — Nature study should be the observation and investigation of things *in the large*. If it descend to the microscope and the dissecting knife as its chief means, it is doomed. Many teachers kill all interest in nature study by being too "scientific," by having pupils live and move in a microscopic world rather than in the ordinary world of the senses. They forget that all children begin with things as wholes, and proceed by study and analysis to the elements. Scientists arrive at the elements after long study and experience; but to have children begin where the teacher is, is an old and vicious practice of the schoolroom.

The Aim. — The aim of this subject should be to cultivate an enthusiastic interest in nature, to develop an intelligent appreciation of her wonders and a capacity to enjoy her varied charms and her wonderful art. It should train the pupil in accurate observation and correct interpretation of his natural environment, and

should tend to careful, attentive, and accurate generalizations. In connection with the subject the child is trained in accurate description and in the making of illustrative drawings to assist his language.

First-hand Knowledge. — In nature study the child should get an increasingly accurate knowledge of his physical environment. Such first-hand knowledge is vastly superior to information gathered from books, for it is actual, concrete experience and not the faint copy so often secured from the mere symbols. It is of great value as a basis for the interpretation of other studies. Perhaps the most important consideration here is the formation of the habit of learning directly from nature, not only by observing her in her more usual aspects, but also by putting our questions to her in the form of experiments and then noting results.

Specific Subject-matters. — Specifically, this study should give the child the ability to recognize and name a variety of trees, shrubs, flowers, grains, grasses, vegetables, weeds, domestic animals, and wild animals, including birds and insects. It should make him acquainted with the habits, life history, economic and æsthetic value, and the harmful nature of many of these.

SOME SOURCE REFERENCES

- Wilson: *Nature Study in Elementary Schools* (The Macmillan Co.).
Cummings: *Nature Study by Grades, Teacher's Book* (American Book Co.).
Coulter and Patterson: *Practical Nature Study* (Appleton).
Jackman: *Nature Study* (Henry Holt & Co.).
Long: *Wood Folk at School* (Ginn & Co.).

IV. AGRICULTURE

The Nation Awakens to its Importance. — The subject of agriculture is one which has been receiving a great deal of attention within the last few years. It is being realized everywhere that agriculture is the foundation of our national prosperity, for agriculture is the source of most of the products which sustain life. It is being realized more and more, too, that the cities have grown in population much more rapidly than the country; that, as a consequence, the consumers are increasing in number out of all proportion to the producers; and hence we have the "high cost of living." The national realization of this condition has resulted in an agitation in behalf of the teaching of agriculture in all grades of schools thruout the country. Every state and the nation itself has just awakened to the importance of this subject.

Competent Teachers Needed. — The teaching of agriculture is somewhat fruitless in most places, for the number of teachers who have sufficient knowledge of the subject and experience in farm life is as yet very limited. If a person has to study arithmetic for six or eight years in order to be able to teach it, how is it possible to give a closely knit and consecutive course in the great field of agriculture and its allied sciences and arts after a comparatively brief study of a textbook in this subject? It is the superficial treatment of this subject that is to be feared. It is true, of course, that when new subjects are first introduced into the school curriculum, we must take such teachers as are available. It is poor teaching in the new subjects that discredits them.

We allow and accept teaching in agriculture which would not be tolerated for a moment in Latin, algebra, or geometry.

Poor teaching, in the transition stage, may perhaps be excusable in view of the future. It may be a necessary stage in the development of the subject or in the progress of professional preparation. But the pupils must suffer. When a subject is made distasteful, pupils may be injured instead of benefited by it. It is to be hoped, however, that courses in the teaching of agriculture will increase in number and in richness and that this subject will soon be taught as efficiently as any other.

What to Avoid. — The teacher should not give her pupils the impression that in the city it is not necessary for people to work hard and that there a life of ease and of pleasure awaits everybody. She should not continually and exclusively hold up for the admiration of her pupils the career of politicians, military heroes, professional men, and captains of industry, to the disadvantage of the more prosaic life on the farm.

Rural Life in the Proper Sight. — The teacher, whether in the city or the country, should, on the contrary, cultivate an attitude of respect for the farmer's calling and life and an appreciation of its many advantages. The school should create and foster an interest in the problems of farm crops, live stock, and farm management, and in the betterment of social and educational conditions and of farm life in general. To aid in fostering this friendly spirit toward the farm, the school should give some acquaintance with books, bulletins, and

periodical literature which deal with agriculture and rural life and which will cultivate an interest in these.

Some Specific Topics. — More specifically, the school should give some knowledge of the different kinds of soil, the importance of humus and of fertilizers, the purposes of cultivation, the need of diversification and crop rotation, and the conservation of moisture and of fertility.

It should also give some acquaintance with a good variety of farm animals, crops, vegetables, trees, shrubs, flowers, and the relative merits of each, particularly such as may be found in the vicinity. Pupils should also learn about the enemies of the farm, such as weeds, the common plant and animal diseases, insect pests, and methods of treatment.

Farmstead Conveniences. — The school should also cultivate an interest in good plans for the farmstead, and should give some knowledge of these, including the location of the buildings, a windbreak, grove, orchard, ornamental shrubs, and a vegetable and flower garden; likewise the chief conveniences needed to make the farm home more sanitary, convenient, comfortable, and pleasant, such as water supply, sewage system, bath and toilet room, heating and lighting systems. The aim should be to make children familiar with the essentials of a good farm home, a home that the farmer's family may reasonably be expected to love.

REFERENCE BOOKS

King: *The Soil* (The Macmillan Co.).

Wilkinson: *Practical Agriculture* (American Book Co.).

Bailey: *Principles of Agriculture* (The Macmillan Co.).

Goodrich: *First Book of Farming* (Doubleday, Page & Co.).

Liggett: *Rural School Agriculture* (McGill-Warner Co., St. Paul).

Warren: *Elements of Agriculture* (The Macmillan Co.).

Weed: *Farm Friends and Farm Foes* (D. C. Heath & Co.).

Fisher and Cotton: *Agriculture for Common Schools* (Scribner).

Upham: *An Introduction to Agriculture* (Appleton).

V. DOMESTIC SCIENCE, OR HOME ECONOMICS

Its Value. — Domestic Science is another of the new subjects introduced into most schools within the last few years. This is fraught with much promise. There seems to be no reason why girls should not acquire — in school, if not at home — a proficiency in both the science and the art of housekeeping and home-making. Like most other subjects, it has had to fight its way into the schools, but at last it has won the “right of domicile” alongside of the old-line branches. Like many of the newer subjects, it has often been discredited, being charged with being merely a bread-and-butter subject. But while bread and butter is not the only end in life, it is at least one aim of the majority of people. There is no reason why a subject which is directly practical in life and in living should not be at the same time educative and cultural if presented in the right way and by the right kind of teacher. Our schools have been under a strange obsession, fostered by an erroneous idea of “culture,” that a mere show of a foreign language or a study of ancient Egyptian art, for example, is educative for girls but that the science and the art most essential to the home and the family are not.

The Aim. — The aim in the teaching of home economics is to give the pupils a knowledge and an apprecia-

tion of what society has done and expects in this field, to raise standards of personal living in its various phases, and to enable the children to do for themselves and for others more efficiently. It not only helps to make a living, but it should help to live more completely. It tends to dignify work and to impress the great truth that labor is a blessing and not a curse. It helps to trace, from savagery to civilization, the progress of events connected with the family fireside and the family board. It gives the occasion and the opportunity to feel the joy of expression thru the hands.

What can be Done. — Girls could and should be taught in any elementary school, rural or urban, the various phases of needlework, beginning with the most elementary exercises. Pupils should come to feel quite at home in the hand and finger manipulation of the ordinary tools and materials. This is a matter of habit, and this habit should be fairly well ingrained in the school years. Some study of the principal textiles should also be made. As in other lines, the study should be productive of real results. Actual things should be made, beginning with the simplest.

In rural schools where the children do not go home for lunch, some one wholesome and hot food should be served each day to all. In the preparation of this the girls, one by one or in groups, may be called upon; thus to help and serve will be a greater pleasure and honor than to be served. This plan creates an interest in foods, and some new fact or principle will be brought to light each day. It gives a basis for teaching the value of foods and their uses in the body. It will add cheer to the

school in several ways. The children need something warm, especially since most of them had an early and light breakfast. It also adds the social and the sociable element to the school family.

Such occasions afford the teacher an opportunity to give some specific hints and directions in regard to lunch boxes or baskets, their cleanliness, the variety of contents, etc.

Equipment and Material.—For cooking purposes a two-burner gasoline stove can be purchased for \$3 and a one-burner for \$1.50; two-burner *Perfection* kerosene stove for about \$8 and a one-burner for \$5. A one-burner kerosene stove which answers the purpose very well may be secured for \$2.50; a one-burner oven for \$2.50.

There will also be needed a kettle, a double boiler, a long-handle spoon, and a long-handle dipper. Each child should provide his own cup, spoon, and paper napkin.

Cereals, beans, peas, etc. are recommended; milk will make these palatable and nutritious; they can be made into gruels, mush, and soups. The teacher, the pupils, the families, and the Board in conference should solve the problem of furnishing the supplies.

REFERENCES AND SOURCES

- Williams and Fisher: *Elements of the Theory and Practice of Cookery* (The Macmillan Co.).
Kinne and Cooley: *Household Management* (The Macmillan Co.).
Kinne and Cooley: *Shelter and Clothing* (The Macmillan Co.).
The Dress Maker (Butterick Fashion Co.).
Agricultural Bulletins: Nos. 34, 142, 256, 301, 413, 487. (These may be secured by writing to The Department of Agriculture, Washington, D.C.)

VI. MANUAL TRAINING

Value of Expression. — It is now generally admitted that even for so-called liberal and cultural education the hand and its work are great avenues of approach. The brain is awakened by hand processes; and manual training offers a great field for construction and for ingenuity of all kinds. The hand is our most expressive organ and our most efficient tool. Boys and girls like to *do* things, especially things that seem to them worth while. They like to see the products or fruits of their own labors; and hence both domestic science and manual training are subjects which awaken a lively interest and a concentrated attention. It is only within recent years that the whole significance of *doing* things in all these special lines has been realized. Every nation which has come up toward civilization has come up thru and by means of work. The child must travel in large measure the same road. Manual training, like domestic science, suggests respect for labor of all kinds. It keeps in school boys who would otherwise leave; and it makes easier the problem of school government by furnishing a legitimate outlet for surplus energy.

Correlates with Life. — Manual training, like the other expressive subjects, brings pupils into closer contact with the life around them. In after years these subjects will cause pupils to energize efficiently in society. The teacher who is somewhat proficient in these lines is more likely to command the respect, the admiration, and the following of youth. We may study Latin,

modern languages, mathematics, social or natural sciences, and yet, in after life, these lights may remain somewhat hidden under a bushel. They do not always energize or function. And so, while we would not urge the so-called "doing" to the exclusion of the knowing subjects, nevertheless, the former should not be neglected. There should really be no controversy between the two classes. The efficient person is the one who can do things; and it is true that there may be a kind of knowing without this ability to do.

Scope. -- Some kind of manual training should be found in every grade of the elementary school, whether urban or rural. In the lower grades it should, like language work, geography, and morals, be correlated with other subjects. Tho called "busy work," "construction," paper and cardboard work of all kinds, it is, nevertheless, manual training. As we ascend in the grades, however, the work should become more and more what is specifically and technically called by this name. Coping-saw work and the use of many simple tools could well be introduced as low as the fourth grade. The making of book covers for notebooks, and bench work of various kinds, could be done in the sixth, seventh, and eighth grades.

Equipment and Room. -- In these days, under the laws of the state and the rules and regulations of state boards, there are certain requirements in regard to heating, lighting, ventilation, and architecture generally. Consequently, the newer schoolhouses, even in the country schools, have good basements. In such cases the basement would provide a good room for manual

training and for the tools and materials needed. All the simple but necessary tools should be provided, and this workshop would be a center of interest and inspiration. Even the smaller children, who would be permitted to watch and to carry out their little projects, would be greatly benefited, not only by their own activity, but by imitation and inspiration due to the presence and the work of those larger and more advanced.

One bench and the necessary tools would cost about \$25; each additional bench, about \$15. If there is no such room or equipment in the school, the conditions are, of course, adverse; but even then the good live teacher will be likely to find a way or make one. In cities provision is made, if at all, for systematic manual training by the school administration; if there be no such provision, each teacher is left to her own resources and ingenuity. But even then, much can be done: — where there is a will there is a way.

REFERENCES AND SOURCES

- Buxton and Curran: *Paper and Cardboard Construction*.
Ben Johnson: *Coping-saw Work*.
Henry Turner Bailey: *Booklet Making*.
Griffity: *Correlated Courses in Woodwork and Mechanical Drawing*.
Griffity: *Essentials in Woodwork*.
Van Dusen: *Beginning with Woodworking*.

The last named sets problems and gives directions for their working out. This plan works very well where the teacher is busy with other classes.

All the above-named books are handled by The Manual Arts Press, Peoria, Illinois.

VII. WAKE UP MIND

An Important Period. — Every teacher should have an occasional short period in which the chief aim would be to wake up mind. Mr. Page, in his old classic called "Theory and Practice of Teaching," devotes a portion of a chapter to a discussion of this subject. It is as timely to-day as it was then. Such a period brings the attention of the whole school to a focus. Minds as well as bodies "touch elbows," so to speak, on such occasions. A problem is thrown out for solution and all grapple with it. If the teacher propounds the problem or asks the question in such a manner as to indicate that he himself has not full knowledge of it, — that he too is wrestling with it, — it would awaken all the more interest and attention. The author remembers with keenest relish such periods given by one of his teachers many years ago. There was probably no exercise in that school that did more good than such problems and questions, taken, as they were, from any source under the sun. Such topics tend to knit the school into the activities and interests of everyday life, for they bring the school and life together. This would be real teaching and the true school.

A Few Sample Topics. — We submit a few samples of the kind of topics suggested. The teacher and the pupils would add others without number:

1. What makes the wings of a windmill turn around?
How?

2. What makes the weathervane point to the wind?
How?

3. What makes the water sprinkler on the lawn turn around? How?

4. Why have large sections of country which were once covered with water and which contained numerous sloos and swamps so dried up that there are fields now where water once stood?

5. Why do farmers cultivate corn? What does cultivation do?

6. If one should go due northeast continually, where would he come to?

7. Why is it that people are growing corn much farther north than was possible formerly?

We need not continue the list which the pupils should help make. They should be induced to give all the reasons, *pro* and *con*, in regard to the problem under discussion: in fact they could not be restrained from so doing. Such exercises wake up and clarify the mind.

Contagious Interest. — Such problems, it is true, may be specially appropriate for the larger pupils, but it is wonderful how the younger children will catch the spirit of the older ones. Indeed, what has been called the "overflow of instruction" is one of the potent educative factors in rural schools. The smaller pupils listen to the larger ones reciting their more advanced lessons and learn a great deal from the discussions. In a particular grade of a city school all the pupils are of the same age and degree of advancement; there are no subjects discussed which are above their own level. The consequence is that there is a tendency to monotony. An ungraded school has many incentives and invigorating

exercises in which both the older and the younger pupils participate. Thought is aroused not only in the school but frequently in the whole neighborhood. To stir up thought, conversation, and helpful discussion among the patrons and people of the community is not the least important aim of the teacher and the school.

CHAPTER XXI

METHODS IN SCHOOL MANAGEMENT

Importance. — The foregoing chapters have been devoted to fundamentals in the methods of teaching the various common school subjects. This would seem incomplete without a short discussion of some of the fundamental methods in the management and government of a school. It is our manner and methods of school management that determine to a great extent our success in instruction; for if a school is not well regulated and controlled, the pupils will not be in the best mental condition for the reception of knowledge, for the proper emotional response, or for the acceptance of suggestions in regard to conduct. In this chapter it is not our aim to give a comprehensive discussion of school management, but merely to offer a few suggestions in this direction in order that teachers or prospective teachers may project the direction of their further progress and success. If one puts down only two stakes, he can then see the exact direction of other positions ahead, in a direct line; and so we give only a few points and allow these to indicate the general direction and character of procedure.

A Good Letter of Application. — Many teachers, as we said in our lesson on language, are unable to write a good application for a position. Such applications

often contain inherent weaknesses and indications of a lack of ability in various ways. Many such applications find their way into the wastebasket of the school board. From indirections the board finds directions out.

Contract. — Before beginning a term of school a teacher should see to it that her contract has been formally made out and signed, where the law requires such a contract, as is the case in most states. No loophole should be left by the teacher or by the school board for dissatisfaction or for evasion of the fulfillment of the understanding. When room is left for either party to withdraw from the terms of a verbal contract, each one invites such a withdrawal. Altho the word of each party may have passed, a written contract, when required by law, should be duly signed and a copy given to each party.

In this connection we would say, however, that it is not only professional ethics but ordinary morality that when one's word is given he is in duty *bound*, whether a written contract has been signed or not. Many complaints are justly made by school boards in regard to teachers for thus breaking their word, which should be as good as their bond. On the other hand, many teachers have just reason to complain of the treatment of school boards in regard to understandings and verbal agreements. Such things should not be.

Go in Time. — A teacher, especially in the case of rural districts, should go into a neighborhood a day or two ahead of the opening of school in order to secure a boarding place and to become acquainted with some of the people and children of the neighborhood. She

will thus get "the lay of the land" and will be better enabled to realize the situation which lies before her. Just as we develop in children's minds an apperception mass to make them interested in what is coming and to aid them in making further progress, so the teacher, by becoming a resident of a district a day or two in advance, will create in her own mind and in the minds of the people in the community an educational apperception mass that will be of inestimable value to her in launching and carrying on her work in that neighborhood.

"Get into the Game." — Every teacher should, to use a popular phrase, "get into the game" in the community. She should not have in mind the idea of returning home Friday evening, the earliest opportunity, and of remaining there until Monday morning. The community may tolerate this once or twice without complaint, but if such a practice becomes chronic, the people have good reason to think that the teacher is there merely for the money that is in it, that she is a visitor and a stranger in their midst, and that her heart and her thoughts are elsewhere. That teacher who immerses herself in the life and activities of the people, who participates in their doings, who visits their homes, and who assumes leadership wherever feasible among the people and the children, can do most good in a community. They will then consider her one of themselves instead of regarding her as a stranger who comes to them for a few days' work and goes *home* whenever possible.

The First Day. — The first day is probably the most important one of the whole term. The pupils do not go

to school the first day to study their lessons but to study the teacher; and the teacher does not go to school the first day primarily to teach lessons but to study the children and to become acquainted with them. Consequently, the teacher should "put her best foot forward" the first day. She should be busy and cheerful and should see to it that the "ball is kept rolling." Time should not be allowed to drag, lest faultfinding may find a place. The teacher should learn the names of all the children, the point reached in their various studies, and all other important facts in regard to them and their work. She should give evidence of being sociable and should make it plain that she is their friend. The first day she should endeavor by all means to secure a strong party, if not all of the school, on her side. For at the end of the first day the pupils will leave the schoolhouse either with favorable or unfavorable comment upon their lips. If they leave the schoolroom the first evening as friends of the teacher, nothing but good words will be spoken of her on the way home; but if they depart dissatisfied and hostile, the teacher will have great difficulty thereafter to reverse such a trend of thought and discussion.

Masterfulness. — If a teacher be strong and tactful, she will show it in her whole bearing and in all her movements of the day. Her masterfulness will appear at every turn. The pupils will realize immediately that the schoolroom is not a simple democracy, but that inside its walls the teacher is the legislative, executive, and judicial authority. But the teacher will not be an unreasonable and unreasoning despot; she will be firm and

just; and there are no two attributes that children love more. Consequently, if some pupils come to school possessed of the idea that they have inherited rights, — a kind of preëmption right, — for example, to certain seats, — they should be at once kindly but tactfully disabused of any such notion. The teacher should seat the pupils at once according to her own ideas of fitness and propriety; and every pupil should understand that his seating may be changed at any time.

Proper Seating. — Much of the government and disciplining of a school depends upon the proper distribution and seating of the children. If a couple or a group of children sitting close together are inclined to be mischievous, this may become a center of disturbance. The teacher should see the little storm at the beginning and, without telling the children why their seating is changed, should see to it that this is speedily done on some pretext. But the teacher should keep her own counsel in such matters.

Don't Boast or "Knock." — The teacher who goes into a new neighborhood or a new school should beware of boasting; on the other hand she should never make a disparaging remark in regard to the character, the ability, or the mode of procedure of her predecessor. There is scarcely anything more contemptible than building one's reputation upon the ruins of another. If a person can not say anything good of his predecessor, he should not speak of him at all; it is still better to speak of his good qualities whenever possible.

Few Rules. — A teacher should make but few if any rules. Pupils, as well as adults, know what is right, and

it is not necessary to have written or printed rules posted upon the wall or upon the board. This is not customary in society, for everybody knows what is proper and right. If a breach of etiquette, of morals, or of the proper procedure of any kind occur, then and there is the time to make known definitely and unequivocally that such things can not be. There should be no scolding nor nagging in regard to it, but pupils can read upon the determined teacher's countenance that such an act is not to be repeated. It is, we think, a mistake to make a rule or to have a rule understood against whispering or against the proper leaving of one's seat. Whispering in itself is not a wrong or an evil. It is only when it becomes a nuisance and a hindrance to those around that it should be forbidden. The leaving of one's seat to consult the dictionary or to deposit litter in a wastebasket should be allowed. This would resemble conduct in real life.

A Test Case. — Of course, if a teacher sees that a pupil is repeating a certain act merely for the sake of attracting attention or for the purpose of annoying her, then and there it should be caught and stopped once for all. There are some things at which the teacher should connive — some little things which the teacher should not see. But if an act is serious and is likely to be repeated, the teacher's eye should rest upon the pupil and there should be no connivance. If a pupil, in any kind of brazen manner, should attempt then to look the teacher down, the latter should beware. Such an instance should be the first crossing of mental swords, and if the teacher's eye drops, the pupil has conquered. The pupil is the person who should retreat under such

circumstances. If the teacher be the first, then woe to her government and discipline thereafter.

Visit the Homes. — A teacher should establish friendly relations with the parents of her pupils; she should visit the parents in their homes. This is especially true in rural districts and in small towns. Altho the teacher is a comparative stranger in their midst she should not stand upon the usual etiquette of waiting until a parent has called. Such formality should not obtain in a situation of that kind. When a teacher calls upon the parents and is entertained under their roof and at the family table, they will not be the first to believe unfavorable stories in regard to her. They will be her shield and her defense in time of possible storm or stress. They will say that they know that teacher and that they are sure that such things are not true.

Don't Teach the Home School. -- Caution should be given to young teachers not to teach the home school. Where a person has grown up with the young people and children of the neighborhood, it is difficult to disprove the old adage that "Familiarity breeds contempt." In such a situation children are accustomed to hear the teacher called by her first name and consequently they do likewise by imitation. This leads to further liberties and familiarity and weakens a teacher's power in discipline and government. A parent is not the best teacher of his own child. The teaching process needs a kind of estrangement between the child and his teacher, for in that condition he is most suggestible. There is usually a halo of greatness around the stranger, and children receive instruction and direction from him

which they would be tempted to challenge in the case of one who is well known. It seems to be a peculiarity of human nature to prize that which is far away and to disparage what is near. There is a tendency in us all to believe what we see and read in a book, while if these same assertions were made by those whom we know, we should be inclined to challenge them. With all of these facts in mind, it would be better for a young teacher to begin her work in a new neighborhood and with strange children. While it may be more pleasant to be at home among friends, it is professionally more advantageous to begin our vocation among strangers. Here we have to depend upon ourselves and to blaze forth our own paths. This should mean much for the cultivation of individuality and of initiative on the part of the teacher.

Signals in the Schoolroom. — In the calling and dismissal of classes and of school exercises generally, a simple set of signals is recommended. It is not necessary to use a loud bell or to adopt a martinet system of signals and of movements of the children. Any plan of signals should be reduced to its lowest and simplest terms. The class might first be called merely by name; they would then rise and, at the word "pass," move to the usual place of recitation. Without going into details in this matter, it is sufficient to say that a teacher should avoid unnecessary disorder on the one hand and a complicated system of unnecessary signals on the other. In this as in all matters, the practice in ordinary life and in important situations should be approached. "Order is Heaven's first law," and some system of orderly changes

should be adopted. Each teacher can work out her own plan.

Keep the Machinery in the Background. — It is well for the teacher to keep her plans and her motives to herself. It is destructive of discipline and of government to reveal to pupils just why things are done as they are. They will begin to question the why of it all, and such a challenge is good neither for the government of the school nor for the children's minds and conduct. Fitch, in his lectures on teaching, says, "Keep the machinery in the background"; and Napoleon, when asked how it was that he controlled kings and managed parliaments and senates, simply said, "By reserve!" There might be, it is true, the extreme of what is called the reserved teacher, who would hold herself completely aloof from the pupils. There might also be the other extreme, where the teacher would identify herself with all the minor doings and sayings of the children, and thus become too familiarly one of them. Here, as everywhere else, the golden mean would be best.

The Proper Atmosphere and Spirit. — The great problem of the teacher is to see to it that a proper atmosphere and spirit are generated. The attitude of the pupils must be right in order that they may learn. But the attitude of the pupils will usually be an echo of the attitude of the teacher. We usually get back what we give. This is one of the results of personal association and contact. We grow like unto each other, and the pupils, in large measure, imitate and grow like unto the teacher; hence, "As is the teacher, so is the school." If a teacher is polite, politeness will be

cultivated in the children; if the teacher is neat and cleanly in person and in dress, the children will imitate her to quite an extent. Hence the teachers are living fires at which the pupils light their torches as they go forth in school and in life.

A Clock and Program. — There should be a clock in every schoolroom. If it is not furnished by the school board, as it should be, the teacher should invest in one which is simple and inexpensive. The pupils have a right to know the time of day; and it is a satisfaction and a means of regulating their work. Every teacher, too, should have a program which should be followed with reasonable closeness. It sometimes happens that some subjects monopolize more than their share of time. This is apt to be the case with subjects which the teacher likes or which lend themselves to the using of time, while those that are difficult for the teacher receive less time and attention. This is likely to be the practice, especially when visitors are present. The teacher, fearing that she will not need all of the time, uses as much as possible of it on subjects which she likes to teach. But this is unjust to herself, to her pupils, and to her visitors. The program should be followed quite closely.

There should be on the program a time for study as well as for recitation. If such is not the case, pupils will waste much time in rummaging from one thing to another. Such a stated period would also induce definite habits of studying a certain subject at a certain time and in a certain place. Then when we find ourselves in that place and at that time, the proper mood is likely to come in accordance with the nature of habit.

Regular and Punctual. — The teacher should be punctual and regular in all her work. She should be in her room at the schoolhouse ahead of time rather than behind. A lack of punctuality and of regularity are two problems with which teachers have to wrestle in dealing with children; but it is impossible to urge them upon children if we ourselves are seen to be offenders. No pupil should have an opportunity to say that his teacher was late or absent without a reason which appeals to him as entirely convincing.

Teach How to Study. — Most pupils, and indeed many high school and college students, do not really know how to study. Children should be taught this by the teacher. Sometimes pupils will be heard to say that they studied a lesson over seven times or more. Such methods of study may be merely a mental dissipation.

The proper way to study a lesson would be to read it over slowly and thoughtfully, taking down upon a small piece of paper at our side the pivotal points of interest or discussion, the chief contentions, or the problems explained in the text. Then after we have read the whole lesson thru in this careful manner it is well to close the book for a short period of reflection.

We note then the first topic, or point, jotted down and consider in our own minds whether or not we can "deliver the goods," so to speak, in our own language. If we know the point which has been made, if we have the information which establishes the truth in our own minds, and if we are satisfied that we can furnish the solution of the problem when called upon, we may then rest satisfied that we know this point.

We proceed then to the next topic, and if after a few minutes' reflection we can not bring to mind the drift of the thought and the conclusion arrived at, it would then be legitimate to open the book in order to see how the author maintains his position.

We then proceed in like manner to the third point which we have taken down, and if, after due reflection, we again realize in our own minds that we see the point made and the way in which it was made, we may then conclude that this is also clearly and adequately known.

Having gone thru all our points in this reflective manner, we may then with safety close the book and the subject and leave the rest for the time of recitation. Such a method of study wherein we have read carefully thru the lesson and taken down the pivotal points, and later have had these periods of self-examination, is far better than reading thru the lesson seven — or forty-seven — times in a superficial and often thoughtless manner.

Mental Habits. — Habits of thought and of study may be induced and cultivated like habits of any other kind. The mind may form the habit of "holding on" to a subject with all its might, or on the other hand it may form the habit of continually "slipping." Much will depend upon the teacher as to what mental habits are formed by pupils in their methods of studying.

A Slave to a Book or Course of Study. — A teacher should not be a slave to the textbook. As a pupil is supposed to be able to reproduce a lesson from the points he has taken down during his study period, so a teacher

should be able to conduct a recitation with the textbook closed. This should be merely a source of information and a basis for discussion for both teacher and class. But the slavish following of the text, whether the pupils memorize its paragraphs or whether the teacher must refer to it in class in order to know whether or not the answers are correct, is certain death to all interest and success in teaching. The teacher should have both hands free and should be able to walk to the board and to illustrate, on the instant and in a few seconds, anything in the lesson which will lend itself to such illustration. Someone has said that the success of a school may be measured by the amount of chalk which is used; consequently the teacher should be able to make things clear by visual illustration.

We would say, also, that as there should be no subserviency to the textbook, neither should the teacher and her class be slaves to the details of a course of study. Effective teaching must be free. The teacher who feels that her hands are tied in the teaching of any subject must feel the burden of her slavery. The lock step in all such matters should be avoided by all means.

Questioning. — Questioning is the great art of the teacher as it is of the lawyer. The teacher's questions should be direct, simple, and definite; they should not suggest the answer and should not be capable, as a rule, of being answered merely by the word *yes* or *no*. Where these are a sufficient answer, there is one chance out of two of being right. A good question should simply propound a problem, and let the children wrestle with it in a situation where there is one right answer to a hundred

or a thousand wrong ones. The teacher should be careful also not to indicate directions or results either by hints or by facial expressions. While a good teacher should be interesting and sympathetic, he should be expressionless while the pupil is doing his part of the work.

Repeating Answers. — The teacher should be careful not to fall into the habit, as many teachers do, of repeating in a perfunctory way the answer which the pupil gives to a question. Such a habit becomes a veritable nuisance, and as it proceeds the teacher is likely to become unconscious of the failing. It is a waste of time and words, throwing over the situation a kind of monotonous repetition which induces sleepiness rather than alertness. In the asking of questions the teacher should be careful to guard against all manner of random talking and answering. When the teacher asks a question, some particular individual should be called upon to wrestle with it, and all others should listen. When he has had his "say," the question may then be given, if desirable, to some one else for correction or further discussion.

Stand or Sit? — No rule should be made in regard to standing or sitting during the recitation; this would depend upon the size of the class, the maturity of the pupils, and many other circumstances. It is not always necessary for a pupil to rise before answering a question. This might be a waste of time. If the subject or problem to be discussed is such as requires some little time, the better and more formal plan would be to have the pupil stand and expound it at some length in his own way. He would then express himself in full. But

many times only a short answer is needed, and then it is entirely proper to allow a pupil to give his answer while he is seated. As in all other cases, formal rules which are never to be broken are an abhorrence.

Reviews. — At stated times the teacher should give the pupils a review of the subject being studied. Teachers frequently forget this, for they attribute to the children the same mental status in regard to a subject which they themselves have. It seems clear to them and consequently they forget that it may not be clear to others. When pupils have gone over a certain portion of a textbook, to go back and review certain topics is very illuminating and instructive. The pupils will then bring to bear upon these the light of a higher and more definite knowledge. They will also feel a kind of thrill or return wave of success in a renewed attack upon what they had previously only partially mastered. They have been under the impression that they understood all about it, but after a good review they feel that they have built for themselves "more stately mansions." Reviews for young and growing minds are one of the best possible exercises of the schoolroom.

Call Back Instruction. — A teacher should also call back instruction periodically by means of tests or examinations. Every person who has taught will realize, when he does this, that much of the instruction which he has given rests in the pupils' minds in a more or less distorted shape. While these examinations should not be too frequent, and while too much should not depend upon them, they are occasions of extreme interest and of illumination to both teacher and pupils.

Nagging, an Abominable Vice. — Teachers should be careful not to fall into the habit of scolding and nagging. It is one of the worst habits, abominable from every point of view. Frequently, it is true, a pupil or the whole school should be “brought up standing with a sharp turn” and be informed of the duty or the negligence and dereliction in point. But when this is done, bygones should be bygones. “If ’twere done when ’tis done, then ’twere well ’twere done quickly.” To return to it again and again in a nagging, scolding manner is an unpardonable pedagogical vice. In our opinion it would be far better to administer a summary case of corporal punishment and have it over with. If either nagging or corporal punishment is resorted to continually or chronically, it is evident that the atmosphere and attitude of the school are not right. Here is where the teacher should look for the source of the trouble.

Supervise the Playground. Teachers should be careful to guard the playground. When pupils congregate at recesses and at noons, various plots and schemes are likely to be hatched. Without supervision the recess may be a mischief-making time. While a teacher should not become too prominent and too omnipresent in all the relations of the children, her presence should be felt as a good influence. While the recess should be retained, it should be carefully supervised. In some situations this is as much a part of the teacher’s business as is instruction in the classroom.

Cleanliness. — As the teacher should be neat and cleanly in dress and in habits, so the schoolroom should be characterized by the same attributes. The teacher

should induce the pupils in every way possible to coöperate with her in having, if possible, the most beautiful schoolroom in the surrounding country. Pictures should be selected to decorate its walls. In these days, happily, the poorest of us may acquire pictures which kings could not purchase a century ago.

School Entertainments. — To bring the school before the community in a proper light and to give it a dominant note, it is advisable, occasionally, to have what is called a "school entertainment." If thought best, a small admission fee of five or ten cents might be charged. The proceeds of this entertainment might well be devoted to the purchase of schoolroom decorations or a school library. The whole community should be invited to attend. There is scarcely anything that so pleases the parents of a neighborhood as the performances of their children. Such entertainments frequently become the subject of thought and of talk in the whole community. This will enlist their interest in the school and will generate a spirit which will support the teacher in whatever she may wish to undertake.

The Teacher should Grow. — Finally, the teacher should have within her the power to grow. She should take at least two professional journals or magazines: one published in the state in order to get the home or local educational news, and another more national in character. She should have a growing mind not only in subjects to be taught but in more advanced education. President Butler, of Columbia University, says that the power to grow mentally is one of the indications of an educated person. The teacher should also participate in

professional conventions of various kinds and coöperate in them with the other teachers in her district, her county, or her state. Here she forms the acquaintance of others and becomes known herself. In the teaching profession, especially, one's acquaintance is his capital. Becoming well and favorably known increases one's chances of promotion and hence of usefulness.

INDEX

- Abstract and concrete, 167
- Abused words, 104
- Activity, 25.
- Addition, 173; of fractions, 184.
- Adolescence, in writing, 128.
- Agriculture, 292
- Alcohol, 258.
- Algebra, 9, 191.
- Alphabet method, 65
- Ambiguous terms, 201
- Analysis, proximate and ultimate, 79,
216; of letters, 125, of sentences,
157.
- Anatomy, 242.
- "And" in decimals, the, 196
- Anger, 259.
- Antonym, meaning thru, 105
- Apperception mass, 34
- Application for a school, 304
- Arithmetic, 164 ff.; incidental, 182;
too much time on, 169
- Atmosphere, the proper, 9, 312.
- Auditory to visual, 62

- Backbone words, 138.
- Bacon's idols, 15.
- Bathing, 245
- Ben Hur's horses -- illustration, 10
- Biography of an author, 83, 270
- Bird, the young -- illustration, 20.
- Blackboard work, 143.
- Boasting, 308.
- Body, respect for, 244.
- Booth, Edwin -- illustration, 52
- Breathing exercises, 253
- Browning, Robert, 10
- Bushel, the -- origin of, 200.
- Button, the -- illustration, 10
- Byron's tribute, 85; his Apostrophe,
35.

- Cancellation, 179.
- Capitalization, 137.
- "Caput" as a root, 111.
- Character, 4.
- Choosing selections, 48.
- Cicero's criticism, 51.
- "Cide" as a root, 112
- Circle, the area of -- illustration, 197.
- Cleanliness, 245, 319
- Clock, needed, 313
- Colors, restful, 254.
- Commercial arithmetic, 203
- "Complement," meaning of, 163.
- Compositional power, 134.
- Compositions, 143.
- Concrete, the, 107.
- Consumption, 248
- Content, importance of, 71, 287.
- Context, meaning by, 105.
- Contract, 305.
- Copybooks, 117
- Corporal punishment, 319.
- Correlation, 88.
- Criterion of language, 137
- Criticisms in reading, 51, 54.
- Cube root, 206.

- Decimal plan, the, 172, 192; origin of,
196; the decimal point, 194.
- Defacements, 273.
- Dewey's, John -- *School and Society*,
282.
- Diacritical marks, 90.
- Diagramming sentences, 161-2.
- Dictation, exercise in, 140.
- Dictionary habit, 10
- Direction, idea of, 215.
- Division, form of, 180.
- Domestic science, 295.
- Drawing,* 280.

- Ears and eyes, care of, 253.
 "Easy" mind, an, 4.
 "Elocution," the best, 57.
 Emphasis, kinds, 86.
 Entertainments, school, 320.
 Enunciation, 92.
 Environment, 1.
 Ethical Culture School, 269.
 "Events," 233.
 Exercise, 256.
 Experience, 1.
 Expression, 37, 44.
 Extremes, 11.
 "Falling down" in reading, 45.
 Figures, neat, 171.
 First day, important, 306.
 Flies, 251.
 Foreigners, words difficult for, 94;
 reading difficult for, 64.
 Form and content, 71.
 Formality, necessary, 39.
 Fractions, 182-3.
 Freedom, 28, 88.
 Fresh air, 251.
 Friends, teacher and pupil, 12.
 Gallon, the origin of, 201.
 Games, 256.
 Garland's, Hamlin — *My Prairies*,
 276.
 Gems, literary, 275.
 Geography, 209 ff.; outline in, 226.
 George Junior Republic, the, 29.
 Germs, 247.
 Globe, the, 216.
 Grammar, 150; difficult to teach, 164,
 a part of language work, 157;
 terminology in, 162; science or art,
 160; why disliked, 152.
 Greatest common divisor, 186.
 Growth, power of, 320.
 Grube method, 166.
 Gymnastics, 257.
 Habits, mental, vii, 315.
 Harris, William T., 50.
 Hawthorne's *Great Stone Face*, 3.
 Health, 4, 241 ff.
 Hearing, defective, 147, 254.*
 History, 228 ff.; geography and his-
 tory, 231; too philosophical, 233.
 Home school, the, 310.
 Hopkins, Mark, 3.
 Humor, essential, 6.
 Hygiene, 241 ff.
 Hypnotist, a — the teacher, 10.
 Ideals, in history, 237.
 Ideas, relation of, 155, 158.
 Identical sentences, 156.
 Idols of the market, 15, 101.
 Imagination, 13 ff., in arithmetic, 175,
 107; in geography, 213.
 Inductive procedure in language, 136.
 Inference, 33.
 Influence, 2.
 Interest, 30, 302.
 Interference, too much, 135.
 Interpreter, an, 8.
 "Invert the divisor," 188.
 Isolated facts, 220.
 Justice, 5.
 Keller, Helen, 17.
 Kindness, 7.
 Kings, too prominent in history, 232.
 "Knocking," 308.
 Knots, untying, 28.
 Knowing and doing, 242.
 Language, 130 ff.; criterion of, 137;
 and the home, 130; and the school,
 130; no separate period for, 131; oral
 and written, 132, textbook in, 140.
 Leader, a, 7.
 Least common multiple, 186.
 Letter-writing, 149.
 Light, 254.
 Liking-point, the, 30.
 Location, idea of, 214.
 Locke, John, 15.
 Lockjaw, 250.
 Logic and grammar, 151.
 "Logy," 113.
 Lumber problem, a, 199.
 Management, school, 304.
 Manual training, 298.

- Map-drawing**, 223.
Marginal signs, correction by, 145.
Masterfulness, 307.
Master-key, a, 44.
Maxims, favorite, 278.
Meaning, how learned, 105.
Mediator, a, 8.
Medium, a, 42.
Memory, not to be ignored, 221.
Mental arithmetic, 170.
Methods, 1, 63.
Metric system, the, 202.
Minneapolis, 221.
Mirror, a, 43.
Mispelled words, 97-8.
Montessori, Madam, 29.
Morals, the teaching of, 261 ff.; in the public schools, 280.
Müller, Max, 61.
Multiplication: table, 174; form of, 179; sign, 177.
Music, 271, 283.
Nagging, 11, 319.
Narcotics, 258.
Nature study, 280; not microscopic, 290.
Newer subjects, the, 282.
Notation and numeration, 172.
Notebook, the, 59.
Note-taking, 127.

"Of What?" 100.
O'Reilly, John Boyle, 7.
Orthography, 80.
Outline in geography, 226.

Paragraphing, 144.
Parsing, 159.
Passivity, 25.
Patriotism, 236.
Personality, 5.
Phonic key, the, 67.
Physiology, 142.
Platt, John James, 276.
Pictures, 40, 270; interpretation of, 142.
Picturing, clear, 13 ff., 213.
Playground, the, 319.
Precedence of signs, 178.

Predicate, the, 155.
Prefixes, 109.
Problem, meaning of, 32.
Program, 313.
Promotions, self and parental, 58.
Pronunciation, 92.
Proper names, meaning of, 108.
Proportion, 205.
Psychology and grammar, 151.
Punctuality, 305, 314.
Punctuation, 52, 137.
Punishment, 11.
Pythagorean theorem, 198.

Quality, 30.
Quantity, 30.
Questioning, 316.

Rapidity in number work, 173.
Ratio and proportion, 205.
Reading, 42 ff.; a neglected art, 44; beginnings, 61 ff.; criticisms, 51-4; in history, 59; silent and oral, 44.
Reason, in geography, 221.
Recessional, The, 74.
Recitation, oral and written, 133, 140; the recitation period, 31 ff.
Regularity, 314.
Relative magnitudes, 219, 225.
Repeating answers, 317.
Repetition, use and abuse, 53.
Reserve, the power of, 312.
Revealer, a, 8.
Reviews, 34, 318.
Root words, 111.
Rules, few, 308.

School management, 304.
School mates, influence of, 263.
Scolding, 11.
Seating, proper, 308.
Selections, choosing, 57.
Self-activity, 25.
Sentence, the, — a cosmos, 153.
Sentence-analysis, 157.
Sex-hygiene, 240.
Side excursions, 230.
Signals, 311.
Signs, precedence of, 178.
Silent pupil, the, 135.

- Sincerity, 6.
 Slang, 103.
 Slant, in writing, 126.
 Slavery to a textbook, 315.
 Spelling, rules for, 96.
 Spelling reform, 100.
 Spirit, proper, 279, 312.
 Spores, 249.
 Square Root, 206.
 Squirrel, the, — an illustration, 28.
 Stand or sit?, 317.
 Story, reproduction of a, 141.
 Study, how to, 314.
 Subject, the, 155.
 Suffixes, 110.
 Syllabication, 90-1.
 Synonym, meaning thru, 105.
 Synthesis, 216.
 Tabooed list, the, 138.
 Taileyrand, 1.
 Teacher, most important, 12, 262.
 Teeth, care of, 255.
 Telling, 24.
 Terminology, grammatical, 162.
 Thoroness, too much, 83.
 Thought-material, 154.
 Tobacco, 258.
 Tool stage, the, 71.
 Translate — symbols into language,
 170.
 Trichinosis, 250.
 Truth, the — figures should tell, 179;
 in history, 238.
 Truthfulness, 5.
 Twain, Mark, 23.
 Typewriting, 148.
 Typhoid fever, 249.
 Understanding, a clear, 46.
 Unit of the fraction, 180.
 Vaccination, 259.
 Ventilation, 252.
 Victorian Jubilee, 76.
 Visit parents, 310.
 Vocabulary, 72.
 Wake up mind, 207, 301.
 Wars, too prominent, 232.
 Washington, a tribute to, 85.
 Word, the, 63.
 Words, abused, 104; inwardness of,
 102; mispronounced, 93; simple,
 compound, etc., 114; structure of, 109.
 Word-work, 89 ff.; interesting, 107;
 oral and written, 95; sources of
 words, 115.
 Workman, and his tool, 3.
 Writing, 116 ff.; aims in, 122; in
 adolescence, 128; motive in, 120;
 note-taking and haste in, 127;
 symmetry, 123; systems of, 125;
 who can teach? 128.

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