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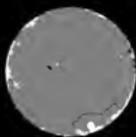
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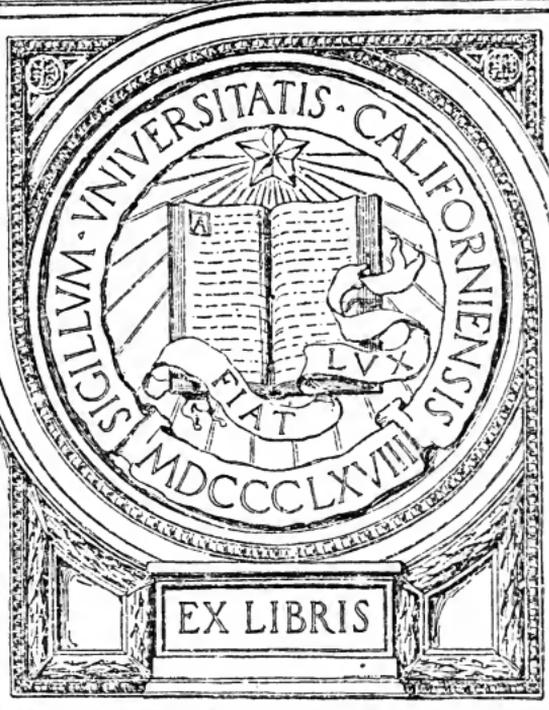
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TEACHERS' HANDBOOK
OF
PSYCHOLOGICAL PRINCIPLES

WENZLAFF

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TEACHERS' HANDBOOK
OF
PSYCHOLOGICAL PRINCIPLES

TO ACCOMPANY "THE MENTAL MAN"

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PREFACE

The author of this handbook thoroughly believes in the usefulness of general scientific psychology. To be useful to the teacher, the study does not need to be especially prepared for him and set before him as a "predigested" food. The teacher's work is with the pupil, and in order that it may be scientific, the pupil's mind—not a portion of it, but all of it—must be understood by the teacher. Hence there is really no more need of a teacher's psychology than a poet's or a physician's psychology. What a teacher needs is just *psychology*.

To make application of the principles of psychology, however, to the work of the teacher is no easy matter; to do so requires considerable thought and skill. To assist the teacher in this task by way of suggestion, the following pages have been prepared. They point out some of the facts and principles applicable in teaching based upon the corresponding chapters in *The Mental Man*. In no way is this handbook intended to take the place of psychology.

Inasmuch as the mind in education is both an *end* to be developed and a *means* by which the end is attained, the point of view in this syllabus fluctuates between these two. Brief as the treatment is, it should demonstrate the double value of the psychological science to the teacher.

G. G. W.

June, 1910

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TEACHERS' HANDBOOK OF PSYCHOLOGICAL PRINCIPLES

I

The chief work of the teacher is to assist the development of the mind. Since psychology is the science of mind, it is important that every teacher be familiar with it. Evidently if the teacher is to be a factor in the development of the pupil's mind, he must know considerable of its nature, tendencies, and possibilities. Even of the engineer that drives the locomotive it is required that he understand thoroughly every part of the mechanism. The teacher that is entirely ignorant of the mind and its workings—were such a thing possible—would be utterly unsuited for his calling. On the other hand, the more he understands of the mind from childhood up, the more intelligently adapted may the instruction be. As the wise of old pointed out the necessity of knowing self, so modern pedagogy may lay down as the wisest maxim for the teacher: Know your pupil.

Yet no teacher should imagine that all the facts of psychology can be found in books and then be memorized and applied in teaching, as the tailor applies his yardstick when making a garment. This is far from being the case. The psychology exhaustive and complete in every direction has not yet been written and, furthermore, will never be written, so innumerable and

varied are the mental facts and phenomena. All that any psychology can do is to point out some principles pertinent to the teacher and to put him on the psychological highway.

The important thing is to be imbued with the psychological, scientific spirit that will lead its possessor to regard all mental phenomena in the light of law. He who has this spirit or has acquired this habit of psychologizing possesses, so to speak, an inexhaustible thesaurus of psychological knowledge, or what is better, he has a psychological insight. A teacher without insight into the mind of the pupil is a comparative failure. It is, therefore, of prime importance to acquire this habit of psychologizing.

This habit can be acquired by studying the psychological researches and conclusions reached by others, and by making observations. Every teacher can take note of his own inner self through introspection. He can refresh his memory of his mental experiences from childhood up. He can carefully note the powers and feelings and ideas of the child, the adolescent, and the mature person. He can read the best psychological literature available. Reading and original observation and experimentation should supplement each other.

The following are a few of the books on the subject profitable to read. The teacher who has read these works carefully and with understanding may regard himself as fairly well oriented in the science:

James' *Principles of Psychology* (Holt).

Witmer's *Analytical Psychology* (Ginn).

King's *Psychology of Child Development* (Univ. of Chicago Press).

Hall's *Youth* (Appleton).

II

The mind being in its activities dependent on the body, notably the nervous system, it is clear how carefully the teacher should watch the physical well-being of the pupil for the sake of the best and most vigorous mentality, if not for the sake of the physical health itself.

In general it may be stated that anything that makes for better health also furthers the mental activities. Therefore teachers should be familiar with the laws of health and school hygiene.

In these days much is being said of the evil effects of adenoids, hypertrophied tonsils, defects in vision and hearing, disease, improper or insufficient food and clothing, improper posture, vitiated air, shallow breathing, and insufficient outdoor exercise and play. No teacher can afford to be indifferent to such topics as these. Although a teacher cannot know everything, much less do all that there is opportunity for doing, yet he can see to it that the schoolroom be well ventilated, lighted, and heated throughout the day; he can see to it that the pupils in his charge stand and sit and breathe properly; he can also notify parents of any noticeable mouth-breathing and call their attention to the injury to the mind of the child. In various other ways, too, the teacher can make his influence felt for the improvement of the body and mind of the children in his charge.

Since mental states, their kind and vigor, depend on the nervous organization, especially the brain-centers, it is apparent that education cannot materially change the initial endowments. The teacher may expect the given powers to be developed or improved, but not altered.

What nature has not provided in a pupil, cannot be put into him, no matter how anxious the effort. Were we able to determine with absolute accuracy the various brain-centers and their significance in the child, then it would also be possible therefrom to calculate and predict the individual's future mental character.

The teacher should continually bear in mind that as there are visible physical differences in individuals, so there are differences in the brain-centers. This means differences in mental qualities and powers. No two children can be expected to react in precisely the same manner. Sometimes the congenital endowments are so diverse, that almost from the beginning different instruction would be profitable. It is futile to attempt to put all children through the same process and training. Even though school-boards and the public generally demand uniform instruction, the results in pupils of different endowment are often quite diverse.

In this connection the following suggestions should be remembered.

If a pupil shows any decided bent of mind, that inclination should not be repressed unless evil, but encouraged and developed. Any mental defect in him, on the other hand, should not be treated with impatience or ridicule.

Exceptionally bright pupils should not be kept back, but advanced as fast as their mental development and physical well-being permit. Some brightness is due to excessive neurosis, or nervousness, and therefore should not be encouraged, but repressed by occupying the child with outdoor physical activities.

Subnormal or exceptionally dull pupils should not be kept in the same class with normal children. The instruction must be suited to their powers and needs. This may be done successfully in auxiliary schools established for just this class of pupils.

Work in the school should at all times be adapted to the physical strength of the pupil. And there is great variation in this. Strength and endurance come with age. Never should a child be worked after fatigue has set in. This would defeat its own end. For a teacher to think that the getting of a lesson is of greater moment than the mental and physical development and welfare of the pupil, shows culpable misapprehension. A child's mental welfare is never furthered by an abuse of the laws of health.

Before maturity four periods have been distinctly noted.

1. The period of *early childhood* begins about the third year and extends to the sixth or seventh. During this time the child's body needs most attention. It is a time of rapid growth of the brain. The language development is rapid; therefore it is important that the child should hear his mother tongue spoken well. Formal instruction should be at a minimum and be of the kindergarten kind. The child's activity should be spontaneous, for the most part; that is, it should be largely play. Obedience should be insisted upon.

2. The period of *second dentition*, at the age of seven or eight, is a period of transition. Characteristics are loss of the first teeth and coming of the second set; and the brain now reaches nearly its full weight. During this time all work and strain should be reduced, owing

to the mental and physical lassitude, nervousness, and weaker heart that characterize this period. Fatigue comes more easily. Visual disorders are common. The blood is frequently impoverished.

3. The third period has been called the *drill period*. It begins at eight or nine and continues for about four years. It is marked by great increase of vitality, activity, and endurance. Reason barely begins to be active. This period should be devoted to forming habits and acquiring fundamental knowledge through drill. Moral ideals may be inculcated by means of the story.

4. The period of *youth* begins about the twelfth or thirteenth year and closes at maturity. At about the beginning of this period the pupil is especially susceptible to religious and ethical ideals. When later the reasoning powers become thoroughly awakened, there comes a period of doubt of transmitted beliefs. Youth, on the whole, is a time when ideals are formed and dreams are dreamed of a glorious future.

The matter of proper care of the physical condition for the sake of the mental, is receiving much attention these days. No teacher should regard himself well informed and up to the higher standard who has not given attention to these various subjects and problems.

We recommend that the teacher consult special treatises concerning this subject. The following books may be found helpful:

Allen's *Civics and Health* (Ginn), especially Chapters V–XV.

McIsaac's *The Elements of Hygiene for Schools* (Macmillan).

Maennel's *Auxiliary Education* (Doubleday, Page & Co.).

MacDonald's *Man and Abnormal Man* (Government Printing Office).

Bryan's *Basis of Practical Teaching* (Silver, Burdett & Co.),
Chapters XIV–XVI.

Swift's *Mind in the Making* (Scribners), Chapters IV and V.

III

Infant consciousness is quite indefinite in character, but by a force of its own, it is able to narrow itself down to the definite. This force, the directive power of consciousness, thus employed is attention. To attend and to be conscious of something, although expressing two different ideas, are virtually the same thing. To attend without consciousness, or to be conscious of something without attention, is impossible. Thus it happens that the development of consciousness and of the power to attend are simultaneous, or parallel.

Attention is of two varieties: involuntary and voluntary.

Involuntary attention occurs spontaneously and without effort. Let us suppose that a bird flies into the schoolroom. The pupils and the teacher, too, cannot help noting this.

Such being the nature of involuntary attention, it of course follows that it is unpedagogical for a teacher to find fault with pupils for attending to things that it is natural for normally constituted children to notice. Rather than attempt to change the child, the teacher should endeavor to secure external conditions favorable to the least distraction. It is difficult, if not impossible, for a teacher to *command* attention. The teacher can get the attention of the pupils by certain means adapted to the young.

By the time the child is ready for school, his states of consciousness are more or less definite and sustained. School-work tends to improve consciousness by making definite demands upon it. Constantly the teacher endeavors to secure the child's attention so that the latter may hear the instructions and follow out the work assigned. In other words, one of the great aims of the teacher is so to train the child that he may be capable of sustained, voluntary attention.

A knowledge of the fluctuations of consciousness will prove useful to the teacher. If, for example, the teacher announces a list of words for the pupils to write, cautioning them that each word is to be pronounced but once, now and then a word will not be heard by all, in spite of their good intentions. Although it is good pedagogy to stimulate strict attention in the pupils, it is equally good pedagogy to make allowance for these fluctuations of primal attention over which we have no control.

Another fact to be remembered by teachers is that the mind, especially that of a child, is not clearly and completely conscious of itself. Children often do things without being able to explain why they do them. No teacher, therefore, should insist on getting an explanation from the child in every instance. The child may in his impotence assign motives that are anything but the correct ones.

Likewise it is highly unpsychological for the teacher to frown on the pupil who may honestly feel impelled to say that he "knows but can't tell." Of course "knowledge" that cannot be recalled at the moment it is called for, has little schoolroom value; nevertheless in the development of the child it may mean much. The pupil

making the best recitations is not always the pupil of depth of mind and character. In fact it is commonly remarked that the valedictorians are soon lost sight of in the world's activities. The men of power and insight, as well as scholarship, were frequently the boys of no brilliancy in school. Yet they were receptive of impressions, and these impressions were available sooner or later in some form.

LITERATURE

Bagley's *Classroom Management* (Macmillan), Chapters IX–XII, "The Problem of Attention."

IV

The directive power of consciousness, of which attention is a form, is a subject of great significance to the teacher. It is a fundamental principle of pedagogy that the child is not a passive vessel into which knowledge is to be poured, but that instruction should arouse self-activity in the pupil. For practical purposes, it resolves itself into two questions:

1. How may the will be moved to act?
2. What develops the will?

Evidently, if the teacher is to be of service in the education of the child, he must be able to enter somewhat into the child's inner life; he must know the motives that impel the will to act in pupils of a given age. It is well known that as the child grows older different things appeal to him. Even the instincts and impulses change with age, as well as the natural tastes and interests.

An adequate knowledge of these elements in a pupil

will enable the teacher to direct the pupil's work. With such knowledge in possession of the teacher, there should be relatively little difficulty in giving the studies an interest that will secure the desired application on the part of the pupils. A teacher cannot make any study or teaching interesting in the abstract—it must be interesting to a particular mind.

How can this be done? Before answering this question let us ask another: What is *interest*? Originally interest is the feeling-side of attention. The more thoroughly the mind attends to anything, the deeper is that feeling which we call interest. But interest is something more than this, when the feeling is dissociated from any particular act of attention and has become an attitude of the mind toward any thing or class of things. Hence it comes that interest secondarily may be defined as that attitude of mind which directs the attention in a particular instance.

Just as there is involuntary attention, so there is primal interest. This depends on the needs, instincts, and impulses of the individual. The hungry child has an interest in food. The cold child is interested in warm clothes and a warm house.

But interest may become remoter or secondary when, for example, we desire to help the natives of Darkest Africa to a higher life. This interest may be pure sympathy, but it may be also because, in addition to the recognition of our physical, personal needs, we have learned that our highest, broadest self includes all mankind and still more.

Then, how can the teacher interest pupils in their studies? By bringing the work to the pupils in such a

manner as to call out their self-activities and make them feel that their studies have some relation to their own personality.

In accordance with this, it may be seen that interest is widened as the pupil's ideals widen. No greater mistake is made by teachers than when they suppose that all schoolroom work must be pleasing to the pupil. He should be held to his tasks whether pleasing or not, simply because it is his duty; and when once this thought takes possession of him, the interest will not be slow in coming, even in work which in itself is disagreeable.

A knowledge of the pupils' motives will enable the teacher to govern them with comparative ease, as well as with intelligence. How can one be expected to direct a number of young persons unless he understand their impulses, desires, and tendencies?

An understanding of the inner nature of the pupils enables the teacher to direct them better in their play. By this is not meant that children's play should be "bossed."

Of course care should be exercised that no appeal be made to unworthy motives. There lie in each child possibilities of selfishness and badness; these predispositions should not be wakened into activity. In each case the highest motive possible should be appealed to. If a pupil will not study for the sake of spiritual (mental) development, then it may be he will study for the power it gives him to gain wealth, or finally because it may exempt him from a flogging from his father.

Two types of will that deviate from the normal are frequently found in the schoolroom, namely, the weak and the obstinate wills.

The weak will is characterized by the ease with which it is moved to act, even if the conduct is in violation of the rules of the school, of propriety, or of society. The proper method of treating this defect is to attempt to deepen and strengthen the convictions of the pupil, or to inculcate strong principles of conduct, so that his reactions may be dominated by these as far as possible. The weakness will remain, but its field may thus be narrowed considerably.

The obstinate will is found in a type of mind having a tendency to fall, as it were, upon an idea or into a state or attitude of fixedness. The avenues of external influence are closed to both threat and entreaty. Therefore probably only a strong determination of the individual himself to be reasonable will change the obstinacy. This determination may possibly be induced by appeals to him while in a receptive mood.

The will develops together with the rest of the child, but especially in connection with certain activities. Those of the schoolroom and grounds which are pertinent are:

1. Attention to the teacher's words and to the recitation. The pupil should be required to attend strictly to the remarks intended for him to hear.
2. Application to the tasks assigned.
3. Thinking, speaking, and doing the right and true things at all times.
4. Using the various muscles in writing, drawing, talking, singing, and playing. Manual training is especially valuable as a discipline.

From this it is apparent that the will reaches its maximum efficiency through use in various ways, and

should find expression through the whole body, notably the eyes, ears, hands, and the organs of speech. Therefore any system of education that neglects to call into use all the various kinds of activities is defective.

LITERATURE

De Garmo's *Interest and Education* (Macmillan).

Charters' *Methods of Teaching* (Row, Peterson & Co.), Chapter VIII.

V

The goal of volition is habit. Acts performed repeatedly tend to become habitual, and are executed with less consciousness and effort, that is, somewhat automatically. Habits may, therefore, be regarded as mechanized volitions. The mechanization of volitions is a process in behalf of mental economy, and is consequently highly desirable.

It is very important that children acquire useful, noble habits. The most valuable part of us is character, and character is a habit of willing. Besides, the greater part of life's work is performed through habitual acts. In the forming of habits, teachers have a significant part to perform.

It would be impossible even to point out the innumerable habits, for habits of various kinds have been formed with respect to all our common activities. We may note a few of the most important.

The teacher should insist that the pupil be punctual in attendance and in the performance of his tasks. Punctuality is not only useful in its immediate applications, but is closely allied with moral strictness.

Neatness of dress and work should not be neglected. Closely associated with neatness is orderliness respecting the possessions and work of the pupil.

From the beginning the teacher should insist on real, genuine work, according to the strength of the pupil. Much harm is done by employing in the schoolroom methods that require no industry, no application, on the part of the child. The way that a pupil learns to study and work, is through applying himself to his task.

Truthfulness is an important habit acquired, like other habits, by the exercise of accuracy in all matters. This does not mean that the child should be prohibited from employing properly his imagination during that period of his development when the imagination is at its height and he delights to employ it in a playful manner. Exaggerations should be discouraged and appreciation expressed for accurate accounts.

Honesty is a virtue that can be exercised in respect to all dealings. Honest work, and honest admission of any failure in this work, is to be encouraged at all times. Cheating of all kinds should meet with thorough disapproval. Pupils should be informed of the true nature of plagiarism.

True politeness cannot be assumed, cannot be put off and on at will, but must be cultivated early in life. It is not so much a specific habit for certain definite acts as a habitual attitude of the mind, reinforced here and there by conventionalities expressive of the inner attitude.

One of the most important habits for the young to acquire is obedience. As the child's experiences and judgment are inadequate and immature, a superior will

must dominate his life and conduct. Hence he must learn to obey. The first duty of the child in the school is obedience to the teacher.

Strict attention should become a habit as early as possible, both because it is essential to the purposes of the school and because of the mental development that it signifies.

LITERATURE

Sheldon's *Study of Habits* (W. M. Welch & Company).

Shearer's *Morals and Manners* (Macmillan).

Everett's *Ethics for Young People* (Ginn).

Rowe's *Habit Formation* (Longmans).

VI

The child, in the light of heredity, is a marvelous being. There is written into his delicate and still undeveloped organism the history of the race. In a sense he will live over again the life of his remotest as well as nearest ancestors. Into his being are stamped tendencies and instincts, which sooner or later will find expression.

To understand the child thoroughly, therefore, we ought to know the feelings, tendencies, instincts, and mastering motives of the race. The child possesses these in a rudimentary way, and gradually he is coming into full possession of them. Unless the teacher understands adult human nature, he will certainly fail to recognize and understand the premonitory stirrings in the mind and heart of the child.

In some instances it ought to be a help in understanding the child, for the teacher to know the parents

and other relatives, especially if strong characteristics prevail in the family. There are some things in the child that are understood only in the light of their final outcome. And what the outcome will be may be judged from his ancestors.

Some of the things which heredity has, in a measure, fixed quite definitely are ability and strength of mind, temperament, and tendencies and instincts.

Though there are notable exceptions, as a rule the teacher should not look for mental endowments, when fully developed, above or below, that of the family of which the pupil is a member. Likewise the temperament, tendencies, and instincts of a pupil will be those of his parents.

LITERATURE

Bryan's *Basis of Practical Teaching* (Silver, Burdett & Co.), Chapter II "Our Inheritance."

Salisbury's *The Theory of Teaching* (Row, Peterson & Co.), Chapter XXXII, "Heredity and Environment."

VII

Impulses and instincts, which constitute an important part of one's inheritance, must be well understood, if the teacher is to make practical use of such knowledge in teaching and training the young. In a sense it may be held that what the life of an individual shall be, depends on his impulses and instincts. But training and education are significant modifying factors, as pointed out in Chapter V. It may be enunciated as a principle that impulse-reactions and instinct-reactions may be checked or repressed, thus weakening if not obliterating them, or

they may be called into greater activity. It is this that furnishes an escape from the rigorous dominance of inherited qualities and hopeless fatalism. Teachers and parents may indeed be factors in shaping the destiny of the child.

In order to make proper use of this principle, the teacher, of course, should be familiar with the common human instincts and tendencies and know their meaning. Although the larger portion of impulses and instincts may be regarded as good and beneficial, yet there are some which are evil. The very fact that an instinct or impulse is found in a child, should speak for its utility. Nevertheless there are impulses and instincts that plainly do not now serve the best interests of the race.

Naturally it is the duty of the teacher to check all improper impulses and instincts, and so direct those that are a necessary part of human life that they may not be misapplied or abused; or in case they belong to a later part of life, that they be not wakened too early.

The instinct to play is very strong and very important in children. They must play according to the requirement of their nature. But children must also be taught to work according to the requirements of society.

Play has been found to be an efficient means of instruction and training; also a means of pleasantly getting from play to work. However teachers should remember that play is play, and work is work, and that a child generally knows whether he is playing or working.

Inquisitiveness, the desire to know, should be carefully cultivated in the child. It is a great mistake to scold a child for asking questions. His desire to know should be satisfied as much as possible. Of course by

this we do not mean that he should be given information beyond his comprehension or not proper for his age.

The doctrine of interest—namely, that a teacher should make his teaching interesting—means, from one point of view, that pupils should be so directed in their work that they will want to know.

Imitation is an instinct that finds extensive application in the school. Children naturally imitate their teacher and one another. A teacher's value is not merely in what he teaches, but in what he is. His speech, manners, and spirit will find expression in the pupils.

The social instinct finds considerable satisfaction in the life of the school. Inquiry, on my part, among children in rural districts, brought out the fact that they prefer going to school to remaining at home.

The behavior of pupils one to another and to the teacher, of course, should be suited to a harmonious interrelationship. The natural penalty for any behavior violating the social harmony of the school is to deny to the offender the social life and privileges of the school to a certain extent.

The ethical instinct requires careful attention. It is best awakened and cultivated through example and life; as well as through stories. The teacher himself should ring true in all things. Violations of ethical principles by any member of the school should be made the occasion of a practical lesson in morals, wherein the teacher points out the nature of the offense and fixes the punishment. On the other hand, acts of courage, kindness, generosity, unselfishness, and truthfulness should receive the approbation of the teacher.

The religious instinct is a fruitful source of right living

and conduct. Recent statistics show that in very many persons religious conviction concerning the presence of God springs directly from the inner nature of their being. In most instances, suggestions suffice to awaken the religious feeling. The teacher need not attempt to *teach* religion in the public school. He can show a reverence for truth and nature, and for religious expressions and institutions. Opening exercises in advanced schools should, as a rule, be of a religious (not theological) character.

LITERATURE

Johnson's *Education by Plays* (Ginn).

White's *School Management* (American Book Co.), pp. 218-309, "Moral Instruction."

Pratt's *The Psychology of Religious Belief* (Macmillan).

VIII

Feelings are involuntary discharges. They are valuable not only for their tendency to impel action but also on their own account. This means, in the first place, that to deal successfully with a child in the school, the teacher must understand his emotional nature, as has already been pointed out in the chapter on the will; in the second place, that the education of the child lies partly in the development of his emotional nature.

The feelings of immature persons are not those of the fully developed. The earliest feelings are of a sensuous and egoistic character. The stunted life does not get far beyond these. In order to bring the child to his greater heritage and highest emotional development, two methods of education must be employed.

The main method is that of stimulating or emphasizing the activities tending to call forth the higher feelings and sentiments. For example, to awaken and develop the æsthetic feelings, there should be presented objects, scenes, and considerations tending to call up a feeling of the beautiful. An appreciation of the beauties in nature does not usually arise spontaneously, but is a result of education, that is, frequent attention to the natural environments and notice of their beauties. The beauties of literature, music, and art are generally appreciated only after years of familiarity. The moral and religious sentiments are developed with the development of the moral and religious instincts, mentioned in the last chapter. In this direction the teacher has great opportunities to enlarge the inner, emotional wealth of the pupil, and to help him to establish habits of proper emotional response to all kinds of stimuli (objects, thoughts, situations).

We must, of course, remember that feelings, sentiments, should not be cherished for their own sake, but should always be kept subordinate to their occasion, lest mawkish sentimentality result.

A second but subordinate method in the development of a proper emotional life, is that of repressing the lower feelings. For example, fear is one of the most prominent emotions during childhood. If the child is frequently frightened by stories and situations, fear may almost usurp the rightful mental life. And, on the other hand, if he is continually made to feel that he is safe from unseen powers or beings, he will hardly know what fear is. All selfish feelings are to be checked, as well as others that should give away to nobler sentiments. Anger

should be repressed for patience, and malevolence for love.

What is the rightful domain of some of the more primitive, lower feelings, is a matter for practical ethics to decide. There are times when want of fear is folly, and patience ceases to be a virtue.

In general the development of the emotional nature of man is closely associated with intellectual training. Our feelings and sentiments are modified continually by our ideas.

Inasmuch as feelings have an impelling force, children should early be impressed with the necessity of letting reason and not passion determine their conduct.

The studies that especially appeal to the emotions are literature and art.

LITERATURE

Dexter and Garlick's *Psychology in the Schoolroom* (Longmans), Chapters XV-XX.

IX

Education through the senses has progressed far before the child enters even the kindergarten. This form of education is, for the most part, spontaneous, being largely directed by the child's inherent tendencies and impulses. Yet when the child is brought to school, the teacher must do some directing in order to assist nature.

Sensations are called the elements of knowledge. Before the objective world can be known or have any meaning, the mind must have a great number and variety of sensations. Hence the first few years of life

are given largely to the obtaining of sense-impressions of all kinds. And when finally the child is mature enough to attend school, it is the teacher's part to assist him in getting other of these sense-impressions, and getting them with some discrimination and with certain appropriate motor accommodations, as stated in Chapter IV. Modern methods of primary instruction include the training of the senses as well as the training of hands and feet. The activities of the pupil are grouped about objects seen, heard, touched, handled, smelled, and tasted.

The advantages of the objective method of instruction, even beyond primary grades, are obvious:

1. It gives the pupil definite and vivid sense-impressions.
2. The impressions are direct and original.
3. The impressions are more permanent and complete.

A prolonged employment of this method has serious disadvantages, in that (1) it makes the pupil too dependent on sense-impressions for gaining new knowledge, and (2) it retards the development of general ideas.

LITERATURE

Harrison's *A Study of Child Nature* (Chicago Kindergarten College).

X

The fact that things are first known as wholes is the reason a teacher, in giving instruction about things, should present them first in their entirety. The attention demands, as it were, a complete thing to start with. Analysis follows as a natural and easy step. If a teacher were to begin with the constituent parts of an object,

without giving the pupils any intimation of the object itself, they would be kept in a state of uncertainty and possibly of confusion, until they found out what all was about. Teaching by psychological principle begins with the object, and then proceeds to detailed analysis.

Discrimination in the young can become extensive and accurate only through considerable training.

The chief senses in which discrimination may be employed in connection with school-work are sight and hearing.

The pupil has exercise in discrimination in distinguishing:

1. Differences in letters of the alphabet and in the appearance of words almost alike (discrimination in reading).
2. Different colors and shades thereof (water-color work).
3. Differences in form or outline (drawing, map-work, nature study, manual constructive work).
4. Parts in objects (natural science, such as botany, biology, zoölogy).
5. Different sounds (singing, instrumental music, sounds of words, inflections of words).

That the young need considerable training in discrimination is apparent on every hand. The teacher may prove this to himself by asking a class of young pupils to draw some unfamiliar object, and noting the results.

Inaccurate observation probably means failure to discriminate.

LITERATURE

Morgan's *Psychology for Teachers* (Scribners), Chapter V.

XI

Since most of the processes involved in perception are involuntary, there seems to be little that the teacher can do in this direction to be of service to the pupil. There are several things, however, that a teacher should keep in mind regarding perception.

1. Perception, as observation, may be cultivated to a considerable extent, especially in certain lines. How very much more does the biologist or botanist see in a little animal or plant than the untrained person! And an experienced hunter roaming through the woods or fields perceives quite different points from those noticed by the scientist and artist. In fact there are many people who fail to perceive even the more palpable points and qualities in their surroundings.

This difference of perceptions in individuals is in part due to mental character, but mostly to differences in mental habit—differences in attention. Observation, its extent and kind, is largely a matter of habit. In the formation of this habit the teacher may have an important part to perform. There are various studies and forms of work in which the teacher can require extensive observation on the part of the pupil. One of the prime functions of the school should be to teach the pupil to see his environment fully and minutely.

2. Perception may be trained to be accurate. Accurate perception is observation applied to details. It implies discrimination also. In spite of training and care, illusory perceptions may arise. Different persons perceive the world differently. Casual perception cannot be relied on as absolutely trustworthy.

3. Perception may be trained to be quick. Quick perception means skill in perception, which is acquired alone through attentive observation—in other words, through practice.

LITERATURE

Dexter and Garlick's *Psychology in the Schoolroom* (Longmans), Chapter VI.

XII

As a rule, teachers have to deal with normally constituted children and young people. Occasionally a child deficient in intellect is sent to school, and sometimes an exceptionally bright child is found. It probably will never happen that a teacher will find a pupil possessing such a power as telepathy (assuming the existence of such a power). Therefore the teacher may safely omit a study of exceptional phenomena as unessential to his qualifications, until he is brought face to face with a situation making it profitable to study this special subject.

XIII

No teacher, however superficially prepared for his work, is unaware of the fact that memory must be employed by the pupils. In spite of all that has been said in disparagement of memory in education, there is yet a large field for its exercise in the schoolroom. The foundations of learning are purely matters of memory. The child must remember the alphabet. He must remember sounds and words and their meaning. The multiplication table is memorized. The facts of history

and of geography are to be remembered, and so on through the list. In fact, the very integrity of our personality is dependent on memory.

For the teacher the matter of memory presents itself in a twofold aspect:

1. How are facts to be presented so as to be remembered by the pupil?
2. What are the conditions for readiest reproduction?

Regarding the first question, it is to be borne in mind that the first step in memory is getting an impression. That which is to be remembered must first of all be attended to. Vivid, strong impressions are usually retained and easily reproduced. On the other hand, to the extent that attention is lacking, the impression is likely to be faint. Therefore the teacher should aim to secure from the pupils strict attention to the matter to be remembered.

Furthermore, impressions are made through various senses, and the more numerous the impressions about anything, the better is the retention. Let us suppose the pupil is to learn a new name. If the name is only pronounced, he may not remember; but if in addition he is made to write it and then to see the word written or printed, the impression is a threefold one and the chances for remembering it are much better.

As to the value of the different kinds of impressions in memory, different persons vary. One remembers best through sound, another through sight, and a third through motor impressions. The most thorough impression possible of a thing is one obtained through all the avenues possible. Likewise repetition of the same impression fixes it more permanently for memory.

To repeat: the teacher should have the pupil attend strictly to the matter to be remembered; he should have the impressions made in as many different kinds of sensations as possible; and he should emphasize the necessity of repeating the impressions. This means also that the teacher is to demand close attention to his instruction and directions; that his instruction shall call into activity various senses and powers; and that he shall hold frequent reviews of work done.

Regarding the second question, it is to be noted that after impressions have been made, the reproduction of them follows the law of association. The mind yields to consciousness a past impression, only when elements formerly associated with that impression are present. If the mind is conscious of what is wanted, it may dwell upon certain ideas that give promise of bringing forth the desired memories. Distracting elements, of course, do not favor a recall of the required impression.

But after all, the yielding up of the impressions as a memory depends on that which retains impressions, and that is the brain-cells. Just as it is essential for retention that the brain-cells be in good condition, so if recall is to be ready and accurate, the brain must be fresh and sound.

The training of memory means acquiring the habit of attention, and making associations. The emphasis of the teacher should be placed on proper care of the health, and the acquisition of habit relating to memory.

LITERATURE

McMurry's *How to Study and Teaching How to Study* (Houghton Mifflin Co.), Chapter VII.

XIV

The ability to remember in terms of definite sensations and to think these together in various combinations, is imagination. Imagination is a form of memory.

Aside from its memorial value, imagination is a source of great pleasure, and may be employed in school to awaken and sustain interest in the work. There is hardly a school in this country that has not a little library of its own, in which are found books, notably story-books, which fascinate the child-mind with their varied imagery.

The earlier years of school-life are devoted to concrete, definite things rather than to abstractions; and the definite, concrete thing is pictured in the mind of the pupil while he is occupied with it. The proficiency and accuracy of a pupil is dependent on his ability to carry distinct images in his mind.

Constructive imagination is used and developed in the following schoolroom employments:

1. Drawing and writing, especially the first.
2. Composition work.
3. Designing and modeling and manual training work.
4. Geometry and other studies in which original work is required.

The imagination is prominent in the play of children, and the more it is employed the more enjoyable the plaything or the game. Hence toys should not be elaborate and finished in detail. The crude hobby-horse is a far better toy than the rocking-horse with hide and hair. In fact, as a rule, the playthings constructed by the child himself are superior, in their fitness to yield pleasure, to those bought in the toy-shop. It is a bad

kindness for parents so to stock the nursery with playthings as to leave nothing for the child to construct in imagination and in material form.

LITERATURE

Halleck's *Psychology and Psychic Culture* (American Book Co.), Chapter VII.

XV

Evidently the school is, above all else, the place for arousing ideas in the young.

The methods by which this is accomplished are two: the one by showing the pupil actual things and relations, and the other by teaching him words and their meaning. For example, the teacher may demonstrate in the laboratory the action of liquids in relation to small tubes, and the pupils will get the concept of capillarity. Or the word *honest* may be presented and then its meaning explained. The concept, or idea, may at first be of limited application or indefinite as to meaning; but it becomes broad and clear through many experiences. Capillarity acts not only in the glass tubes in the laboratory, but also in the tree in which the sap goes up to the highest extremities; in a lump of sugar that is soon filled with coffee when one end is touched to the liquid; in the blotter that absorbs the ink; in the wick that brings the oil up; and in the ground that remains moist at the surface until the moisture deep down is exhausted. Thus, too, *honest* is the person who does not take what belongs to another, who pays his debts, who tells the truth, admits what is just, thinks what is right, claims no praise or esteem except for actual merit or service.

In well equipped, modern schools the pupils have ample opportunity to form concepts from things seen and handled. Description may take the place of objects. Yet the manner of getting concepts matters not, provided the pupil gets them and gets them clearly and accurately.

In teaching, of course, language is very prominent. No effort should be spared to have the pupils get the meaning of words. Opportunity for such instruction is found in every study in the school.

It is important that the teacher have a fairly accurate knowledge of the child's stock of ideas. It is wearisome to the pupil, as well as a waste of time, to explain what is already clearly understood by him. Still more fatal is it to pass over ground that is not mastered and understood. Therefore the teacher must be ever awake to the stock of concepts in each pupil.

LITERATURE

Kratz's *Studies and Observations in the Schoolroom* (Educational Publishing Co.), Chapter III, "Children's Knowledge When Entering School."

XVI

The ability and habit to think well and persistently are certainly not characteristics of the untutored mind. It is one of the great functions of the school to teach the young to think. Teachers of to-day may say as of old Demosthenes said: "In the name of the gods, I beg you to think." The modern school rightly holds the pupil to tasks of reflective and constructive mental activity.

The essential thing in thinking is the establishment

of relations, which includes the concept and is in reality the enlargement and enrichment of it.

During the first years of school-life the thought-processes required of the child should be very simple and natural. It would be almost as serious a mistake to force reasoning in a child of the lower grades as it would be to omit reasoning in the upper grades. Gradually the requirements in reasoning should be increased.

Reasoning by the pupil may be carried on in nearly all studies of the upper grades, high school, and college. Mathematics, especially geometry, is a science of reasoning. The natural sciences afford excellent opportunities to think from cause to effect, and *vice versa*. Logic, as a science, affords good training in valid thought-processes.

In training the pupils to think, the teacher should bear in mind the following considerations.

1. The formation of concepts, or ideas, is based upon particular observations. The young mind should ever be brought face to face with new experiences. Concepts should become as clear and distinct as possible. Much loose and faulty thinking is due to muddled ideas.

2. The enlargement of the import of concepts is attained by additional observation. In this the mind of the pupil must see the relation of the new material to the old. This is conception. Sometimes it may be styled induction. The pupil should be directed in this so that his concepts may widen and expand. This is a process of generalization. Hasty generalization is a propensity of the immature, and they should be cautioned against "jumping to conclusions."

3. The recognition of certain things as being particular

cases of a general fact, truth, or proposition may come immediately or it may come by mediation. This mediation is called reasoning.

4. There is a sequence of events, a cause and effect. Everything has a necessary history, so to speak. The pupil should be so directed that he will acquire a habit of thinking of events, of conditions, and of things as being preceded by another condition or event which accounts for the present one.

5. The young are more largely mystical, and get more intuitive impressions than older persons. This is no matter for regret; but the education of the thinking power and habit should not be neglected, so that clear consciousness may characterize thought.

LITERATURE

McMurry's *How to Study and Teaching How to Study* (Houghton Mifflin Co.), Chapter V.

XVII

As all things knowable are related, so all knowledge itself is a perception of relation. This being the case, instruction must be systematic and adapted to the mind of the pupil, as was pointed out in the discussion of Conception. New facts, in order to be understood, must contain a feature that is familiar to the pupil. That is, the new must be perceived in addition to the old—it must be apperceived. For example, if the child is to understand what an aëroplane is, he may be told that it is a flying machine. That birds fly he already knows. He also knows what a machine is, for there is

the sewing machine, the washing machine, etc. To inform the pupil that an aëroplane is a machine that will fly, is unintelligible unless he understands what flying and a machine are.

Knowledge is obtained inductively and deductively; or stated otherwise, knowledge comes by a perception of particular cases and by instruction as to conclusions reached by others.

Children should become familiar with the inductive process of attaining knowledge. At frequent points the teacher should show to the pupil how certain conclusions were reached; how it required long, painstaking, extensive observation of particulars; how conclusions reached very often require revision because additional facts come to light. In fact, pupils should be required—for the sake of acquiring the method—to carry on a certain amount of inductive study, especially in high school and college.

Although every educated person should be familiar with the inductive method, since such familiarity helps him to appreciate conclusions properly reached and to make light of those without adequate foundation, we should not forget that after all the teacher must instruct without going over again the long, weary road of original discovery. Much that a young person has to know must be accepted as fact with foundation.

The inductive method of studying has some decided advantages. Aside from making the pupil familiar with inductive reasoning, it has the added merit of bringing a certain freshness to the conclusions. Furthermore, what is thus learned is understood.

We must, however, remember that induction is reason-

ing, and reasoning is not a marked trait of pupils under fourteen or fifteen years of age. Induction has been called the natural method, but in the grades the really *natural* method of instruction gives the facts or conclusions.

Hence the inductive, "natural" method of studying in the elementary schools is a waste of time *from the standpoint of imparting knowledge*. For example, it will serve the purpose quite as well to inform the pupil that there are eight parts of speech, as to set the pupil to work to discover that fact himself; or to state that Columbus discovered America in 1492, as to make the pupil investigate original documents, traditions, and facts tending to establish the same truth; or to announce the law of gravity, as wearily to scan the heavens and wearily to retrace the calculations of Newton.

LITERATURE

Swift's *Mind in the Making* (Scribners), Chapter VI.

XVIII

Suggestion in various forms is a factor in the school. An orderly, clean, well appointed, dignified room calls forth respect in the pupils. A room with dirty floor, scratched and whittled furniture, and broken windows suggests to the pupils a freedom and demeanor that make good behavior under such an environment almost impossible. It is therefore important that the school-room should be so appointed and kept as to suggest quiet, dignity, respect, studiousness.

Likewise the morning opening of a school may be such as to suggest the better qualities. A quiet and studious

atmosphere will suggest or, we might almost say, propagate its continuance.

In many ways the teacher can guide and direct a school by suggestions. For example, the mere fact that a teacher assumes an attitude as though every pupil would do his duty, goes far to bring about that condition. The teacher who assumes, in a perceptible way, that the pupils are honorable, truthful, and manly, will find more of those qualities in the pupils than if the opposite characteristics were assumed.

Since it is highly desirable that pupils do what they ought of their own accord rather than through necessity, a suggestion is far better than a command, if the former will suffice. A hint or a wish expressed will often do more than a peremptory request. Governing by suggestion not only accomplishes the end, but it leaves in the pupils a kindly spirit toward the teacher.

The teacher may convey suggestion through a hint, wish, example, story. In fact suggestion is almost as far-reaching as the association of ideas.

LITERATURE

Münsterberg's *Psychology and the Teacher* (Appleton), Chapter XIX, "Imitation and Suggestion."

XIX

The double task of the teacher is to speak to the self of the pupil as it is, and to develop it to its highest form.

The child is most easily appealed to through the physical; and it is proper for the teacher to take the pupil as he is.

But the process of education should be from the material to the social and spiritual selves. Although the teacher may hold out as motives the ideas of material possession, attainments, powers, and enjoyment, or physical sufferings and material wretchedness, he yet should call forth social and spiritual activities and appreciations. No person is truly educated or cultivated who feels no needs above the bread he eats, who puts no higher estimate upon ideals, mental attainments, tastes, and character than upon material possessions.

The higher self is developed chiefly through moral training. Let the teacher remember that moral training is a duty in every school. The education that omits the moral element is a failure.

In the dramatic sundering of the ego, such as occurs when the child plays that he is some one else, care should be exercised that he assume no base rôle. It is far better that the child act and feel and think the part of a good person.

XX

If all pupils had the same temperament and ability, the problems of the teacher would be comparatively simple. As it is, he is obliged to reckon with many mental variations in his pupils.

One of the first psychological lessons that the teacher has to learn is this variation in children in respect to temperament, development, and equilibrium. No successful school management is possible, and no superior teaching can be done, without an accurate diagnosis of each pupil. To repeat what has often been said: the

mind that is to be trained and instructed must be known by the teacher. After this knowledge is gained, he is able to adapt his instruction and directions to the particular mind.

This adaptation must be not only in respect to the concepts in possession of the pupil, but also in respect to his temperament. The quick, sensitive nature requires a different approach from the blunt, indifferent one. In the one case a mere suggestion may suffice, while in the other a direct, plain, and often severe statement is necessary.

Since mental development is not the same in all children, it is hardly necessary to say that a pupil's ability and needs are not determined by his age in all instances. Some children mature more slowly than others, but perhaps more surely. Some do not develop quite up to the normal mark, while others exceed the average ability.

Teachers should therefore constantly bear in mind (perhaps subconsciously) the pupil's particular temperament and development, and—what is quite as important—discover and apply the best methods of dealing with any given pupil.

When pupils differ from the average normal to such an extent that it interferes too much with the proper work of the school, they should be placed in auxiliary schools, as already stated.

LITERATURE

Münsterberg's *Psychology and the Teacher* (Appleton), Chapter XXII, "Individual Differences."

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