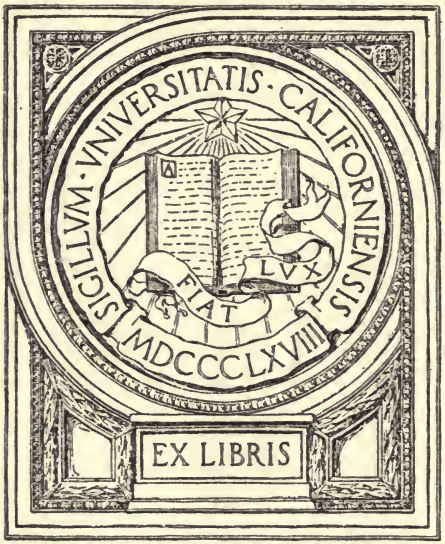
Elements of Psychology

Hewett



R. H. Boone.
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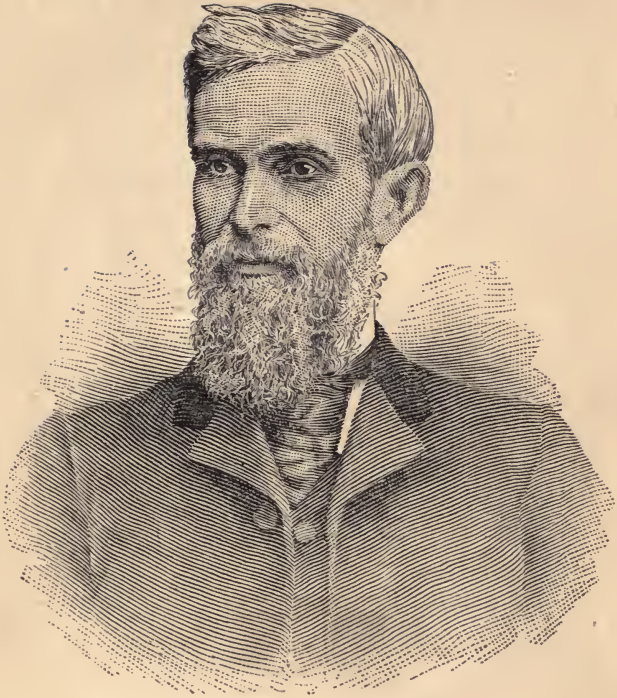

Edwin C. Hewett

ECLECTIC EDUCATIONAL SERIES

ELEMENTS OF PSYCHOLOGY

DESIGNED ESPECIALLY FOR YOUNG TEACHERS

BY

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PREFACE

THE author's aim in this little book is to set before the reader, in a simple and compact form, some of the leading facts of the human mind,—its power and capabilities, the laws that govern its working and growth,—and some truths concerning ways of strengthening and cultivating its powers.

He has not been ambitious to make a large book. On the contrary, it has been his constant purpose to use the fewest words that would enable him to make his thought clear. He has tried to say just enough to set forth the leading points of his subject, and to pave the way for a more extended pursuit of the study. In short, the aim has been to make a *text-book*, that is, a book of texts.

The book is written, not for philosophers, learned men, or controversialists, but for young people of moderate acquirements, who are likely to need the facts of Psychology as a guide to the practical work of the teacher. It is hoped, moreover, that they will be induced to read deeper and more pretentious books on the subject, as well as to continue the study by means of their own observation and introspection. And the author hopes that this book may assist in preparing them for future study.

One of the reasons why many books on Psychology are hard to understand, is the lack of sharp, formal defi-

nitions. It has been a purpose of the author to supply this lack. He does not expect that all his definitions will be accepted; but he believes they are tolerably clear, and he hopes that where they are defective, they may start inquiries which will result in something better.

He holds that Pyschology is an inductive science; but in this book he has not made the least attempt to *develop it inductively*. Yet he most earnestly urges all who study the book to test its statements for themselves. In a science that is derived by induction from the study of facts, no one can speak with any authority other than the authority of a witness. The author has put his statements in a dogmatic form for the sake of clearness and brevity, and because he believes them to be true. But he cheerfully invites his readers to test their truth.

He lays claim to no originality in the book. In the course of many years of teaching he has given much attention to the study of mind; he has also read some of the many books that have been written on the subject. In this book he has stated as well as he could, some of the most important facts of mind just as they now appear to him. He has not hesitated to take from any author any statement that commended itself to his judgment. When the form of the statement has been retained, he has used quotation marks; but it has not seemed worth the while to give the name of the author in every case, for, as was said before, nothing in Psychology rests upon authority.

Such as the book is, it is submitted to the public with the fond hope that it may be found of some use, especially to young teachers.

EDWIN C. HEWETT.

ILLINOIS STATE NORMAL UNIVERSITY,
NORMAL, *June* 4, 1889.

ELEMENTS OF PSYCHOLOGY

CHAPTER I

DEFINITIONS AND GENERAL STATEMENTS

WHAT IS MENTAL PHILOSOPHY?—Philosophy literally means love of wisdom. But, as the term is commonly used, it means the explanation of things, or giving the reasons for them; for instance, to give the philosophy of a pump is to show in what way it produces its results.

By Mental Philosophy, we mean an explanation of the action and growth of the human mind; it includes a knowledge of the facts of the mind,—that is, of its powers of knowing, feeling, and willing,—and a statement of the laws according to which it acts and grows.

A text-book on Mental Philosophy should state these facts and laws exactly, clearly, and concisely.

PSYCHOLOGY.—This word is derived from two Greek words, one of which means the soul, or mind, and the other means a discourse, or science. Hence, Psychology, the science of the soul, is a good name for Mental Philosophy.

Several other words are sometimes used to designate this science; among them are Anthropology and Metaphysics.* But Anthropology includes much more than the philosophy of the mind; and Metaphysics is used in several senses, sometimes meaning more than Psychology, and sometimes less.

WHAT IS A SCIENCE?—A Science is the body of knowledge concerning some subject, systematically arranged in accordance with general principles or laws.

TWO KINDS OF SCIENCE.—In some cases, the general principles, or laws, are first laid down, and then the science is derived from them; such a science is termed a *deductive science.*

Geometry is a good example of a deductive science; a few general principles, viz., the definitions and axioms, are given, and the science is built up from them.

Other sciences are formed by first collecting a large number of facts, and then deriving the laws and general principles from a study of these facts. Such a science is termed an *inductive science.*

Botany is a good example.

HOW DEVELOPED?—In developing an inductive science, we may recognize four steps:

First, The collection of a large number of facts.

Second, A comparison of the facts, noting resemblances and differences, and an arrangement of them in classes accordingly.

Third, A discovery of laws, or uniformities.

Fourth, Careful, formal statements concerning these facts and laws, or uniformities.

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* Let the student consult the Unabridged Dictionary, and study carefully the etymological meaning of these words, and difficult or scientific terms.

By the word "law," in Science, is meant simply A UNIFORMITY. It is a law of plant-life that every plant must have root, stem, and leaf. But to write this *law*, is only another way of saying that every plant does have root, stem, and leaf.

PSYCHOLOGY, AN INDUCTIVE SCIENCE. — We class Psychology among the Inductive Sciences, because its facts are gathered by observation, and its laws are discovered by a careful study of the facts after they have been scanned and classified. Thus, Psychology conforms to our definition of an Inductive Science; and it is built up in the same way as other inductive sciences are.

It may be claimed that there are some facts and laws in Psychology which may be reached by deduction; but the same thing is true of the other inductive sciences. And these exceptions do not invalidate the statement that the general truths of the science are established mainly by induction.

For the reasons given above, we claim that Psychology is an Inductive Science. And, unless we deny that Mind is a part of Nature, we must allow that it is an Inductive Natural Science. But, in general, the term Natural is confined to those sciences which treat chiefly or entirely of matter.

HOW ARE FACTS IN SCIENCE OBTAINED?—Facts in science are learned by *observation;* but this observation is of two kinds. Every careful student of science knows some facts of his science from personal observation; some he learns from the observation of others, reported to him orally, or by writing or printing. Hence, it may be said that his knowledge rests upon two foundations, viz., *observation* and *testimony*— the term observation being confined usually to personal observation or experience.

FACTS IN PSYCHOLOGY are learned in both these ways; careful observation of the gestures and actions of others will reveal much respecting the operations of their minds, while their words, written or spoken, will reveal much that is additional.

A STRIKING PECULIARITY.—The field of observation in all the sciences excepting those that relate to sentient man, is wholly external to the observer himself. But, in Psychology, by far the most important field of observation for any student, is his own mind. The mental phenomena shown by his own mind, revealed to him by his own consciousness, claim his most careful attention. Here is a field of observation quite different from any found in most of the other sciences; and knowledge gained in this field rests upon experience alone. No other than the observer himself can aid him here, save only as he may be directed in making his observations.

A student of Psychology should test every statement made in a text-book, or by a teacher, comparing it with what he knows of his own mental operations. If he finds that his own experience does not attest the truth of the statement, he may conclude that the statement is false entirely, or that it is true of some minds only, and not of mind in general—provided he is qualified to exercise sound judgment in the case.

In fact, a little reflection will convince us that we can know absolutely nothing of other minds, except through what we know of our own minds. All expressions of countenance, all gestures, all words, in so far as they reveal to us anything of the operations of other minds, reach this result *through the interpretation which we give to them in the light of our own mental experiences.* Let no student of Psychology lose sight of the truth here stated.

PSYCHOLOGY, A NOBLE SCIENCE.—One way of de-

termining the rank of a science is found by determining the rank of the subject to which it relates. Mineralogy has to do with dead matter; Botany deals with plant life; Zoology has for its subject, animal life; Physiology treats of physical man. Here we have an ascending series of subjects of scientific study. But Psychology has to do with man as an intellectual, rational, and moral being. Judged on this basis, then, Psychology must be regarded as a very noble science.

Again, mind is the organizer of all the sciences; and of some of the deductive sciences, like geometry, it may be said to be the creator. Surely, we must accord a very high rank to that science which has mind itself for its subject.

Sciences differ greatly in rank, according to their value in aiding to make human life successful and happy. From this practical point of view, we think it can be shown that Psychology should be given a very high place.

Relation to Personal Interests. — The success and happiness of every one depend largely upon the wisdom of his thinking, the right control of his appetites, impulses, and emotions, and the character of his purposes and actions. The better he understands his mind, its powers, capabilities, limitations, and the laws which govern its action, the more able he is to control himself rightly in all the respects just named.

Some sciences, like Astronomy, are very interesting, but they have little to do with the affairs of one's every-day life. We may watch the movements of the heavenly bodies with an interest similar to that with which a spectator, standing on the

shore, would watch the movement of ships far out on the ocean. But, if he were a passenger on one of those ships,—moreover, if he were responsible for the safe navigation of the ship on which he was sailing,—his interest would be of quite another kind. It would be an interest similar to that which we should have in Psychology, when its practical relation to our life and destiny is duly appreciated.

SPECIAL VALUE TO DIFFERENT PROFESSIONS

The Clergyman.—One's Theology, his ideas and beliefs respecting God, are largely determined by his system of Psychology. The qualities of the Divine Mind, as we conceive them, are qualities of human minds refined and enlarged in our conception. This aspect of Theology is sometimes criticised; but there seems to be no alternative, unless we boldly assume that we can know nothing about God. Furthermore, if we accept the ideas of God which the Bible gives us, this view of God is the correct one.

But the clergyman must have a theory of human duty and human responsibility. This theory will be determined by his theory concerning human thought, and the relation of the human will to life and conduct. For instance, if man has no power to direct his thoughts and feelings, if he has no liberty of choice and action, has he any duty or responsibility at all in respect to his life and character? These questions clearly belong to Psychology.

Again, it is an important part of the clergyman's business to influence the thinking and action of men. His success will depend largely upon his knowledge of the laws of human thought, and of the use of arguments and motives.

The Teacher.—It is the teacher's special work to lead his pupils to know, and to train them into right habits of thought and action. How can he do this, unless he understands the processes by which the mind comes to know, and the processes by which growth in right habits is secured?

To suppose that one will be a good teacher simply because he knows well the subjects which he is to teach, is very shallow, and it is the cause of a great deal of poor work in the school-room. Some one has compared such a teacher to a person who should attempt to play a piano, knowing only the tunes he is to play, but entirely unacquainted with the instrument. The illustration is good as far as it goes, but it is very inadequate. To reach the case of such a teacher in an ordinary school, we must suppose the musician to attempt to play on thirty or forty instruments at the same time. Nay, we must suppose that these thirty or forty instruments, no two of which are quite alike at the start, are daily growing, each into something a little different from what it was the day before.

The Physician.—The relation between mind and body is such that a physician can hardly hope to deal successfully with bodily weakness and disease, if he is ignorant of mental phenomena, and of the influence of the mind on the body.

The Lawyer.—No man needs to know more clearly than the lawyer, the movements of the human mind, and the way in which men are led to different opinions and courses of action. How, otherwise, can he unravel his "cases," or how can he bring judge or jury to decide in his favor?

The Orator.—The orator's success in arousing, convincing, and persuading those who hear him, must be determined by his ability to play on that most wonderful of all instruments, the human soul.

To Men, in General.—The success of any man in dealing with his fellows will depend largely upon his "knowledge of human nature." But three fourths of one's knowledge of human nature is a knowledge of the capabilities and modes of activity of the human mind.

A Mental Discipline.—Few studies are better calculated to give good mental discipline than Psychology. This study demands: (1) Close observation; (2) Careful reflection; (3) The making of fine and critical distinctions; (4) Precision, and exactness in the use of terms and in the making of statements. These are the exercises that are especially calculated to sharpen and strengthen the intellectual powers.

Common and Scientific Knowledge.—It must not be inferred from what has been said, that no one but those who have studied formal Psychology in school or college can possess any of the advantages that we have claimed for this study. Here, as in Botany, Zoology, and every other science, one may have a great deal of knowledge "picked up" in a hap-hazard way, crude and unorganized, but which may be very useful so far as it goes.

In every field of human thought, the difference between scientific knowledge and common knowledge is not a difference of *kind*, but of precision, order, and efficiency.

Neglect of Psychology. — Notwithstanding all that is claimed for Psychology, it must be confessed that, as a general thing, it is not a very popular study in the schools, nor among studious men who conduct their studies in private. Nor does it offer

much that is attractive to the great multitude who are not students. It may be said that one reason for this is that the subject is usually presented in a dry and unattractive way. While this may explain the fact in part, there seem to be several other reasons.

WHY NEGLECTED. — *First*, The practical value of Psychology, its relation to the common affairs of life, is not seen so readily as in the case of some other studies. Arithmetic teaches how to compute interest, Geography aids in trade and travel, Chemistry teaches how to deal with soils, medicines, and explosives, Physics has to do with the making and using of machinery, etc. But the value of Psychology does not so readily show itself in the outward and visible.

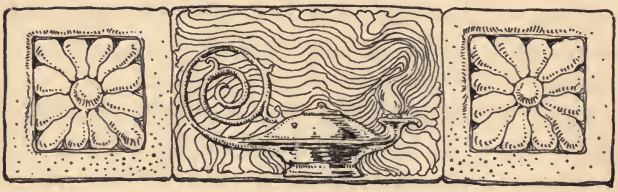
Second, This science can make no show of specimens and apparatus, like some of those mentioned, and others that might be mentioned. An appeal to the senses has a wonderfully attractive power to most minds.

Third, Psychology is a very old science; much that is most valuable in it has come down from the old Greeks, or from remoter sources. This science has little of the charm of novelty—nor is there much hope of making any new discoveries here. In Geology, Botany, Chemistry, Electricity, etc., astonishing discoveries and inventions are often made, and men's names are sent down to posterity in connection with them. But who expects to discover a new mental power, or to invent a new process of thinking?

Fourth, In a new country like ours, the pursuits

that have to do with taming and controlling nature, with furnishing food, clothing, and shelter, may always be expected to receive the largest share of attention. But, as better provision is made for supplying the most urgent needs of our bodily existence, it is to be expected that men who are willing to think at all, will turn their thoughts more and more to those subjects which are more intimately connected with man's inner life and well-being, although they appeal less strikingly to the senses.

Among those who are teaching and guiding in the work of our schools, there is an increasing interest in questions of Psychology. This is one of the most cheering facts in the whole field of public education.



CHAPTER II

THE NATURE OF MIND

IND AND MATTER. — Man is curiously made up of mind and matter, so wonderfully blended that no one can tell exactly how they live and work together. Of the real nature of both mind and matter, we are profoundly ignorant. No one can tell what either *is;* we can study their phenomena only. Man has a body, and he has a mind; he has, also, powers that belong to the body, and others that belong to the mind.

Power is the ability to do something.

For distinction, we may call the powers that pertain especially to the body, as the muscular powers, *physical;* and we may call those powers that pertain especially to the mind, as the power to remember, the power to love, etc., *psychical* powers. To be sure, the mind's powers do not show themselves wholly independent of the body; all mental activity is probably attended by movements among the molecules of the brain. The truth seems to be that, in some way not fully understood, the mind uses the brain as its instrument.

Our best philosophers teach us that the mind itself is one indivisible thing; it does not possess organs, as the body does, nor is it a bundle of powers; but it *has* many powers, which it can exercise in various ways. When we love, it is the entire mind that loves, and not part of it, although it may work with more or less force in the act. The same is true when we remember, when we will, etc.

GRAND DIVISIONS OF MENTAL POWER.—The powers of the mind are numerous, but they may all be arranged in three classes; viz., *intellect, sensibility, will.*

Writers on Psychology differ greatly on many questions; and their discussions about some of them are very fierce. But, on the division of mental powers into three groups, as here given, there is almost complete unanimity among all modern writers.

DEFINITIONS.—The Intellect comprises those powers by which we are able to *know.*

The Sensibility, or the Emotions, is that group of powers by which we *feel.*

The Will is the power to *choose* and *execute.*

In speaking of the psychical powers of man and their phenomena, we are obliged to borrow our terms from the body and its phenomena. This is somewhat unfortunate, as the terms thus borrowed are likely to be misunderstood. The word *feel,* which we have just used, is an example of such a term. When one speaks of feeling sorrow, he means something very different from that which he means when he speaks of feeling the table with his finger. In the latter case, he means an affection of the mind through the nerves of the body. This is perception, or an exercise of one of the knowing powers. In the former case, he means an affection of the mind independent of the nerves, as when he feels sorrow for the loss of a friend. This is an exercise of sensibility.

Illustration.—The action of the three grand classes

of mental powers may be illustrated in the following way: You take up a newspaper and read of the floods in the lower Mississippi valley. You are able to understand what the writer says—to think his thoughts after him—and his thoughts awaken new thoughts of your own. Thus, you see that you have the power to know, to think,—or, you have Intellect. As you read of the sufferings the floods cause the people, you begin to pity them, and to desire to relieve their suffering. You thus see that you have the power to feel,—or, you possess Sensibility. You learn that others are sending money to aid these poor people; moved by your feelings, you determine to join in the contribution; and you do contribute. Thus, you see that you have the power to choose, to determine, and to execute,—or, you have Will.

ORDER OF ACTION.—These are the three grand classes of mental powers; nor is there any mental faculty that can not be properly grouped under one of the three classes. Moreover, these classes of mental powers always act in the *order* here given. It is inconceivable that we should have feeling in regard to any matter until we know something about it, or think we do. Nor do we ever put forth any activity of the will till we are prompted to it by some feeling.

This is illustrated in the case of the "prodigal son." He "came to himself," and thought; he felt, in respect to his wretched condition, and the plenty at his father's house; he then resolved to arise and go to his father.

A wise writer, or orator, or teacher, who wants to lead men up to a resolution, always observes this order. He strives first to awaken thought,—to make people

know something about the matter in hand. He then seeks to arouse their feelings in view of what they know and think. It is only after both these results are reached that he hopes to bring them to any resolution, or choice, or action, respecting the matter.

DIVISION OF THE POWERS.—By the earlier philosophers, the mind's powers were divided into two classes instead of three. They were termed the *contemplative* and *active*, or the *cognitive* and *motive;* that is, powers exercised in *knowing*, or the Intellect, as we now say, and powers concerned in *action* or in *motives* to action, including what we now call both the Emotions and the Will.

OBSERVATIONS.—We give a few general observations concerning the three Grand Classes of mental powers.

The Intellect.—A writer says: "The infant soul contains *implicitly* all the faculties of developed intelligence; reason is there with all its essential characteristics, but it is there only in its intuitive form."

He says again: "Each faculty has a primitive state corresponding to its spontaneous development. Primitive judgments form the basis of all our knowledge." A "primitive judgment" is defined by another as the "judgment of a relation between the conscious subject and the immediate object of consciousness." An act of sense-perception is such a judgment; a child can make it long before he can make the formal judgment called *a thought*,—that is, a judgment of agreement or non-agreement between two concepts.

Again, it is well said, "That our intellectual faculties may exist in two distinct states of development, seems to have been overlooked by teachers, as well as by educational writers. We have no hesitation in saying that the higher faculties, in their first or simpler forms, may be healthfully exercised at an early age. A child of seven years readily forms simple abstractions, and reasons clearly about concrete things."

The Emotions.—Another able writer says: "We demand that *we feel* towards objects in proportion to their rank and worth. To be interested solely in physical goods, is the mark of an animal life. To be enthusiastic over the insignificant, is a form of folly that finds its perfection in the fool. To be cold and indifferent towards the highest, indicates either an atrophy, or a distortion, of the emotional nature. The indifferent must be treated with indifference; the commonplace must not be exalted; enthusiasm and devotion belong only to noble objects; and wrath must be reserved for injustice, baseness, and degradation."

The Will.—Of the will, another keen writer says: "When exercised only in the gratification of animal appetites, it is brute-will; when fulfilling the ends of free, spontaneous (voluntary) thinking, it is the scientific will; and when executing the imperatives of the reason, it is the spiritual will in liberty."

NATURE OF MIND.—Although we claim to know nothing of the real nature of mind, or of matter, still it is important that we have certain clear, fundamental conceptions regarding each, and regarding their relations to each other.

Mind, a Unit.—We should think of the mind as one indivisible thing, neither made up of parts, nor an aggregate of powers or capabilities. And yet it has the power of acting in various ways; and to these several ways of acting, we find it necessary to give names. Hence, we speak of the mind's Powers or Faculties; but we must not think of these powers as things in themselves, nor as being *parts* of the mind. For instance, the mind has the power to remember, which we call Memory. But Memory is not a part of the mind; it is the ability of the mind to do a specific act. An act of memory is an act of the whole mind, in accomplishing a certain result.

Mind, an Entity.— We believe that the mind is a real thing, and that it will live after the body is dead. Although we know nothing of human minds disconnected from bodies, we see no reason to doubt that a soul may be thus disconnected without any essential change in its nature or function. Even Mr. Bain says: "For anything we can see, the body might have its bodily functions without the soul, and the soul might have its psychical functions in some other connection than our present bodies."

Differences of Mind and Matter.—There are good reasons for denying that mind and matter are the same thing viewed from two different stand-points, or that mind is a product of matter.

(1.) Matter manifests itself only by its qualities; mind manifests itself only by its acts.

(2.) The characteristic quality of matter is its occupation of space; it is impossible, perhaps, even to conceive of mind as occupying space.

(3.) The law of matter is Inertia,—it never moves unless some force moves it; we are sure that mind has the power to originate its own activity.

(4.) The characteristic of mind is consciousness; wherever there is consciousness there is mental activity, or mind. But there is no evidence that consciousness is ever found in dead matter.

(5.) Mind has the power to know its own acts; only mind knows the qualities of matter.

Mind, a Product of Matter?— There are philosophers who teach that mind is the product of molecular movements in the brain,—that a "little agitation of the brain" is thought,—that the "brain secretes

thought as the liver secretes bile." But to suppose that matter in any way *produces* mind involves the absurdity of supposing that something totally inert and unconscious can produce that which is both conscious and self-active. Can anything be greater than its maker? Can any effect exceed its cause?

MIND AND BODY CLOSELY RELATED.—But, while we believe that mind and body are not the same thing, nor one the product of the other, yet in the living human being they are very closely related. A keen writer says: "Body and mind are so closely connected that it may be doubted whether anything ever takes place in the one without being registered in the other."

We all know how intense thought shows itself in the bowed head, the contracted brow, or the clenched hand; it may even make one unconscious of physical discomfort. Strong emotion, as anger, joy, or fear, will not only show itself by involuntary movements of the muscles, but will seriously interfere with the vital functions of the stomach, the heart, etc.; nay, will sometimes even cause death. The action of a strong will shows itself in the whole bodily attitude and movement. Almost every form of mental activity has its appropriate outward bodily manifestation; in this fact lies the significance of gestures.

On the other hand, causes that belong in the body alone, have much influence on mental states and activities. Who can think well, or be perfectly calm and serene, when suffering from toothache? Whose mind is clear when his stomach is struggling with an overload of indigestible food? And a mental state, or

form of mental activity, may often be induced by the performance of the appropriate bodily act.

MIND AND BRAIN. — While there is a close connection between the mind and the whole body, the connection is most intimate between the mind, and the brain and nervous system. The brain seems to be the mind's instrument; probably there is never any mental activity that is not accompanied by movements and changes in the brain.

A description of the brain and nervous system belongs to physiology. But all teachers should feel the importance of having the brain nourished with good blood; this is impossible without good food, good air, and exercise. Nor should they forget that the brain always demands rest after labor. Especially is this true of the brains of children, for the child's brain, like his muscle, has not the power of endurance that belongs to the adult. The best rest for the brain is sound sleep.

It is well-known that the muscles of children can not, without damage, be put to the hard work which the muscles of a man can safely perform. But physiologists tell us that the child's brain grows more rapidly, proportionately, than his muscles; is there not, therefore, much greater danger of overtaxing the child's brain than of overtaxing his muscles?

CULTURE OF THE MIND'S POWERS. — The specific work of the teacher is the cultivation of the minds of his pupils, — not simply giving them knowledge to be memorized. And even the knowledge acquired, useful as it may be, should confer a greater benefit upon the pupil by the mental culture it gives than by the practical ends it may serve.

TEN PRECEPTS OF MENTAL CULTURE *

1. The object of mental culture is the fullest development and highest right activity of the faculties of the mind.

2. One of the primary conditions of mental culture is a well organized and healthy brain.

3. The mind is cultivated by the right activity of its faculties.

4. The mind requires objective realities for it to act upon.

5. Each faculty of the mind requires a culture adapted to itself.

6. The culture of the mind should be adapted to the order of the development of its faculties.

7. The culture of the mind should aim at a harmonious development of all the faculties.

8. The culture of the mind should be modified to suit the different tastes and talents of the pupils.

9. The culture of the mind is not creative in its character; its object is to develop existing possibilities into realities.

10. The ultimate end of mental culture is the attainment of the threefold result — learning, development, and efficiency.

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*These ten precepts of Mental Culture have been taken from Dr. Edward Brooks, and slightly changed in phraseology.

SCHEME.

- **1. Psychical Powers.**
  - **1. Intellect,**
    - 1. Presentative,
      - 1. Feeling; 2. Seeing; 3. Hearing;
      - 4. Tasting; 5. Smelling;
      - 6. Sense of Resistance to Muscular Effort (?)
    - 2. Representative,
      - 1. Memory = Reproduction + Recognition.
      - 2. Imagination; 3. Constructive Conception.
    - 3. Reflective,
      - 1. Comparing; 2. Abstracting; 3. Generalizing;
      - 4. Judging; 5. Reasoning, etc.
    - 4. Intuitive, gives us,
      - 1. Necessary, self-evident Truths.
        - 1. Being; 2. Space;
        - 3. Time; 4. Right;
        - 5. Beauty; 6. Cause;
        - 7. Personal Identity, etc.
      - 2. Ideas of
        - 1. Physical Sensation.
        - 2. Simple Emotion.
        - 3. Affections,
          - 1. Love of
            - 1. Self.
            - 2. Others.
            - 3. Country.
            - 4. Beauty, Truth, Right.
          - 2. Hate.
        - 4. Desires,
          - 1. Physical.
          - 2. Psychical.
            - 1. Of Society.
            - 2. Of Power.
            - 3. Of Approbation.
        - 5. Curiosity.
        - 6. Hope.
        - 7. Interest.
        - 8. Admiration.
        - 9. Reverence.
        - 10. Sympathy.
        - 11. Conscience (?)
  - **2. Sensibility,**
  - **3. Will = Choice + Volition.**

General Powers.
1. *Consciousness.*
2. *Attention.*
3. *Conception.*

NOTE.—In this Scheme, we have included only such of the sensibilities as have special importance for the teacher.

CHAPTER III

GENERAL POWERS, — CONSCIOUSNESS

N order to bring before the mind of the reader clearly and distinctly, the psychical powers and their relation to each other, we give the foregoing scheme.

GENERAL POWERS.—We have already defined a Power as the ability to do something; but some philosophers make a distinction between a mental Power and a mental Faculty.

A Faculty is a power under the control of the will, having a specific work of its own to do.

According to this definition, we must class Seeing, Memory, Judgment, Love, etc., as mental faculties. But the mind has three very important powers that do not answer to the definition of faculties; these are, *Consciousness*, *Attention*, and *Conception.*

The powers of Consciousness, Attention, and Conception never act separately from each other, nor from some one or more of the mind's faculties. These powers are not co-ordinate with the faculties, but are connected with them all. Hence, in the Scheme, their names are written across, opposite a brace that includes the faculties in all the three Grand Divisions.

DEFINITION. — *Consciousness is the power the mind has to know its own actions and states, and to know them as belonging to the Ego.*

This is not a faculty; it is not under the control of the will, nor does it perform any specific act of itself; it gives cognizance of the acts performed by the faculties, and of the Ego as their subject.

Dr. Hopkins says: "We would define consciousness to be the knowledge by the mind of itself as the permanent and indivisible subject of its own operations. Consciousness holds the whole in unity by a constant reference of the different acts and states of the mind to the indivisible self or *Ego*." Thus, consciousness is the *ground* of the idea of personal identity. We think this is true; but we believe consciousness includes both the state, or act, and the Ego.

NECESSARY TO MENTAL ACTIVITY. — Consciousness is necessary to any mental activity; it is the characteristic of mind. Two persons direct their eyes to the same landscape or picture; the same image is upon the retina of the eye in both. But both do not see the same things; each sees what he is conscious of seeing, — no more. In fact, he may be so absorbed in thought, or so overpowered by emotion, as to see absolutely nothing. A burst of harmony from several instruments or several voices may fall on the ear; the hearer may be conscious of the harmony as a whole, or he may be conscious of the individual tone of one voice or one instrument. He hears just what he is conscious of hearing. So of all other mental acts, — there is no unconscious mental activity; not to be conscious that you remember, is not to remember.

Consciousness has sometimes been compared to a light, showing to one's self what is in his mind. It puts nothing into the

mind; it simply shows what is already there. We can not will to be more or less conscious; we shall be more conscious when we have more in the mind to be conscious of,—in no other way.

Objects of Consciousness. — In other words, of what can we be conscious?

1. *The Ego.* — We may be conscious of the Ego, as thinking, feeling, or willing.

2. *Acts and States.*—We may be conscious of the activity, or state of the mind, in perceiving, remembering, loving, choosing, etc.

3. *Products.* — We may be conscious of the products of these actions,— our concepts, our thoughts, our feelings, our choices, etc.

4. *The Non-Ego in Contact?*—Some hold that we may be conscious of the Non-Ego, as in the case of something resisting our muscular effort; Sir William Hamilton thinks so, if we understand him.

All these objects of consciousness, except the last, belong strictly to the Ego. Nor can we be conscious of anything except that which is before the mind at the present instant; consciousness can not deal with the past nor the future. In remembering, we are not conscious of that which we remember; we are conscious only of the concept of it which is now before the mind. You may be conscious that you were conscious yesterday,—that is, you are conscious of your present concept of the former consciousness. You may be conscious of a present concept of that which is future.

Testimony of Consciousness. — We know most thoroughly that of which we are conscious. You know that you are hearing when you are conscious that you hear; and, if you are asked *how* you know you are conscious, there is no further answer to be given,— consciousness is the "bottom fact." When one forms a judgment, he is conscious of the result;

that is, he knows what decision he has made. The decision may be false or true, consciousness can tell him nothing as to that; but consciousness can not mistake as to what the decision is.

MENTAL ACTIVITY WITHOUT CONSCIOUSNESS?—We have said that consciousness is the characteristic of mind. If this be true, there is no exhibition of mind apart from consciousness, — there can be no unconscious mental activity. "Unconscious knowing and unconscious willing are phrases which defy all interpretation." But cases are often cited where there *seems* to be mental activity without any consciousness; at least, there is no remembrance of any consciousness. It is said that a reporter in the House of Lords became very weary, and fell into a state of unconsciousness; but that he made a correct report of all that was said during the time he was unconscious. The explanation, doubtless, is either that he was not entirely unconscious, but was simply unable to remember the slight degree of consciousness that he had, or that his action in reporting was purely automatic, —that his fingers, through long habit, responded correctly to the impressions that fell upon his ear, without any mental action whatever.

"Unconscious knowledge" seems to be contradictory in terms. Yet much of our knowledge, doubtless, has not been consciously *formulated;* a child or a savage knows that a part can not equal the whole, and still he may not be able to state his knowledge to another. Perhaps his mind has never conceived such a statement.

UNCONSCIOUS CEREBRATION.—Such action as the supposition about the reporter implies, would be a case of "unconscious cerebration", — that is, brain

activity unaccompanied by mental activity. All muscular activity is prompted by an impulse from the nervous system; but often this is attended by no mental activity. An involuntary kick when the foot is tickled, is a movement of this kind. It is called "natural reflex action," which is *an involuntary response of the motor nerve to an excitement of the sensory nerve.* The limbs of a dead man may be made to move in this way, by an electric shock.

HABIT.— But it is found that movements which were at first guided by the mind may become so familiar that they become reflex, and require no more thought, or mental activity, than natural reflex action does. It is so in walking; and, with an expert musician, the playing on an instrument may be of the same kind. Muscular habit is *induced* reflex action; that is, it is prompted by unconscious cerebration. In this consists the value of such habits: they enable us to do things correctly and rapidly without any outlay of mental power.

And it is very important to notice that *mental habits* may be formed, which tend to become similarly automatic, perhaps because, by long continuance, the action of the brain becomes reflex, like the action of the muscles. This shows how a result of the multiplication of two small numbers appears without effort in the mind of one familiar with the multiplication table. Thus, you think "twelve" whenever you hear "four times three." Anything in which one is thoroughly educated has taken on the form of habit; and it is the true business and aim of education to form right habits,—physical, intellectual, and moral.

Some very curious phenomena, aside from those that result from known habit, may be explained, perhaps, by unconscious cerebration. You grapple with a difficult problem in the evening; it baffles you, and you give it up, retire, and sleep. In the morning, the solution is perfectly easy and clear. You try to recall the name of a person; you fail, and give it up. An hour after, when all desire or use for the name has passed, it suddenly comes before your mind with provoking clearness. In these and many similar cases, it may be that movements in the brain, having been started in a certain direction, have continued until they have wrought out the result, simply by unconscious cerebration,—without any mental activity until we become conscious of the result itself.

WHAT WE KNOW. — In the strictest sense, we know nothing except what is before consciousness at this moment. In a looser sense,—which is the common one,—we know all that we can recall into consciousness. When the child truthfully says, "I know, but I can't think," he means that it is possible for him to bring the thing in question into his consciousness, but that he can not do it at this moment.

Our knowledge now in consciousness is like our money in hand; all our other knowledge is like our money in the bank. And the one who can not recall what he knows, at the moment, is like a depositor after the bank is shut.

THE EGO IN CONSCIOUSNESS. — Our definition of consciousness implies that each act of consciousness has two sides; one relates to the thing known, the other relates to the Ego as knowing. But attention may be directed more fully to the one or to the other. The expression "I am conscious that I see," may indicate to which side the attention is directed, by the word on which the emphasis is placed. Place the emphasis on the last word, and note the meaning;

now place it on next to the last word, and note the striking difference in meaning.

All consciousness is of necessity self-consciousness, but, when undue attention is given to the Ego, we have what is commonly called self-consciousness, or abnormal consciousness. Every thoughtful person knows how much such consciousness of self interferes with our best performances, and how ridiculous and contemptible it sometimes makes one appear. Forget self, if you would do your best before your fellows. Such unfortunate and mischievous consciousness of self may be due:—

1. To morbid "sensitiveness",—the result of heredity or of bad education.

2. To a real, or supposed, feeble or morbid condition of the body.

3. To undue pride, vanity, or self-love.

4. To a knowledge of personal defect, ignorance, or unworthiness.

CAN CONSCIOUSNESS BE CULTIVATED?— Consciousness is not under control of the will,—it can "produce" nothing. Hence, to speak of its products or its cultivation, seems to be an abuse of language.

CHAPTER IV

GENERAL POWERS, — ATTENTION AND CONCEPTION

EFINITION. — *Attention is the power the mind has to bring all its force to bear on one thing.*

Important as this power is, it produces no result alone, and of itself. Hence, it is not to be considered a faculty, although it is under the control of the will.

When we say that attention is under the control of the will, we do not mean that it never acts except in obedience to a mandate of the will, but simply that the will can cause it to act. The same is true of other voluntary powers; we often remember without willing to do so, but memory can be moved by the will.

MODE OF ACTION. — If it be asked *how* the mind turns its force to one thing in an act of attention, the answer seems to be that it is done by not allowing the mental force to move towards anything else. This restraining, or limiting, of the mental force is the act of attention.

Illustration.—The mental current may be compared to a stream of water—it flows constantly. In revery and absence of attention, it is like that stream flowing down the mountain side, and spreading, unre-

stricted, over the meadows; it may be pleasant enough, but it does no work. When one wishes to put the stream to work, he puts a dam across it, and allows no place of escape, except at the point where he puts his wheel. So we put the mind to work by confining the mental force to one point of escape. If we can do this completely, the attention is perfect,—no force is lost; if not, the power in part escapes, like lost water through a leaky dam.

Meanings of the Word.—When we speak of Attention, we always have reference to the direction in which the force and activity of the mind are turned. It may be spontaneous,—it is always so in the case of the child,—as when something attracts us powerfully; or as in the case of revery or day-dreaming, although the latter is often called lack of attention. Or the attention may be voluntary, as when one resolutely sets himself to the performance of a task. We properly mean, however, by attention, either the power of the mind to direct its course by the force of the will, or the act which this power thus performs. There is a close connection between interest and attention; it is very easy to attend to anything that interests us deeply. Interest may even compel us to attend against our will. But, on the other hand, if, through a sense of duty we oblige ourselves to attend to that which does not interest us at present, interest is very sure to follow. Attention is always due to interest or will, or to both.

The word "attention" is often used to signify the mind's force itself, rather than the power of the will over it; as when one says, "Give your whole attention to this subject."

Power of the Will over the Mind's Action.— In what respects has the will power over the mind's activities? First, it may arouse and incite the mind to activity; or, in other words, the mind may arouse itself through the action of the will. Secondly, the mind may direct the course of its activity, by will-power; this is properly the power of attention.

And one who has complete control of himself in this respect, can call off his mental forces from any object with the same readiness that he can direct them towards any object.

The true conception of the operation of the will in an act of attention seems to be, not that the will seizes the mind's powers and turns them towards a certain object as the hand uses a crow-bar, but that the will prevents the mental force from moving in any but the desired direction, as in the illustration just given. And, in consequence, the mental force, by virtue of its own essential activity, goes in the way desired. This "liquid theory," if we may so call it, seems to be preferable to the "crow-bar theory."

Mental Activity without Attention?—There can be no mental activity without some expenditure of the mind's force in a certain direction; hence, there must be some degree of attention. Some of our activities are thoroughly habitual; in such cases, there is no attention, for there is no *mental* activity,—the movements are purely automatic. For instance, take the case of a mechanic at familiar work, of a person walking and reading, or of a musician playing a tune and talking with a friend at the same time.

Can we Attend to More than one Thing at a Time?—Much has been said on this question; many learned men have declared in the negative. They as-

sert that, in cases where the mind seems to attend to more than one thing, the fact is that the mind vibrates rapidly from one to the other; and they tell us that, in the comparing of two objects, we can detect this vibratory movement. They seem to be clearly wrong. In a case of perfect attention, the mind's forces are all brought to bear on one thing, but experience shows that in imperfect attention the mental force is divided; in the case of comparing, no conclusion could ever be reached, if, in the vibration, only one of the objects was the point of attention. The mind must have both before it, in order to decide.

Every one must have observed that in reading or conversation there is often an under-current of thought passing in his mind, of which he is vividly conscious.

Objects of Attention. — As attention has reference to all the mind's activities or force, and as the word often means the mental force itself, of course the objects of attention will include everything on which mental force can be made to bear.

Can be Cultivated. — As the will has the power to direct the attention, attention can be cultivated; and the success of a student will be almost proportioned to the degree of that cultivation. This is equally true of the pupil in school, and of the profound scholar. How shall it be done? By a complete, continued, persistent exercise of sheer will-power over the mind's movements.

In order that a teacher may be of any service to his pupils, he must have the power to secure their attention. For securing attention in recitation, we offer the following rules:—

Rules.—1. Look the pupils squarely in the eye.

2. Say nothing till you have the attention of your class; stop, if you lose it.

3. Talk slowly and clearly.

4. Say a thing but once.

5. Hold the pupils strictly responsible for what you have said.

6. Do not put questions to your class in a fixed order; propound the question, then name a pupil to answer it. Do this habitually.

7. When the class need such discipline, stop the one who is reading or reciting, in the middle of a sentence, and require another to begin exactly where he left off.

Attention of little children must accompany every successful mental effort. There are two ways in which the man may be led to give attention: one is by attracting it, so that he attends without effort; the other, by inducing him to attend through sheer force of his will-power. The attention of the child can be gained in the first way only. It can be attracted and held for a short time; but his will is not strong enough to enable him to attend against his inclination, nor after he has become weary. And yet he must attend, if he is to do anything to any purpose. Nor can his attention be secured by frequent calls for attention, nor even by authority. It must be attracted at first, and its object must be changed frequently. It is a gradual process, by which he gets the power to *command his attention*, and this power must be gained by a judicious course of training.

To the teacher there is no subject more important than this of attention. Dr. Rosenkranz says: "To education, the conception of *attention* is the most important of all those derived from Psychology."

Conception.—It is not easy to frame a short satisfactory definition for Conception, but there is little

difficulty in naming the particular things that it does. It is the power by which we see with the "mind's eye" absent objects; by which we perceive the abstract relations of things; by which we get clear notions through discourse or thinking; by which we understand why and how things may be, etc.

When a teacher, after explaining a problem in algebra, asks the pupil if he "sees it," he means to ask if it is clear to his conception; of course, he has no reference to the act of sight.

Perhaps the best short statement for Conception, is to say that *it is the power by which we see with the "mind's eye."* When we conceive of a thing fully, we see all around it, as it were; we become acquainted with all its limitations; we "take it in"; we comprehend it. But we often *apprehend* things that we can not *comprehend;* just as one may see something of a mountain when much of it is hidden in clouds.

We must not limit the possibility of things by our power to comprehend them. Many possible things are inconceivable; for instance, the matter of this earth must have been created out of nothing, or it must always have existed in some form, without any beginning; both these things are utterly inconceivable, and yet not only is *one* of them possible, but it is certain. On the other hand, some impossible things are perfectly conceivable, as the passage of a flying ship to the moon.

Not a Faculty. — Conception is largely under the control of the will, but it accompanies all the other mental powers, and produces no specific results alone. Hence, it is not a faculty.

There is a special use of the Conceptive power in forming abstract, general concepts; for instance, when the ideas of surface limited by three lines, are combined, we have the abstract, general concept signified by the word "triangle." This combina-

tion is made by Conception acting with the Reflective Power; such a use of the Conceptive Power may be called *Logical Conception.* More will be said of this hereafter.

MEANINGS OF THE WORD.—Dr. Haven says, "This term (Conception) has been employed in various senses by different writers. I conceive of a thing when I make it a distinct object of thought, when I apprehend it, when I construe it to myself as a possible thing, and as being thus and thus. This form of mental activity enters more or less into all our mental operations; it is involved in perception, memory, imagination, abstraction, judgment, reasoning, etc. For this reason, it is not to be ranked as one of, and correlate with, these several specific faculties."

It seems to us that these statements are eminently just, and that we must reckon conception as a general mental power; but it is not a faculty, for the reason given by Dr. Haven.

We think common language shows that in the minds of men in general there is such a conception of this mental power as is expressed above. Take such expressions as "I have a distinct conception of his personal appearance,"—"I have no conception how that can be,"—"This is my conception of the meaning of the statement," etc. Common language is the expression of common knowledge, and of common modes of thought; and it often deserves great weight in considering a thing in its scientific aspect. Note what is said on page 16, about common knowledge and scientific knowledge.

WHAT IS CONCEPTION?—From Dr. Haven's statement of the several uses of conception, it is readily seen that a short and comprehensive definition for this power is not easily found. We venture to propose the following, as a tentative definition: *Conception is the mind's power to represent things to itself.*

WHAT IS A CONCEPT?—A concept is a product of the conceptive power; it is the elementary unit of the mind's operations. Or, *A Concept is a mental product whose expression is a single term.*

The concept may be simple, as that expressed by the word "redness"; or it may be complex, as that expressed by the words, "A man in uniform, riding rapidly, on a spirited black horse"; but the expression makes but a single *term* in language.

A concept of an object of sight is perhaps the most readily recognized, as the concept of an absent friend's face, or of some familiar scene. But we certainly have concepts of sounds, odors, tastes, sensations. Nor are our concepts by any means confined to products of the senses; we have concepts of all our mental activities and states. We also have concepts of the abstract qualities of things, as well as of relations of all kinds, — for instances, the relation of eight to twelve, or of crime to ill-desert.

Many writers use the words "idea," "picture," "image," etc., where we would use the word "concept." These words all refer to the sense of sight. "Idea" comes from a Greek word which means a form; hence, these words may do very well for concepts of objects of sight, but they are not strictly appropriate when applied to other concepts. "A picture of an odor" is a strange use of words, to say the least.

THE CONCEPT, AN INTELLECTION.—We may readily form a concept of an emotion or a volition, but the concept itself is a pure intellection. Your present concept of a sorrow felt a year ago is not sorrow, is not an emotion. It may give rise to a new feeling of sorrow, or you may have learned that the sorrow was causeless, and so have no present feeling in regard to it; or, again, it may have been caused by something

which turned out to be ludicrous, and so it now may give rise to a feeling of mirth.

TRUTH OF CONCEPTS. — Our concepts in themselves are neither true nor false; we can predicate nothing of truth or falsity concerning them till we have some judgment or belief respecting them. I may conceive of a horse with wings of silk; this concept is neither true nor false. But if I judge, or believe, that such a horse really exists, it is quite probable that my judgment concerning that concept, is false.

LOGICAL, OR GENERAL, CONCEPTS. — Many writers attempt to confine the word "conception," exclusively to that use of the power by which we form general, or logical, concepts. But very few of them, so far as we have observed, fail to use the word repeatedly in their writings, as though it meant what we have explained above; we think they show in this way their mistake in attempting to restrict its meaning to only one of its uses.

A *logical concept*, such as is expressed by the word "man" or the word "triangle," is not a concept of an object, but of a bundle of attributes that belongs to every one of the class to which the term may properly be applied. The term itself serves as a cord or strap to hold the bundle together.

If one uses, in speaking to you, the phrase "a man," he asks you to respond with the concept, or "image," of an individual man; but if he says "man," he asks you to respond with a concept of a bundle of qualities common to all men. Rarely are all the elements of such a concept distinct and perfectly clear in the mind of the one who uses the term, or of the one who hears it; and still it serves very well for ordinary purposes. Were it not so, our language would become very meager and

very barren. Even a child, who could do little or nothing towards analyzing and defining the general concept expressed by the word "cow," must have that concept in his mind with some fair degree of distinctness. How, else, could he place an animal in the class "cow," so readily, on seeing an individual specimen of the class?

CULTIVATION OF CONCEPTION.—The will has great control over our conceptions; hence, the power can be highly cultivated, both in its common use, and in its use to form and analyze general and logical concepts. And the work of the wise and earnest teacher will show no more profitable results in the culture of any other mental power of his pupils. A bright mind is one whose conceptive power is clear and strong. Dullness is due to lack of this power. "Parrot" recitations are of words without their accompanying concepts. Mechanical reading is calling over words, in this way, from a book. Mechanical, meaningless mathematical work is the blind following of rules while the conceptive power is asleep. Much of our school work, we are sorry to say, is performed in such a way as to put this power to sleep; and the more we work with tongue, or pen, or hand while conception sleeps, the more soundly it will sleep while we thus work. This is the process by which many little children, who entered school bright, keen, and inquisitive, are made dull and stupid after attending the school for a few months.

A really "lively" school exercise of any kind is not to be measured by the noise made, nor by the amount of manual activity; but by the fullness and clearness of the conceptive power used. No reading by older or younger pupils will be correct,— except,

perhaps, with the correctness of mechanical imitation,—until conception gives *life* to the words spoken. No Geography lesson is worth anything that does not fill the mind with correct and lively *pictures*. No mathematical work is anything but a mechanical "grind" till the pupil "sees" the relation of the parts with his "mind's eye."

Our concepts of sensible things must be based on our sense-perception of them; hence the importance of careful and correct perceptions, in order that our concepts derived from them may be correct. These concepts are to be the material with which the mind must work, in all its thought and reflection concerning objects of sense.

CHAPTER V

THE INTELLECT, — DEFINITIONS AND FIRST PRINCIPLES

HE INTELLECT. — The group of knowing powers, or the Intellect, is subdivided into four groups; viz., the Presentative Powers, the Representative Powers, the Reflective Powers, and the Intuitive Power. This division is exhaustive.

The Presentative Powers give us knowledge of the outside world through the senses.

The Representative Powers give us concepts of absent objects.

The Reflective Powers show us the relations and connections of objects, or of their concepts.

The Intuitive Power is the power by which we know certain fundamental things without being taught.

The word "object" must not be confined to material things. When we say that these powers do these acts, we must remember that the powers themselves are not *entities*. It is the mind, —the one indivisible mind,—that performs all these acts; but its power to do one thing is called by one name, and its power to do another thing is called by another name. It is the mind that perceives through the senses, that represents, that reflects, that has certain ideas and thoughts without teaching.

THE INTUITIVE POWER. — Because of its fundamental character and the intimate relation of its action and products to the other intellectual powers, it seems best to say something about this power and its products, before we proceed to speak of the other divisions of the Intellect.

It is said that the Intuitive Power acts in only one way, but that its products are of two kinds. By this power, we have certain fundamental notions, ideas, or concepts; and also certain necessary, self-evident truths.

Some assert that we get all our knowledge, of every sort, through experience and reflection; they claim that this is as true in regard to what we have called the ideas and truths of intuition, as it is of our knowledge of the qualities of objects. We hold, however, that observation and experience merely furnish an *occasion* for this kind of knowledge; they do not cause us to have it.

TRUTHS. — Thus, we know that a part can not equal the whole; we know that the same thing can not be in two places at the same time; we know that a statement can not be both true and not true at the same time and in the same sense. All such truths every sane and sound mind knows at once, as soon as it is capable of comprehending clearly what is said. We can not disbelieve them, if we try. No attempt at proof can make us believe them any more firmly. In fact, no proof of them is possible; we may illustrate such truths by individual instances, but we can not demonstrate them. Many of these truths are included in the axioms of mathematics; but there are axioms which do not belong to mathematics.

All necessary, self-evident truths have these three characteristics: 1st, They are true everywhere, and

at all times; 2d, They can not be demonstrated; 3d, The contradictory of any one of them is manifestly absurd. To illustrate, take the axiom that a whole is equal to the sum of all its parts. This must be true everywhere, and it must be true at all times. We may illustrate it,—that is, we may show it to be true in any given case; but we can not prove that it will always be true in every case. The contradictory, viz., that the whole is *not* equal to the sum of all its parts, is seen to be absurd at once by any one capable of understanding the statement.

IDEAS.—Philosophers do not agree as to the number of fundamental ideas given us by Intuition. We may safely say that there are seven of them, at least; viz., *Being*, *Time*, *Space*, *Beauty*, *Cause*, *Right*, and *Personal Identity*.

Being.—By the intuitive idea of Being, we mean that all men naturally and always believe in the existence of themselves and of other things. None but crazy men and some philosophers ever think or talk as if there could be any doubt about this.

Time.—The intuitive idea of Time is the necessary notion of time as passing whenever we think of the occurrence of events. We can not rid ourselves of this idea; in thought we may empty time of every event, but we can not think the time away. In respect to definite amounts of time, we exercise our judgment and experience; but the idea that there must be some amount of time, is intuitive.

Space.—The intuitive idea of Space is very similar; when we think of bodies, we are compelled to think of them as existing in space. We judge of the amount

of space in any particular instance, but we can not get rid of the idea that space is, and must be; we can empty it in thought, but we can not think it away, nor think of it as finite.

Beauty.—The intuitive idea of Beauty is that there is, and must be, such a thing as beauty; or, in other words, that some things are beautiful and some are not. The child shows that he has this idea very early; "pretty" is one of his first words. The judgment decides as to the beauty of any particular thing, and the decisions differ very widely.

Cause.—We believe intuitively that every effect must have a cause; the child shows that this idea is inherent by his questions "Why?" "What makes it?" etc. A cause that is not itself caused is inconceivable to him; is it not beyond the comprehension of any one? Judgment pronounces as to what the cause is, in a particular case.

It is highly important that we do not confound the occasion of a thing with its cause. The occasion of a thing *allows* it to be or to be done; the cause *makes* it to be or to be done. To illustrate: The expansive force of steam is the *cause* of motion in the locomotive; the opening of the valve, or throttle, is the *occasion* of the motion.

Right.—The idea that there is such a thing as Right,—that some things are right, and others are wrong,—seems to be intuitive. "Is it right?" is a question that has a meaning to a very young child; parents and teachers would do better to ask it more frequently. Judgment decides whether a specific thing is right or not. As in the other cases named, these decisions vary greatly.

Personal Identity.— No sane person can divest himself of the idea that he is himself,— the same personality that he always has been. It is intuitive; he is conscious that it is so, and that is the end of all question. Nor would the testimony of a thousand strengthen his conviction.

We may say that a knowledge of these fundamental, intuitive truths and ideas, is innate; that is, we are so constituted at birth that, as soon as the occasion arises for this knowledge, we have it, and that without any instruction or study. And we take it for granted that every one else has this knowledge the same as we have; we pronounce one an idiot, or insane, if he is lacking in this respect. For, a recognition of these products of Intuition constitutes what we call *natural reason.* Reason, as we here use it, must not be confounded with the Power of reasoning; some insane people can reason most logically, but they have lost their reason, as they show in various ways.

OBSERVATIONS ON THE INTELLECT

The Mind knows by its own Activity.— A writer truly says, "Every concept or idea is formed in the mind that possesses it, *by the mind's own activity.* It is not received; it is produced." A skillful teacher will cause a pupil to know what he did not know before. But he does this, not by transferring his own concepts and thoughts to the learner, but by causing the learner to produce in his own mind the same concepts and thoughts that are in the teacher's mind. Hence, knowledge can not be *imparted,* in the strict sense of the word; it can only be induced, or awak-

ened. It is sometimes said that knowledge differs wonderfully from money or material goods, in that the one who imparts it has no less than he had before. The wonder disappears when we see that knowledge is never imparted at all. The mind that gets knowledge must produce it for itself, under proper conditions and with proper helps. This is a fundamental principle of mental acquisition that no teacher can ignore without disastrous consequences; some of the greatest evils in our schools are due to the false notion that words *convey* knowledge.

What the human Mind is Like.—On the one hand, the human mind is, in some of its aspects, like the minds of intelligent animals. There seems to be the clearest evidence that the mind of a horse or a dog perceives through the senses much as a human mind does; and some of the acts of animals in remembering seem to be exactly like similar acts of memory in man. But there is no evidence that the animal can perform the higher acts of abstraction and reasoning, nor that he has an intuition of right, nor any sense of obligation, nor any conscience, nor any religious capacity.

On the other hand, the fact that man can understand the laws of nature, that he can in some cases demonstrate their necessity by mathematical formulæ, seems to show very clearly that man's mind is akin to the Mind that made and governs the Universe. Who can doubt that the old astronomer was right, when he said, "Oh, my God, I think thy thoughts after Thee!" Any student of natural science who clearly comprehends one of its laws, thinks the thoughts of God after him,— in some degree, at least.

Three Steps in the Intellectual Process.—The mind gathers the crude material of its knowledge by the use of the perceptive powers. The exercise of sense-perception is also the *occasion* of the development of those fundamental ideas and truths which the mind has through the intuitive power. Conception afterwards brings before the mind the concepts of that knowledge which has been gathered by the use of the perceptive powers. Then, by the reflective power, or the "Elaborative Faculty," the signification, the relation, and the use of what has been gathered, are discovered. The three steps, then, are Perception, Conception, and Reflection, or Thinking, as that word is used by philosophers. It is an old saying that, "There is nothing in the Intellect that was not first in the Sense." This is very true, if we except the products of intuition, or the "Natural Reason." All the highest thoughts of the philosopher or the poet have been elaborated from the crude material obtained through sense-perception. A failure to recognize these three necessary steps in their order is the reason why so many teachers are vainly striving to build up conceptions or to induce reasoning in the minds of their pupils, by the use of mere words which have never been filled with meaning through a proper use of the perceptive powers.

Mr. Tate says, "All our knowledge is derived from three sources; viz., *sensation*, *reflection*, and the *primitive laws* involved in our mental operations." By the last, he means the ideas and truths given to us by Intuition; that is, by the very nature of the mind itself.

CHAPTER VI

THE PRESENTATIVE POWERS, OR THE SENSES

THE PRESENTATIVE POWERS. — The Presentative Powers, often called the Perceptives, seem to get their name in this way: Since the days of the old Greeks, men have divided the Universe for every man, into the *Ego* and the *Non-Ego;* the Ego is the man himself, and the Non-Ego includes everything except himself. The Presentative Powers, or the senses, *present,* as it were, the things of the Non-Ego to the Ego, shut up, as he seems to be, somewhere in this bodily tenement. They are a kind of "introduction committee."

THE SENSES. — The senses are commonly said to be five in number: — Feeling, or the sense of touch, Seeing, Hearing, Tasting, and Smelling. To these, some philosophers add a sixth sense, which they call the Sense of Resistance to Muscular Effort.

FEELING is the most general of all the senses, as it extends over the whole body, wherever the nerves are found. There is some propriety in saying that the other senses are modifications of feeling, because they all require special nerves for their action. All

these special nerves are located in the head. Two of the senses, seeing and hearing, in addition to the special nerves, also require curiously constructed organs.

Most of the words used to designate the powers of the mind, may also signify the acts which the powers perform, and often the products of the acts; thus, Feeling may mean the power to feel, or the act of feeling. The same is true of Memory, Judgment, etc. Whenever we use one of these words, we do well to think carefully whether we mean by it the power, or the act which that power is able to perform.

The sense of feeling makes us acquainted with such objects only as are close to us. It also acts slowly, from the parts to the whole; this is illustrated by the actions of a blind man as he studies objects that he handles. We all act in a similar way when we grope in the dark; hence, feeling has two limitations.

SEEING is very different; it shows us objects that are near or very distant, and it acts rapidly; it gives us notions of things as wholes at first, and afterwards studies their parts. The special nerves of sight are called the *optic* nerves. But sight can not act when light is absent, nor when the rays are obstructed by opaque objects; hence, sight has two limitations.

HEARING.—The medium through which we hear must always be present where life is possible, for it is the air we breathe; nor do intervening objects wholly prevent our hearing. No other sense affects the emotions so quickly or so deeply as hearing; this is seen in the effects of music, and of the tones of the voice. The *auditory* nerve is the special nerve of hearing.

The senses we have considered make us acquainted with the size, shape, position, resonance, etc., of bodies; in other words with such qualities of bodies as have relation to *space*.

TASTING AND SMELLING.—But tasting and smelling, by means of the *gustatory* and *olfactory* nerves, enable us to learn much of the composition and condition of bodies. We judge by the use of these senses whether substances are fit to be taken into our organism or not. Hence, the special nerves for these senses are found in the mouth and nose, the gateways to the stomach and lungs.

SENSE OF RESISTANCE.—When you allow an object merely to touch your hand, you simply feel it; but when you let it rest upon your hand, and put forth muscular effort to sustain it, your sense seems to give you something besides simple feeling; you have a sense of something resisting your muscular effort. This is why some philosophers say that there is a sixth sense; and they say that no other sense makes us know so soon and so certainly that there are objects outside of our own organism.

Teachers can teach young children a great many truths about the "five senses," but they had better say nothing to them about the sixth sense. Children should understand that it is the mind that acts through these nerves and organs of the senses. The eye does not see; but the mind sees by means of the eye, using it as an instrument.

Because the Sense of Resistance to Muscular Effort is not regarded by all as a separate sense, distinct from mere feeling, we have placed an interrogation mark after it in the Scheme.

MORE ABOUT THE SENSES.—Having briefly defined each of the senses, it is now proper that we study them more closely, to ascertain their mode of action, and to see exactly what we derive from their use.

Sense-Perception.—This is the foundation of all our knowledge, or mental activity, (1) Because men-

tal activity begins with sense-perception; (2) Because sense-perception furnishes the crude material for all our mental activity, as has just been said. A study of a baby will soon convince one that the first signs of mental activity appear in the use of his senses. Probably the first step, beyond the mere cognizing of impressions on the nerves, is an act of discrimination, — a cognizing of differences.

Were an infant entirely deprived of the use of all his senses, there is no reason to suppose that he would ever show any indication that he possesses a mind. We have said that his first mental act is a cognizing of impressions on the nerves; that is, the first thing he knows is a sensation.

A sensation is a cognized affection of the nerves.

Conditions of Perception. — (1) There must be a perceiving mind. (2) This mind must be connected with a nervous organism, that can be affected by the external world. (3) There must be an external world — the Non-Ego — to affect the sentient organism. (4) The external world must affect the nervous organism. (5) The affection must be cognized and interpreted by the mind. If any one of these five conditions be wanting, no perception is possible.

What Each Sense Gives. — The acquisition which the mind gains through each of the senses is distinct and separate from anything acquired by the use of any other sense.

Touch gives us tactual sensation, or *feeling*, with all its varieties.

Sight gives us a knowledge of *color*, with all its varieties.

Hearing gives us *sound*, with all its varieties.

Taste gives us *savor*, with all its varieties.

Smell gives us *odor*, with all its varieties.

All the knowledge that the mind gets directly through the "five senses" is included in these five short statements.

Is It Much or Little?—From the above bald statement of the case, it might seem at first as though we get but little through the senses; but, if we will reflect upon the vast amount that is implied in the phrase, "all its varieties," we shall see that our acquisitions through sense are not small. At any rate, they are all we have; and they are enough.

But Dr. Hopkins maintains that, if we had only what these senses would receive, were we deprived of motion, and the senses were passively acted upon by the outer world, we could never know that there is an outer world,—a Non-Ego; we could not determine that our knowledge relates to anything *objective*.

But when we exercise our power of motion in connection with sense-perception, we begin to be aware of the Non-Ego as affecting us. This knowledge of the Non-Ego comes first and most powerfully through the sense of resistance to muscular effort,—a sense which would be impossible without the power to move. Motion also reveals the Non-Ego by the sense of feeling, as when we put one finger on some part of the body, and another finger on a stone; in one case the sensation is double, in the other it is single. Motion, also, enables us to decide that colors, sounds, odors, and savors belong to the external world, and are not merely subjective affections of our organism.

That is, the outer world is revealed to us when the mind begins to act upon it, but not so long as we passively receive impressions from without.

Probably, the infant's first impressions are not distinguished as having any connection with anything outside of his organism; but he soon begins to act upon the external world, and gradually to discover the sources of his sensations. In the adult, his senses have so long acted together, and in connection with his power to move, that it is a little difficult to distinguish what each sense gives alone, or to realize how much he would be limited, were he deprived of the power to move.

Direct and Acquired Perceptions. — So true is this that, in common language, we are accustomed to say that we perceive directly, through one sense, all that we are enabled to know from what that sense gives us when interpreted by all the light of former experience, aided by other senses. We say that we perceive a rose by the smell, or "We smell a rose." All that we smell is the odor; the rest we know through experience. One may say, "I hear Mr. Brown's wagon, driving rapidly towards the south, and it is empty." Does he perceive all this through his hearing? All that he hears is a peculiar sound; the rest he knows from experience.

Sense of Touch. — It is usually said that four things are involved in a perception through the sense of touch. These are: (1) Simple sensation; (2) Cognition of its character; (3) Reference to the part of the body affected; (4) Cognition of the object touched. These do not differ psychologically; that is, we do

not have one of them without the others, excepting that the fourth is sometimes wanting. But, logically, they are different steps in the complex process; that is, each may be a subject of separate thought.

It is commonly said, too, that these steps do not differ chronologically,—that they are synchronous. But, in a case where the perception is violently painful, it would seem that there is a slight difference in the time of these four steps. Suppose one to step with the bare foot on a hot iron; he exclaims, "Oh, I burned my foot on the iron." Is there not a perceptible difference in the time of the four steps, as expressed by the order in which his words are pronounced? First, there is a violent sensation of pain, expressed by "Oh"; next, the sensation is cognized as a *burn;* then it is referred to the *foot;* lastly, the cause of the trouble is referred to.

Sensation and Cognition.—In every perception,—by touch or by any other sense,—there are involved an affection of the nerves,—a sensation,—and a cognition and interpretation of that affection.

It has been said that these two bear an inverse ratio to each other, and the remark is doubtless true, to a certain extent. An overpowering light, sound, odor, or taste has a mastery over us to such a degree that the intellectual element in the perception becomes very small. On the other hand, we may suppose a philosopher so intent in studying a painful experiment upon himself, as to become almost unconscious of the pain. For instance, he might allow a bee to sting him, and be so much interested in comparing the sensation he feels with some other remembered sensation, as hardly to feel the pain of the sting.

This seems to be merely an example of the general truth that intense feeling and intense thought can not

co exist. One partially or completely neutralizes the other; and this is equally true whether the feeling be a sensation of the nerves or pure emotion—a man violently agitated by any feeling can not think well.

Is the Body Ego or Non-Ego?—We have seen that every act of perception has two sides, the side of sensation and the side of cognition or interpretation. In sensation we involuntarily regard the body as Ego; but, so far as cognition is concerned, the body appears as objective,—Non-Ego.

Questions as to Sight.—Does sight give direct knowledge of surface? As sight gives color, and as color can not be confined to a point, it would seem that sight necessarily involves the notion of surface. Practiced sight, re-enforced as it has been time and again by the testimony of the other senses, not only gives notions of surface, but of solidity. Hence, we know or infer from sight alone, that a body is a sphere or a cube. That this inference is due simply to our perception of colors, is proved by the deceptive appearance of frescoes and other paintings which have a well-managed blending of shades and perspective.

Does Sight Give Distance?— This question is ambiguous. If it means to ask if sight gives an immediate knowledge of the amount of distance, the answer is clearly in the negative; only after long experience can we judge accurately of distance. But, if the question inquires whether we see objects as apart from us, the answer is just as clearly in the affirmative. The infant does not think that his rattle touches his eye, nor has the chicken any doubt that the corn must be reached after.

Other Questions.—The image upon the retina of the eye is inverted; and it is asked why objects are not seen inverted. This is an idle question; until we can tell how we become cognizant at all of what is pictured on the retina, it is not worth while to discuss the peculiarities of that cognizance.

Having two eyes, why do we not see double? We may, if we hold the object very near the eyes, or if we press one of the eye-balls and throw the axis of the eye out of its usual position. Ordinarily, nature has arranged the axes so that the images appear to coincide.

Some books on Psychology give many pages to the discussion of these questions; but we think we have said all about them that needs to be said in a book on mental science.

CHAPTER VII

THE PRESENTATIVE POWERS — CONCLUDED

ABOUT HEARING. — It has been said that hearing is the most *internal* sense. This is literally true, in that the organ of hearing is more internal than the organs or nerves of the other senses. But it is also true that no other sense has such power to arouse emotions. A groan will awaken pity in one who hears, more quickly and more deeply than the signs of suffering that appeal to the sight.

Sounds have a close connection with emotions not only in awakening them, but in expressing them, as well. The language of emotion through sounds is a *natural* language; and it is largely shared by man and animals in common. It is easy to tell from the cry of a dog whether he is in pain, or is earnest in the pursuit of game. The horse knows from the tone of his driver's voice whether he is frightened, or is calm, resolute, and self-confident.

VARIETIES OF SOUNDS. — Sounds differ in pitch and in power; and the range of difference is very great. It has been estimated that a trained ear can distinguish five hundred variations in pitch, and also five

hundred variations in power. If this is so, then two hundred and fifty thousand different sounds can be distinguished, taking account only of pitch and power. But sounds also differ in quality, or *timbre*. The sounds of two instruments,—violins, for instance,—playing the same tune with the same power, are readily distinguished by their quality. In the same way we distinguish the voices of different persons, without regard to pitch or power. From this it will appear that the "varieties" of sound are almost unlimited.

WHAT IS SOUND?—Sound is the *cognized vibrations from a sonorous body, conveyed by the air to the auditory nerve*. From this, it will follow that vibrations which do not affect the auditory nerve and become cognized, do not produce sound. In other words, there is no sound without a hearing ear.

SOUNDS EXPRESS EMOTION AND THOUGHT.—We have seen that *natural* sounds express emotion; but the sounds which express thought are *artificial*, or conventional. Such are the words and sentences of a human language. But most of our language is intended to express both thought and feeling. Thought is expressed by the right use of the right words; but the feeling is expressed by the tone, pitch, quality, and inflection of the voice. This is a matter of great importance to the public speaker and the oral reader; neither thought nor feeling should be lost.

Do We Hear Direction and Distance? — Probably we can judge nothing primarily of direction and distance, by hearing. But, through long experience, we learn to judge in these respects, with much accuracy. This, however, is acquired perception.

TASTE AND SMELL. — The varieties of savors and of odors are very numerous. The odor of the apple differs much from that of the orange; and each differs from that of any other odorous body. Nor do all apples smell alike, by any means, although all have the peculiar odor of the apple. The same is true of savors; all teas have a common taste, and so have all wines. But the varieties of these common tastes are so numerous, and are so closely related to the quality of the articles, that the great merchants employ professional tea-tasters and wine-tasters.

ORGANIC AND VITAL SENSATIONS. — There are sensations which are purely *subjective*, and have no direct connection with our perception of the external world. The organic sensations pertain to the nutritive, circulatory, and other organs of the body. In health, they are hardly cognizable, except as we have a general feeling of comfort; but, in disease, they are sometimes the source of most acute torment. The vital sensations, like those of health or sickness, rest or fatigue, etc., have much to do with our comfort or discomfort. But, as they afford no means of knowledge concerning the external world, and as they have little connection with the mind's operations, except incidentally, it does not seem necessary to spend many words upon them, in a book on mental science.

Some call the power to feel these sensations a seventh sense. Some also regard the power to perceive heat or cold, as a separate sense; but it seems hardly worth while to spend much time on these distinctions.

WHAT IS IT TO PERCEIVE THROUGH SENSE? — It is to get direct and immediate knowledge of the external

world. What we get directly through each sense is rudimentary and elemental; but, by combining these several elements, and by testing what our senses give us through our power of motion, by acting upon the external world, we build up our whole fabric of knowledge of the Non-Ego,—so vast, and varied, and useful.

The word "percept" is used with some lack of definiteness. An elemental percept is just that item of knowledge that one sense gives during its exercise,—an odor, a sound, etc. But a percept of an object is the notion we get of that object by our senses, at the time when we are exercising our senses upon it. When our senses have ceased to act upon it, the notion that persists or returns is a concept of the object.

Our Perceptions, Intuitive. — Sense-perception acts intuitively; that is, it acts immediately, and by no roundabout method. This is the case with all *direct* perception; of course, the case is different with what we have called the acquired perceptions.

Let us distinguish three uses of the word "intuitive." Our perceptions are intuitive, as just explained. Our consciousness is intuitive. Our knowledge of the ideas and truths given us by the Intuitive Power, is intuitive.

THE QUALITIES OF BODIES

Two Divisions. — Through sense-perception, we become acquainted with the qualities of bodies. But there are some differences in those qualities which a book on mental science must notice. The qualities of bodies are broadly divisible into two classes, called Primary and Secondary. The first are *necessary to our conception of matter;* the second are not.

Their distinctive characteristics may be given in three corresponding statements, as follows:

The Primary qualities are: (1) Necessary to our conception of the existence of matter; (2) They are known without experience; (3) We may conceive of them as belonging to empty space,—as existing, even if no body should exhibit them.

The Secondary qualities are: (1) Not necessary to our conception of the existence of matter; (2) They are known by experience only; (3) They can not be conceived as existing apart from some body to exhibit them; that is, we can not think that they do or can exist with no body to exhibit them: but we can in thought draw them away from that body; this we do in the process of abstraction.

Examples of Primary qualities are extension and divisibility; examples of Secondary qualities are hardness, odor, color, etc. If we are told that a body exists in the moon, we know it must have extension and divisibility, but we know nothing of its Secondary qualities.

Primary Qualities.—The Primary qualities are extension, impenetrability, size, divisibility, incompressibility, shape, situation, mobility. Some writers add others. We can not think of matter as not possessing these qualities, because our ideas of these qualities grow out of two necessary conditions of our conception of matter.

Two Conditions.—These conditions are: (1) Every body must occupy space; (2) No body occupies all space. If matter, or body, must occupy space, then it must have extension, for that is the property by

virtue of which it occupies space. If a body occupy space, no other body can occupy the same space; hence, impenetrability.

Observe that the word "occupy," means *to fill* to the exclusion of everything else.

If a body occupy space,—that is, if it is not a mere point,—it must have size. If it have size, half of it will have half the size, and so on; that is, it can be divided, or is divisible. If it must occupy space, it can not be compressed so as to occupy no space,—it is incompressible. If a body occupy space, but does not occupy all space, then it must have limits; hence, figure, or shape. If a body occupy space, but does not occupy all space, then it must have a place in space, or situation. If it does not occupy all space, then it may be moved into the space it does not occupy; hence, it has mobility.

A Further Division.—The Secondary qualities may be divided into two classes, called Mechanical and Physiological. Weight, hardness, toughness, etc., are examples of the mechanical qualities; and odor, color, savor, etc., are examples of the physiological qualities. The first have a real existence *as such*, in the body, whether any one shall deal with them through sense or not. The second have no existence *as such* in the body,—they belong only to our subjective experience. For instance, what we call sourness in an apple, is the name of a peculiar affection of the gustatory nerve when we taste it, the name of an effect produced on our physiological system. Hence, the quality is called a physiological quality. We may make a similar remark about odor, color, sound, heat, etc.

It is usually difficult for the young learner to realize that the physiological qualities have no existence as such outside of our organism. But a little careful attention will make the matter clear, so that it will not seem strange for one to say that, strictly speaking, bodies have no color, nor odor, nor taste, nor sound, nor heat.

An Unknown Something.—Of course, there is some quality in the body which produces that effect on one's nervous system that we call color, taste, etc.; but that *something* is not known to us: at least, we do not conceive it to be the same thing as the subjective effect that we call taste, color, etc. The name we use is properly the name of the effect of an unknown quality on ourselves, and not the name of the quality itself. But, as the quality is unknown, and as its effect on us is constant, we usually give the same name to the quality and to its subjective effect. Hence, we say, "The apple is sour," instead of saying, "The apple possesses that unknown quality which produces the effect on us that we call sourness."

Another Division.—Sir William Hamilton divides the qualities of bodies into Primary, Secundo-primary, and Secondary. His Primary is the same as ours; his Secundo-primary and Secondary correspond respectively to our mechanical and physiological. We prefer the division we have given.

Can we Trust our Senses?—There have been philosophers who taught that *all* which sense gives us is purely subjective, and that we have no ground for believing that there is anything in the outer world that corresponds to these affections of sense; in fact, that we have no sure ground for believing that there is any outside world to be known.

In answer to this, it may be said that we have no

other guides but our senses, that if we use them wisely we get on very well, and that these very philosophers, in all the common affairs of life, use and trust their senses just like other folk.

Apparent Deceptions.—But certain cases are often cited, in which our senses are said to deceive us.

1. An oar partly in the water appears to be broken, an object viewed in the mirror seems to be behind the mirror, a sound seems to come from a direction the opposite of the real one, the mirage in the desert misleads the traveler, etc.

2. Again, it is said that in disease we experience sensations that are known to have no real outward cause. We hear ringings in the ears, we feel prickings in the flesh, we see strange forms and colors that belong to nothing outward, etc. One suffering from *delirium tremens* sees snakes and demons; one in a fever sees ghosts and apparitions, etc.

3. Again, we are told that men differ in their judgment as to some qualities; what one calls sour, another calls sweet. One will assert that a color is blue while another pronounces it green, etc.

Explanation.—Now, all apparent deceptions of the senses can be thrown into three classes, as those cited above are grouped in the numbered paragraphs. It may be said of the first group that there is no false report of the senses,—they report *just as they would if things were as they seem to be.* The rays come to the eye as they would if the stick were broken, if the object were behind the glass, etc. The reason for these misleading movements which the senses report, is to be sought in Natural Philosophy. Moreover, we

can correct the apparent deception by further use of the senses themselves; we can remove the oar from the water, or remove the water from the oar, and sight will correct itself.

All the trouble in the cases in the second group arises from a disordered organism. And, surely, we must not hold the healthy sense responsible for the errors and weaknesses arising from a diseased organ.

The differences indicated in the third group are all in respect to physiological qualities of bodies. As all that we know about such qualities is the effect they produce on the nervous organism, and as nervous organisms are not all alike, it is not strange that men should differ as to tastes, sounds, colors, etc. Still it will be noticed that the great mass agree in respect to these qualities; hence, we must suppose that, when one differs from the generality, his organism is in some way peculiar.

There are some so-called deceptions of sense that are pure hallucinations; the trouble is wholly in the mind, and not at all in the senses. For instance, the moon near the horizon seems broader than when on the meridian; but it is easily shown by actual measurement that the eye really shows it broader when on the meridian,—the trouble is wholly in our interpretation of what the eye gives us.

THEORIES OF PERCEPTION.—There is an inscrutable mystery in the relations of mind and matter. We may study the nervous system, we may observe how objects affect or stimulate the nerves, we may trace this affection from the extremities to the organ of the sense, or to the brain, we may even determine the time that elapses from the application of the stimulus till the effect appears in consciousness; but when we

ask *how* the effect appears in consciousness, we ask a question that no one can answer,—we have reached a bridgeless chasm.

When men begin to speculate about that of which they know nothing, they sometimes reach very queer conclusions; and they are likely to be the more dogmatic the less they know. So men have put forth very varying theories as to the process of perception. The principal theories may be shown in a Scheme, as follows:

Theories of
- 1. The Natural Realists.*
- 2. The Idealists
  - 1. Absolute.
  - 2. Representative.
    - 1. Egoistic.
    - 2. Non-Egoistic.

The doctrine of each class of theorists may be briefly stated as follows:

The Realists believe that there is an outside world, that we take direct cognizance of it through the senses, and that it is essentially as the senses report it to be. They make no attempt to show *how* we perceive,—that is, to explain the process.

The Idealists assert that the mind can have no cognizance of anything outside of itself. They divide into two classes:

The Absolute Idealists assert that we have no evidence that there is an outside world; and even if we suppose that there is one, we have no reason to believe that it really is as it seems to be.

The Representative Idealists assert that there is an outside world, and that it is truthfully represented in

*The words Idealist and Realist are sometimes used in different senses from those here defined. But philosophers have taught all the doctrines here outlined, and some writers have given them the names that we have found it convenient to use as we have done.

the mind; but that we are cognizant of the representation only, not of the world itself. But they divide into two classes, as to the mode of representation.

The Egoistics say that the representation is a modification of the mind itself.

The Non-Egoistics say that the outside world is represented by little images, or "ideas," which are not exactly mind or matter, but which are real, objective existences; and which, as a sort of go-between, enter the mind and there represent the objects of the outside world. This system was probably suggested by Plato's doctrine of *Ideas*.

Historically, it is probable that the last class arose first. Attempting to speculate upon something that no one can understand, and assuming that mind can take knowledge of nothing outside of itself, they invented the doctrine of the go-betweens, or *ideas*. Hence, the name Idealist came to be applied to all who deny that the mind can know anything about what is outside of itself.

It is easy to see, however, that, beginning with this assumption, there is no logical stopping short of Absolute Idealism, or complete skepticism.

It is said that Dr. Reid of Scotland showed this inevitable tendency of Idealism towards the absolute form, and that he answered the assumption of the Non-Egoistics briefly as follows:

1st. He showed that the doctrine of the little images or ideas was pure assumption, without a particle of proof of their existence.

2d. He showed that if it were fully established it would explain nothing, for it is inconceivable that the

images could be neither mind nor matter; and if they are mind they can not represent matter; and if they are matter it is as difficult for the mind to cognize them as to cognize the matter that they represent.

Many modern philosophers take the ground of the Natural Realists—do not attempt to explain the process by which mind knows about matter. Certainly, the facts are more important for practical purposes than any theories to explain the facts.

Cultivation of the Senses.—There are very few people whose senses are cultivated as they should be. The special time for cultivating sense-perception is in early youth; most of the work of our Primary Schools should be in this direction.

Mrs. Barbauld's story, "Eyes and No-eyes," shows very vividly how differently people may use their senses.

What the Teacher Can Do.—As perception is an immediate, an intuitive, process, the teacher's work is not direct, but incidental. He can

1st, Arouse an interest in observing objects, among his pupils;

2d, He can direct them as to what they should perceive, can point out the objects to be observed;

3d, He can explain the meaning of what is perceived, and so deepen the interest, and lead to greater attention and accuracy.

It is generally urged by all the best writers on Education, that the training of the pupil's senses should be the principal work during the first years of his education. This training will consist in putting him to using his senses, and to interpreting properly what the senses give him.

CHAPTER VIII

THE REPRESENTATIVE POWERS—MEMORY

HE Representative Powers give us concepts of absent objects, but give them in two ways; that is, as they are or were, and as they might be. When the concept of the object is as that object is or was, the mental act is called reproduction. If you also know that the thing reproduced is a concept of some former mental possession, you *recognize* it; that is, you know it again. These two mental acts,—Reproduction and Recognition,—make a completed act called Memory.

DEFINITION.—*Memory is that Representative Power which brings before the mind concepts of absent objects as they are or were, and recognizes them.*

Concepts of anything the mind has ever possessed,—sights, sounds, tastes, thoughts, feelings, former concepts, etc.,—may thus come before the mind and be recognized, for memory can bring before us all these things.

It is probable that a very large share of the concepts that are really reproductions, are not recognized; they may seem to us to be original; often we question when a thing "comes into

the mind," whether it is something that we remember, or is really a new thing. Not long since, a certain eminent preacher was accused of plagiarism. It seemed to be clear that he had used in his sermon whole sentences just as they are to be found in a book, which he admitted he had read. His defense was that his mind had great tenacity in retaining words, and that these words were not recognized when they were reproduced. Whatever the fact may have been, his defense was, psychologically, a plausible one.

THE WORD "MEMORY."—We use the word "memory" in three distinct senses:—First, meaning the power to remember, as when we say, "He has a good memory"; second, signifying an act of that power, as when one says, "My memory of the affair is clear"; third, signifying the product of that power, as when one says, "My memories of the occasion are pleasant."

REMEMBRANCE AND RECOLLECTION.—For the second sense here given, remembrance or recollection is a better word than memory. Remembrance is properly a *generic* term, meaning any act of memory; recollection is properly *specific*, meaning an intentional act of memory. It may be defined as *voluntary remembrance*. The distinction is worth observing.

CONDITIONS OF REMEMBRANCE.—In order that there may be an act of memory, there must be first, a mind capable of remembering; second, that mind must have had an experience in the past; third, there must be a present concept of that past experience; fourth, the present concept must be recognized as a correct representation of that past experience.

The word "experience" is here used with reference to any act or state of the mind. Of course, we can remember nothing of which the mind has never had any experience.

TWO ELEMENTS IN MEMORY.—According to our definition, an act of memory is twofold. It includes reproduction and recognition. When a concept of some former mental possession is before any mind, the mind may recognize it, or it may not; that is, it may or may not know it as a concept of a former mental possession. In the first case, there is a complete act of memory; in the second, there is only reproduction. It is probable that a large portion of our reproductions are not recognized. This is often true, even when we give attention to the matter. We sometimes say to ourselves or to others, "Is this thing now in my mind something that I remember, or is it something new?"

TIME, PLACE, AND CIRCUMSTANCE.—In such a case, the doubt may be resolved, if we can recall the attendant circumstances of place, time, etc. But it should be clearly seen that a recognition of time, place, etc., is not *essential* to a recognition of the thing in question, although it may be helpful to such recognition in some cases. If we clearly know that the thing now before the mind is a concept of something that has been there before, we remember that thing, whether we also remember the attending circumstances or not.

OTHER OPINIONS.—Some writers regard memory as including more elements than the two we have named. One very eminent writer names four elements, as follows: "Retention, recollection, representation, and recognition." If we understand him, he uses the word *recognition* to mean exactly what it means in the definition that we have given. And we think

that his two words, *recollection* and *representation*, together, cover no more ground than our single word, *reproduction*. We might ask, How can a thing be recollected, how can it be before the mind at all, unless it is represented? The distinction seems to be founded on no tangible difference.

MEANING OF "RETAIN."—Retention we should regard as a condition of memory, rather than an element in memory. But, we may ask, What is the exact meaning of *retention?* What do we mean by the mind's power to retain? Has the mind anything to do at present with that which is retained but is not now before consciousness? It would seem that we can give no precise meaning to the mind's power to retain, further than to say that the mind has *the power to bring into consciousness again that which has been there before*, but has now passed out of consciousness. The mind is said to retain that which it can so recall, but it is not easy to see that the mind performs any action in retaining. We can not understand how there can be any mental action of which one is unconscious; we are not conscious of what we retain.

A Puzzle.—There is an apparent puzzle in an attempt to recall a thing to mind, which may be presented in this way. We want to recall a name, for instance; but, it may be said, "You either know what you want or you do not; if you know, it is recalled already; if you do not know it, how do you know what to try to recall?" The puzzle is in the use of the word "know"; you do not know the name at this moment, but you do know enough *about* it to know what you want to recall. But what can you do

to recall anything into your mind? Briefly, you can hold your attention to it, you can seize upon every available thing connected with it; and, usually, persistent effort in this way will bring the desired result.

IMPORTANCE OF MEMORY.— A moment's reflection will convince us that no power of mind is of more value than memory. Conceive of a mind deprived of this power—a mind to which that which is past is lost forever—a mind having power to deal with nothing but the immediate present. In fact, such a mind could not deal with the present, properly speaking, for there is something of the past necessary to all our present thinking. In short, such a mind would not be at all like the mind we have now, if, indeed, it could be a mind in any sense.

BELIEF IN WHAT WE REMEMBER.—How firmly may we trust our memories? How confident may we be in what we remember? The true answer is that we may trust our memories in the same way, and to the same extent, that we may trust our senses. When we know that our senses are working clearly and correctly, we trust them, as we may do with safety; and in the same way we ought to trust memory when it works clearly. In fact, this is the way men do in actual life; cases, even of life and death, are daily decided in our courts, upon testimony whose value rests solely upon the trustworthiness of the memories of the witnesses.

TWO USES OF MEMORY.— It is worthy of note, that in practical life we have occasion to use memory in two widely different ways. In one case, we desire to have it serve us for all time, as when we commit to

it the multiplication table, the meaning of words, etc. In the other case, it is our desire that it should serve only a temporary purpose, as with a lawyer defending a case in court. While the case is pending, it is important that he should have all the facts subject to a ready recall; but as soon as the case is decided, he wishes to dismiss it from memory completely, to make room for the next. A similar use for memory will often appear in common affairs, as when we wish to retain the items of an errand till the errand is done, etc. The trouble with the careless student—the student who "crams"—is that he uses his memory for a temporary purpose, when he should have aimed at a permanent purpose.

Strong Memory and a Weak Mind.—Because some people of feeble intellect in general, like "Blind Tom," for instance, have shown extraordinary powers of memory, some have been inclined to jump to the very foolish conclusion, that a mind having a strong power to remember is likely to be weak in its other intellectual powers. This is basing a rule on exceptions. It would be difficult, we think impossible, to find in all history a person of strong intellect in general, who was markedly deficient in the power of memory. But it is often remarked of some of the ablest men the world has known, that they were especially strong in the power to remember. Many of the books on mental science give a list of men who possessed remarkable memories, among the most noted of whom are Cyrus the Great, Themistocles, the blind Euler, Napoleon, and others, all men of remarkably strong intellectual powers.

A Panorama of Concepts.—A little reflection will show us that, in every conscious moment, from the beginning of intelligent activity till its close, there is passing "before" the mind, or "through" the mind, an endless procession of concepts. This is equally true whether one is day-dreaming or studying, whether he is in joy or in sorrow, whether he is using his senses or is reflecting; it is equally true of the old and the young, the learned and the ignorant, the good and the bad. In every mind the endless panorama unrolls, the ceaseless procession marches. Stop it we can not, if we would; only in profound sleep and unconsciousness do we retire from our position as spectator, as it were; but, when we awake, or "come to ourselves," the tireless movement of varying concepts is resumed. We may change the order of the march accidentally or intentionally, we may give more or less earnest heed to it; but the march goes on, one concept follows another in a ceaseless round.

Laws of Suggestion.—Now, do these concepts succeed each other in a hap-hazard way; does any one of them ever get into the procession by chance? Or is the order of movement regulated by law; is there always a cause for one thing being before the mind rather than another? We believe the answer clearly is, that there is nothing of chance or hap-hazard about it. If a certain concept is before the mind at this moment, there is a reason why it is there. It has followed in the train of some concept that preceded it, or it has been suggested by some sensation, percept, emotion, or volition. We may not be able in every case to determine why any given thing is be-

fore the mind at any given time; but some good reason exists, nevertheless. There are no *interlopers* in the mental procession; every concept in the line is there in obedience to some one or more of the *laws of mental suggestion.*

Writers on Psychology have given lists of these laws of suggestion. They have sometimes called them "laws of memory," sometimes "laws of association," etc. The better term is "laws of suggestion," inasmuch as they account for the ways in which concepts are suggested to the mind *in general.* The operation of these laws is not confined to things that have been previously associated, nor to the mind's working in the act of memory alone. They are general laws of mental activity; they are laws of memory, but they are more than that.

PRIMARY LAWS.—As commonly given, these laws are four in number:

1. *Similarity or resemblance.*—Any percept, concept, emotion, sensation, etc., tends to suggest the concept of something like it.

2. *Contrast.*—The sight of a palace may suggest a hovel; the snow of winter, a hot day of summer, etc.

3. *Contiguity of Time or Place.*—Things associated in time or place are likely to suggest, the one the other.

4. *Cause and Effect.*—A wound will remind one of the instrument which caused it, or the sight of a pistol suggests a thought of the effect it is intended to produce, etc.

From Aristotle.—Two precepts worth remembering have come down to us from Aristotle. The first is given in the following words: "Thoughts

which have at any time, recent or remote, stood to each other in the relation of co-existence or immediate consecution, do, when severally reproduced, tend to reproduce each other." The other precept suggests that a less important, or less interesting, thing is more likely to suggest one more important, or more interesting, than the reverse. For instance, a knob will suggest a door sooner than a door the knob; a name will suggest its owner sooner than the sight of a person will suggest his name.

Let the student present numerous examples from his own experience, illustrating these laws; and other examples illustrating Aristotle's precepts, also.

One Comprehensive Law. — Some writers have maintained that the four primary laws may be reduced to one general principle, which may be expressed by the word "contiguity." Of course, this requires that we give the word *contiguity* a very broad meaning, but not broader than its etymology may imply. Things that *touch each other* in any way, in fact or in thought, may suggest each other. Contiguity may denote all such relations as likeness, contrast, cause and effect, relative position in time or place, things and their names, quantity and quality, wholes and their parts, etc.

SECONDARY LAWS. — Of these there are eight, at least; some give more:

1. *Continuance of Attention.* — The longer and more earnestly we attend to a matter, the more likely it is to be suggested to the mind afterwards.

2. *Vividness of Feeling.* — The more our feelings are aroused when a matter is before the mind, the more

readily we recall it. This is true whether the feeling be one of interest in the thing itself, or simply an exaltation of feeling in general.

3. *Frequency of Repetition.*— The more frequently a thing is called to mind, the more ready it is to come when called. Every school-boy recognizes this when he "says his lesson" over and over.

4. *Lapse of Time.*— Other things being equal, that which the mind has recently attended to is more easily recalled than those things which were attended to long ago.

5. *Exclusiveness of Association.*— When two things have always been associated together, one is more likely to suggest the other than in case each had been associated with several other things. For instance, if a certain kind of hat has always been seen on one person, the sight of that hat, or one like it, will suggest that person sooner than it would if many wore a hat of the same kind.

6. *Original Mental Differences.*— Minds differ much naturally in the readiness with which they observe suggestions. Besides, some find it comparatively easy to recall one class of things, and some to recall other things. One can remember numbers readily; another, faces; another, animals, as horses, etc.

7. *State of Mind.*— Every one knows that the mind sometimes is much more responsive, both in committing and in recalling, than at other times. Often this is due to the condition of the body; but, frequently, the cause seems to be wholly mental.

8. *Professional Habits.*— It is comparatively easy for any one to remember what belongs to his trade

or profession; and anything that he observes is very likely to suggest something pertaining to his daily business. One can easily guess the business of the man who exclaimed, on first seeing Niagara, "What a place to wash sheep!"

Recall numerous illustrations of each of these laws, from your own experience or observation.

Objective and Subjective.— It will be noticed that the Primary Laws pertain to the things to be remembered, or suggested; hence, they may be termed *objective:* while the Secondary Laws pertain to the person remembering, or receiving the suggestion; hence, they are *subjective.* The law of exclusive association seems at first to be an exception; but if we reflect that the association is in the mind of the observer, we shall see that the exception is only apparent, not real.

CHAPTER IX

MEMORY — CONCLUDED

EMORY IN THE AGED. — It is often said that memory is one of the first of the mental powers to fail, especially in recalling names, etc. And yet it is noticeable that many old people, who can not remember the transactions of the last half-hour, can tell with perfect clearness and fullness of particulars, what occurred fifty or seventy years before. This seems to be contradictory of one of the secondary laws of suggestion; viz., that the lapse of time weakens the power of suggestion. The truth is, however, that this law is simply outweighed by a combination of two or three other laws. The old person's senses are dulled; they report recent things less clearly. For this and other reasons, there is less vividness of feeling respecting recent events. Besides, silently, and often orally, the things of the long past have been frequently reviewed, until they have become firmly fixed.

EFFECTS OF DISEASE ON MEMORY. — Usually, disease weakens memory, as it usually weakens all the powers of both mind and body. But there are many instances on record where disease has had the effect

of quickening the memory. Stories are told of persons who, after long sickness, when near their deaths, have spoken and prayed in the language of childhood, although they had spoken exclusively another language for many years.

Do We Completely Forget?—Such facts as those just given suggest the question whether the mind ever completely loses anything it has once possessed; and there are numerous other facts which point in the same direction. Persons who have come near death, from drowning and otherwise, have often told that, in what seemed their last moment, the whole past of their lives appeared to come before their minds as in a flash. Every one, probably, has at some time been startled by the sudden recurrence to memory of something not thought of for years. These facts have led some to conclude that nothing is ever completely forgotten; but that the "book of remembrance," out of which man shall finally be judged, is neither more nor less than the tablets of his own memory. This conclusion seems to be plausible.

But, whatever may be true as to the possibility that nothing is forgotten, it is certain that one who lives to old age will find his life largely sweetened or embittered by the things memory will surely bring before him; he is daily making his future self.

Beneficent Law of Memory.—Another curious fact about memory is worthy of notice. When we recall things that were both pleasant and innocent, we experience a new pleasure, sometimes but little inferior to that of first experience; but when we remember unpleasant or sorrowful things, if *no guilt* is con-

nected with them, they have lost much of their bitterness. We sometimes laugh at the remembrance of that which was anything but laughable in the experience. Time assuages even our sorrow for dearest friends. This beneficent law of memory seems to indicate that our Creator intended that this power should be a source of happiness, and not of pain.

MEMORY NEGLECTED.— It is often charged that the cultivation of memory is neglected in modern times. This is probably true; in fact, the multiplicity of books has rendered it less necessary to commit many things to memory than it once was. Memory serves us now, if we can remember where a thing may be found in books, instead of remembering the thing itself. But we think that in many of our schools, at the present time, there is a very harmful neglect, even a partial contempt, of memory. It is probably the reaction from the abuse which formerly prevailed, when memory seemed to be almost the only faculty that was used. The present neglect has gone so far, in many cases, that pupils of good natural abilities find it next to impossible to recall anything that they have studied, readily and *exactly*. In this matter we think there should be a reform, and that more should be done to cultivate memory in our schools.

CULTIVATING THE MEMORY.— But, *how* shall we cultivate memory? Just as we cultivate any other power, that is, *by wise use*. If we would cultivate memory, we must lay demands upon it, and make it do its work promptly and accurately. This is not difficult, if it be undertaken at the right time of life. The child remembers with ease what the man can re-

member only with the greatest labor. Not only so, but things learned early in life are held more tenaciously. The author remembers with perfect ease many poems and other compositions which he learned in childhood, while others committed with much labor later in life, seem to have disappeared entirely. It is not very difficult for a child to learn the spelling of words, the paradigms in grammar, etc., but such work is drudgery of the hardest sort to the man. Childhood, then, is the time for "storing the mind" with things that will be needed in after life. The work is then comparatively easy, and it is more lasting.

In order to train the child's memory, he must be made responsible for its use. He must be held to remember what he is told in the way of command and direction,—to remember it *exactly*, and to observe it accordingly. He must be held to remember the instruction given to him, in oral form, as well as that gained from the book. So tenacious is memory at this period that it easily seizes and holds mere words, although they make no appeal to the understanding. Here is the root of one of the most glaring evils in our schools, especially with careless and ill-trained teachers. Mere words are caught and repeated by the pupils; and they are glibly recited, giving an appearance of knowledge when none exists. Of course, this evil should be avoided; but the opposite extreme of requiring nothing to be committed in exact form, is still worse.

Because of the facility with which mere words are retained at this time, it is not unphilosophical to require the pupil to commit to memory some useful

things which he does not fully understand. The recent movement in favor of memorizing literary "gems" is worthy of all commendation. Nor need they be fully understood at present. Who can not recall something of this kind, dropped into his memory in his childhood, that afterwards became a most profitable subject of rumination?

It is a curious fact that certain defects sometimes become objects of personal vanity, such as a pale skin, defective eyesight requiring spectacles, etc. It is thought by silly young people to be fashionable, and an evidence of "high-tone," to have these defects. On this ground we account for the readiness with which many people declare that they are deficient in the power of memory. Certain it is that no one possesses a really good mind if his memory is very defective. When students have come to the author pleading complacently this defect as a reason for failing to retain their lessons, he has sometimes effectually cut off a repetition of the excuse by fully accepting it, suggesting, perhaps, that he had long suspected that their minds were not quite sound!

There is no need to commit unnecessary or useless things, simply for the sake of exercising the memory. There is enough that will be of lasting pleasure and value, for this. Nor is it necessary that the child fully understand all that he commits to memory. Who does *fully* understand?

The mind will ruminate and feed upon that which it remembers, be it good or bad, wheat or chaff; but if the memory be well filled with wheat, there is little room for chaff. And the value of what is good in the memory will appear more and more, the more the mind reflects upon it.

Rules for Committing.— In order to commit to memory successfully, certain rules may be given:—

1st, Lay rigid demands on the memory; make it do its work, and do it well.

2d, Give close attention to what you wish to remember, and examine it carefully.

3d, Thus get a clear conception of the exact thing, "not something like it nor something about it"—before any attempt to commit at all is made.

4th, Endeavor to arouse the greatest possible interest in it.

5th, Observe the "Laws of Suggestion" already given, on pages 81–85.

6th, Review, *Review*, Review.

Attention, Interest, Repetition form the key to ready and exact remembrance.

It may be well for the student who has a lesson to learn from a text-book, to go over it first, simply to see that he understands it, making no attempt to commit it. Then let him go over it again, fixing it, slowly and with all the links of association he can find; afterwards, by repetition and reviewing, he will find himself master of it, both in sense and in form. He can recite it clearly, readily, exactly.

Systems of Mnemonics.—Many attempts have been made to invent artificial systems of memory, usually called systems of "Mnemonics." Some of these systems are very ingenious, but all are *utterly worthless*. Any system that attempts to aid memory by *forced and artificial association only*, may be termed a system of "Mnemonics," such as we have declared to be worthless; and they are worthless, from the simple fact that, by their artificial association, they add a new element of labor to those necessarily existing.

DEVICES TO AID MEMORY.—There are, however, many devices that can frequently be used, which are not open to the same objections as the systems of "Mnemonics." We will mention:

1st, The use of the senses or the muscles. A class will remember the order of the bodies in the solar system better if one child stands for the sun, and others revolve around him at the proper distances, to represent Mercury, Venus, and the rest. A child will remember the number three better by taking three steps, making three jumps, bringing three books, etc. This is helping memory through the muscles. On the use of the senses, also, depends the value of charts, tables, diagrams, genealogical trees, etc.

2d, The use of rhyme and meter. Who has not recognized the value of

"Thirty days hath September," etc.?

No doubt many have helped to fix the multiplication table by singing it. The conjugations of the Latin verbs are more easily held on account of the jingle, "*bam, bas, bat,*" etc.

3d, The use of short, pithy, comprehensive forms of speech, such as proverbs and formulæ.

4th, Seizing upon any fact of natural association, however accidental it may be; as the association of Bacon's Rebellion in 1676, with the Revolution in 1776, and the Centennial in 1876.

It may be noted, also, that the "Laws of Suggestion," especially the Primary Laws, will furnish many forms of natural association.

OBSERVATIONS ON MEMORY.—There are, doubtless, great differences in minds as to their power to remem-

ber. And yet the absolute amount retained by each, probably, does not vary so greatly as appears at first sight. The eminent linguist, historian, or man of science, carries in his memory a vast amount of matter pertaining to his specialty; but his mind is likely to be free from the mass of gossip and triviality which is retained by his illiterate neighbor. Those who are wont to complain of their "poor memories," often show that their memories are fairly well-stored when exercised upon matters that interest them.

Without doubt, the power to retain can be improved, by thorough practice, both as to the amount retained and the accuracy and readiness with which it may be recalled. But, as Mr. Bain suggests, there is probably in every individual a definite limit to the power, beyond which no training or effort can carry him. Mr. Bain also holds that "committing" to memory consumes more mental force than any other form of mental activity.

Verbal Memory.— Some minds have great facility in recalling and reproducing words without any regard to their meaning; this is a characteristic of the memory of a child, in most cases. The man of thought and of culture finds such a use of memory difficult, sometimes almost impossible. He needs to see the meaning and the logical relations of what he commits, in order to retain it well. Education should lead from the childish form of verbal memory to that of memory by reference to significance and relation.

Committing and Remembering.— Committing is not remembering, but it is closely related to it. The success of memory depends very largely upon care

in committing; hence, the rules for remembering, or for improving the memory, must include rules for committing. In general, probably, the mind that commits with great ease does not retain so well as the mind that finds more difficulty in committing. Such a mind is easily "crammed," but does not hold things so well permanently. "Lightly come, lightly go," describes the action.

Nor is that always the best memory that is most ready in recalling. In general, the memory that holds mere words is more *ready* in recalling them than the memory that retains by an observance of significance and of logical relations.

Instances of Remarkable Memory. — As a matter of some interest, we add an account of some persons who are said to have shown remarkable memories. Some of these stories have been given by many authors; we quote from Dr. Brooks:

"Historians, and writers on mental philosophy mention some remarkable examples of the power of memory. Cyrus, it is said, knew the names of all his officers, — Pliny says, of all his soldiers. Themistocles could name every one of the twenty thousand citizens of Athens. Hortensius, after sitting all day at an auction, could at night recall every article sold, the purchaser, and the price. Dr. Wallis, while in bed in the dark, extracted the square root of a number of fifty-three places to twenty-seven terms, and repeated the result twenty days afterwards. Euler, blind from early life, carried in his memory a table of the first six powers of the series of natural numbers up to one hundred. Two of his pupils, in calculating a con-

verging series, found, on reaching the seventeenth term, that their results differed by a unit at the fiftieth figure; and to decide the question he made the calculation mentally, and his result was found to be correct.

"Hamilton tells us that Muretus saw at Padua a young Corsican, who could repeat thirty-six thousand names, in the order in which they were given to him, or repeat them in the reverse order, or begin at any point in the list and repeat both ways. The celebrated Magliabecchi, Librarian of the Grand Duke of Tuscany, it is said, could name all the authors who had written upon any subject, giving the name of the book, the words, and often the page. A gentleman of Florence, to test his memory, lent him a manuscript to read, and afterward, pretending to have lost it, requested him to endeavor to recall it, which he did with great exactness. It is also stated that upon being asked by the Grand Duke if he could procure for him a copy of a certain book, he replied, 'No, sir, it is impossible; there is but one in the world: that is in the Grand Seignior's library at Constantinople, and is the seventh book, on the seventh shelf, on the right hand as you go in.'"

CHAPTER X

IMAGINATION, AND CONSTRUCTIVE CONCEPTION

EFINITION. *Imagination is that Representative Power which gives us concepts of absent objects, not as they are or were, but as they might be.*

ILLUSTRATIONS.—You turn your face towards a church and notice carefully how it looks; you are now *perceiving* it by sight. You turn away, and before your "mind's eye" stands the same form as clearly as before; the Representative Power has *reproduced* a concept of what was perceived. You know that your concept is of the church as it was. So you *recognize the concept*,—you remember the building.

You now begin to play with this concept; you replace the brick with stone; you give it extra towers; you elevate the spire to twice its present height, etc. You are now conceiving of the absent object as it might be. Imagination is at work.

THE WORD "IMAGINATION."—We would remark that the word "imagination" may be used like the word "memory," to signify a power of the mind, or it may signify an act or a product of that power. The grand difference between imagination and memory is, that the latter gives us concepts as wholes which are true to previous experience, while the former gives us wholes that correspond, not to fact, but to our subjective fancy.

THE OCCUPATION OF CHILDREN. — Every one who is at all familiar with the ways of children, knows that imagination begins to be active at a very early age, and that its action, or "play," makes up a large part of the intellectual activity of a child's life. It is for the mother and the teacher to accept this fact, and to be guided by it, instead of foolishly trying to counteract nature in this respect. There is no end to the ways in which the imagination of the child may be used to aid in all his school tasks, as well as in the training of his will, and in the building of his character. On this point we know of no more helpful book than Dr. Jacob Abbott's "Gentle Measures in Training the Young"; and yet there is room for other good books on the same theme.

WILL TRAINING. — A word about the use of imagination as a means of developing the child's freedom of will. The child is under authority as to his behavior; he is equally under authority in his acquisition of a knowledge of facts. But in his "play" in his imaginings, he is his own master, — he is a law unto himself. In this lies a large part of the charm of all his play. Let some superior power undertake to dictate how he shall play, and the fun is over. This consideration shows us why the battered rag baby is dearer to the little girl than her fine china doll, — she can do what she pleases with it. When we remember what a free will is to an adult, it will be seen that its first unfolding and proper exercise is a thing of no mean importance.

IN WHAT SENSE, CREATIVE? — Imagination is often called a creative faculty, but it is creative in a very

limited sense only. Sense-perception, through memory, gives all the original material with which imagination builds. This material may be used without modification, or it may be modified and then used; but, in either case, the whole that is constructed from it must differ from any whole that memory gives—it may be a kind of creation, but only in respect to the *ideal* which that whole bodies forth.

FOUR FORMS OF PRODUCT.—Imagination may be used in four different ways, to which different names have been given. It may combine the elements it uses, in such a way as to give a result that is weird, unearthly, monstrous, or grotesque; it is then called *phantasy*. It may combine them so as to give a whole that is light, playful, pleasing, but still showing nothing of high purpose or of noble and cultivated taste; it is then called *fancy*. Again, it may combine them so as to give a whole that meets the demands of a high purpose or a noble taste; this is *artistic* imagination. Or, finally, it may combine according to principles of fact, of science, so that the conception, when realized in material forms, gives us the steam engine, the telegraph, the sewing machine, etc.; this is *inventive* imagination. *Find illustrations.*

WHAT IS A FINE ART?—Imagination lies at the basis of the whole realm of fine art. This is equally true in poetry, fiction, music, architecture, painting, sculpture, or any other fine art, if there be another. There is one aspect—an essential one—in which all these arts are alike; viz., in the completed work, an *ideal* of its author is so bodied forth, or symbolized, that the symbol—poem, novel, anthem, temple, pict-

ure, or statue—awakens in the mind of another an ideal, kindred to that from which it sprung in the mind of the author.

Let us remark, in passing, that the true work of the teacher belongs among the fine arts, because it conforms to the essential of all fine art, in that it attempts to realize an ideal as its result. But how little of the work done by teachers is thus artistic or true work!

Uses of Imagination.—All admit that imagination is important in the realm of art, but some seem to suppose that, outside of art, it serves little or no good purpose. Some seem even to doubt whether we should not be better without this power; but let us name six very important *uses* of this power:

1. *Pure enjoyment.*—To child and man the play of imagination, both in building its castles and day-dreams and in responding to the magic touch of others, often gives great enjoyment; and when nothing impure or malicious enters, such enjoyment may be entirely innocent if indulged moderately.

2. *Imagination may lighten life's burdens.*—A little boy, walking with his grandfather, complained of being tired, and asked his grandfather to carry him. "No," said the grandfather, "take my gold-headed cane and make a horse of it." He bestrode the cane, and galloped away happy. Many a weary man at his daily toil finds his task less heavy when imagination points to the comforts which that toil may bring to wife or child. Many a poor, tired mother, as, late at night she repairs the tattered clothing of her little ones, may find the task sweetened as she pictures the possible future of those objects of her care and toil. The teacher

may well imagine what her troublesome little ones may become. Almost every cloud has its "silver lining," but imagination must find it.

3. *Imagination gives vividness and force to language.* — Without the touch of fancy, and poetry, and illustration—all dependent upon imagination—what a dull and fruitless thing were language, written or spoken! On this point, Dr. Haven happily illustrates, by the language he uses, the very thing he is describing. He says: "Imagination gives vividness to our conceptions, it raises the tone of our entire mental activity, it adds force to our reasoning, casts the light of fancy over the somber, plodding steps of judgment, gilds the recollections of the past and the anticipations of the future, with a coloring not their own. It lights up the horizon of thought, as the sunrise flashes along the mountain tops and lights up the world."

Wit, humor, and illustration would be impossible in speech or literature without an appeal to Imagination.

4. *Imagination is essential to success in some of the most practical affairs of life.* — Without it, the lawyer could not construct his "theory," the inventor could not make his discovery, nor the pushing man of business plan those "ventures" which result in foreign commerce, transcontinental railways, and great manufactories. In fact, it is not easy to see what enterprise, even the simplest, could be conceived or carried forward without the help of this power.

5. *Imagination makes possible all that Art gives us, both of enjoyment and of culture.* — We have already said something bearing on this point. As the creation of works of Art is impossible without imagination, so it

is impossible that they should produce any effect except through the imagination of the beholder.

6. *Imagination gives the idea of personal excellence towards which we strive.*—This is its highest and noblest use. Without such ideals, no progress is possible. Like the rainbow, ever moving before us as we follow, they lead on in every path of progress. When one no longer has before his mind an ideal of personal excellence towards which he is striving, he would better die; life is not "worth living" to him.

It is clear, we think, that imagination is not an enemy to its possessor; it is not a power to be "crushed out." It is to be cultivated and put to a good use. In this respect, it is much like all the other powers of the mind, but hardly any other is more useful, on the one hand, or more dangerous on the other.

Abuses of Imagination.—For, on the other hand, there is no mental power whose abuse can work more mischief. And the abuses lie alongside of the uses.

1. *Too great indulgence in the "play" of imagination wastes time and weakens the mind, even when nothing impure is indulged in.*—This is the danger of the day-dreamer and the too-ardent lover of fiction.

2. *Imagination may add to life's burdens, as it does in the case of those who habitually "look on the dark side."*—No one works happily when he looks only for failure or disaster in his work.

3. *Imagination leads one astray, if he mistakes the ideal for the real.*—This is the trouble with the wild dreamer or the "visionary"; his imagination seizes on the ideal, and he thinks it real. It is, also, the temptation of the reckless speculator, of the gambler, and of the "sharper's" dupe.

4. *Vile art and vile imaginings are both the parent and the product of debased characters.*— Nothing is more harmful, especially to the young. And one of the saddest things is that, when a mind has been once polluted in this way, the evil remains even against the will. Such a person may reform, and come to hate the vile thing and to shrink from it, and yet be utterly unable to free his mind wholly from it. If the wound be healed, the scar and disfigurement remain. Hence, it is doubly important that the minds of youth should be protected against corrupting art, literature, and companionship.

5. *As Imagination gives high and holy ideals of character and achievement, so, on the other hand, it may give those that debase and destroy.*— Here is the danger to boys, of all highly "sensational" literature,— the "dime novel," the accounts of the exploits of the "James boys" and of other criminals. Here is the danger to girls, of the overwrought, sensational novel. One grows to be like those whom he chooses for his models,— and he is likely to choose for a model some one whose character and career he admires.

Special Use to the Teacher.— To the teacher, imagination may be of special use in three ways, at least: First, It may help him in imparting knowledge. How a dull, abstract problem in arithmetic may glow with interest when imagination has illustrated the dry relations by a story! What a tone and power are given to reading, when imagination has prepared the way! Second, Imagination may assist greatly in governing, especially in the case of small children. Let us refer again to Dr. Abbott's little book, for excellent

illustrations. Third, Successful building of good character is not possible without appeal to the imagination. This follows from what was said of its sixth use.

CULTURE OF IMAGINATION.—The same means,—viz., *wise use*,—serve for the culture of Imagination, as for the culture of all the other faculties. But the sort of use must be determined by the constitution of the individual; here, as everywhere, the teacher must take account of the individuality of his pupil. With some, the power needs first to be aroused, with others, it needs to be repressed; in all cases something must be done to refine and chasten it.

For definiteness, we may say that this power may be cultivated: (1) by observations of nature, (2) by study of imaginative literature, (3) by exercise in writing, (4) by study of works of art.

The child's imagination readily enough sees in nature more than the natural, as in the case of the little one who wanted to sit on the summer cloud. It is easy for the loving and skillful mother or teacher to cultivate this tendency until the common aspects of nature shall speak to the soul as clearly as to the sense. The one of whom the poet said,

> "A primrose by a river's brim
> A yellow primrose was to him;
> And it was nothing more,"

had never received such training, we are sure.

A good exercise for boys and girls "in their teens" is to take some highly imaginative passage in literature, and attempt to rewrite it, in statements devoid of all imagination. For this purpose, Dr. Haven chooses the following lines from Mrs. Welby:

"The twilight hours like birds flew by,
As lightly and as free;
Ten thousand stars were in the sky,
Ten thousand in the sea;
For every wave with dimpled cheek,
That leaped upon the air,
Had caught a star in its embrace,
And held it, trembling, there."

Had the poet said: "It was a quiet, pleasant evening; there were many stars visible, and each one was reflected in the sea, which was slightly agitated," it would seem that all the ideas would have been expressed in plain prose.

Find other examples in your own reading; show in what ways there is an expression of imagination; then rewrite without any imaginative expression.

Space will not permit us to take up the study of art; but every earnest student, in these times, can find some opportunity for such study, and some books that will aid him.

CONSTRUCTIVE CONCEPTION

WHAT IS IT? — It differs from simple memory in that it strives to give its possessor a whole which is *new* to him, while memory strives to recall his former possessions only. When one, by means of maps, models, pictures, and words, seeks to give another a correct notion of some object in nature that he has not seen—Niagara, for instance—the appeal is made to his constructive conception. And if the work is successfully done, there grows up in his mind a picture that would be realized were he to go and see the object for himself.

Mr. Bain says: "It passes above memory, as being an exercise of constructiveness, and falls below imagination proper, as containing no originality or invention."

NOT IMAGINATION.—This is often spoken of, improperly, as the work of imagination; but, unlike imagination, it aims to produce a result which corresponds to *fact*, and not to *fancy*. Like imagination, it builds with material that memory must furnish from the stores given to it by sense-perception. No description could ever lead one born blind to conceive of the colors of a painting or a landscape—he has never gained a knowledge of them through sense. Nor would description be any more successful with one who knew colors in his youth, if he has since become blind, and has lost his memory of colors.

ITS USE.—A moment's reflection shows that this power plays a large part in our intellectual activity; by it alone are we able to form just notions, through description of any kind, of anything beyond our experience. Our schools should carefully train this power wisely and systematically.

Unless this power be active, reading becomes dull and mechanical, geography is a collection of words without meaning, history is lifeless, mathematics a mere form, and astronomy, beyond the bare aspect of the heavens, is impossible. Illustrative apparatus of any kind has a value just in proportion to the aid it furnishes to the constructive conception, and no whit further. By this power only can illustrations illustrate, for it is the nature of an illustration to demand that conception should give the meaning to it; that is the very purpose for which it is used.

USE, IN RELATION TO WORDS.—All words that have any meaning are at first symbols of the concepts of the one using them; but, in order that they may serve any good purpose, they must awaken similar concepts in him who hears or reads them.

Often the chief difficulty with the student in arithmetic is that he has not properly construed—conceived of—the words in which his problem was stated. The unprofitable work in geography,—so often and so justly criticized, by saying that the pupils have learned *mere words*,—is due simply to the fact that the pupil's maps and text have failed to awaken the proper concepts in his mind. The successful student of history sees, in his "mind's eye," the movement of the army, as he reads the description in his text. A large part of the unskillful teacher's effort is wasted in the fruitless attempt to deal with concepts in the pupil's mind, which have not been correctly built up from the percepts derived through sense-perception.

GAINING CONCEPTS.—These statements will show what should be the first aim of the teacher in these and in other school studies; viz., helping the pupil to gain correct concepts, first from sense-perception, and then through language. The main purpose of all "language lessons," as the phrase has come to be used, should be the just fitting of words to the concepts for which they stand. The foundation of all right concepts is laid in sense-perception; hence, the first work with the child,—the first work with any one who takes up a subject in natural science,—should be the getting of the concepts for future thinking, through a right use of the senses.

VALUE OF RIGHT CONCEPTS. — It is apparent that the facts of nature, the words of a speaker or writer, and all works of art, mean much more to some minds than they do to others. The difference is due to the mental preparation of the observer or hearer. An active mind well furnished with the proper concepts, which arise in it readily on occasion, will carry away proportionally more from any speech, book, or observation of nature.

No flower, book, sermon, or statue can have any meaning to one beyond what he is able to put into it. What we carry to the field or the forest, the church, library, or picture-gallery, must determine very largely what we shall bring away.

CHAPTER XI

THE REFLECTIVE POWER, — CONCEPTS AND TERMS

TS FORMS.—The Reflective Power acts in several ways; writers do not agree fully in respect to their number. We may safely indicate five of these ways of acting; viz., *Comparing*, *Abstracting*, *Judging*, *Generalizing*, and *Reasoning*.

By some, the Reflective Power is called the Understanding; by others, it is called the Elaborative Faculty.

Because writers on Psychology do not agree as to the exact number of forms in which the Reflective Power acts, we have placed the abbreviation "etc." after our list, in the Scheme.

COMPARING.—As the Reflective Power deals with the *relations* of things, or of the concepts of things, rather than with the things themselves, it will be obvious that much of its action must be in the form of comparison. It notes the relations of size, length, position, density, value, purpose, cause and effect, agreement, and a multitude of others.

Comparison is clearly involved in abstracting, judging, generalizing, reasoning, etc.; hence, some writers regard comparison as including all the various forms of the Reflective Power.

ITS PRODUCTS.— The products of the Reflective Power are concepts and thoughts. A thought is a

logical judgment. Not all concepts are the product of the Reflective Power, nor are all judgments. This power gives us only such concepts as are abstract or general, and such judgments as are logical. A concept of an object of sense, or of a quality in connection with its object, is not a product of the Reflective Power, nor is a primitive judgment, such as is necessary to the cognition of any sensation or perception. See page 22.

Analysis and Synthesis.—Comparison is the first step in an act of this power. From comparison, we may proceed to find the elements of any object of thought,—this is *analysis*. Or, we may proceed to combine certain elements which we judge to belong together,—this is *synthesis*. Frequently, both processes are combined in one operation.

Abstraction.—A concept of a quality is abstract when that quality is not associated in thought with any other quality nor with any object to which it belongs. Some writers consider the process one of abstraction when the attention is directed to one of the qualities which an object possesses, as when looking at a rose I fasten my mental activity solely on its form. But this is not abstraction,—the quality is not "drawn away" from the object; this is simply analytic attention.

It is seen that the process of abstraction is a very common one, when we observe the large number of abstract terms which are used even by children and uncultivated people. This process has sometimes been illustrated in this way: You look at several objects having a common color, as a red ribbon, a red book,

a red necktie, etc. You note their color in connection with the other qualities of those objects. You now *perceive* the color in the concrete. You turn away or shut your eyes, and think of what you have just seen; you now *conceive* the color in the concrete. Again, you drop out of thought all the other qualities of the several objects, but still think of the color in connection with each object; you are now conceiving of the color in the *discrete*. Once more all thought of the object disappears, and you think of the color only, apart from every object and from all other qualities. You are now conceiving of *redness in the abstract*,— that is, drawn away from everything else. It is probable that some such process as this is often gone through with by those who have no thought of the peculiar form of mental activity they are exercising.

Logical Concepts.— These are concepts not of objects, nor of single abstract qualities, but of a group or collection of qualities which belong to several objects *in common;* all the objects possessing these common qualities constitute a *class*. The expression for any concept is *a term*. The term for a logical concept is said to be both *abstract* and *general;* it is abstract because it is not applied to any individual of a class, and it is general because it *may be* applied to any individual of the class. Recall what was said about the terms "man" and "a man," on page 44.

Steps in Forming Logical Concepts.— One perceives a large number of animals, including horses, dogs, etc.; he compares them, noting their resemblances and differences. He perceives, for instance, the particulars in which horses differ from the other

animals; dropping out the points in which the individual horses differ from one another, he selects the particulars in which they are all alike; these particulars he withdraws from the individual horses and combines them into a whole, which is a logical concept expressed by the term "horse." Here we note four distinct mental operations. The first is attentive perception; this is no part of the forming of a logical concept, but is preparatory for it. The next step is comparison, resulting in a discrimination of resemblances and differences. The third step is the process of abstracting, from the concepts of the individual objects,—those qualities which they possess in common. The last, the characteristic, step, is the synthesizing of these common qualities into one complex concept,—the logical concept.

Rarely, if ever, does the mind proceed to take these steps with the logical distinctness which we have supposed; the operations are more or less involved one with another. But we need to separate them thus, in thought, in order that we may see what is really done.

We must distinguish, with much care, the concepts from the terms which express them, or we fail to mark the distinction between things and their symbols. The result always is lack of clearness, or confusion.

Characteristics of Concepts.—An abstract, general concept may embrace few elementary concepts; in that case, it is said to be "broad," and it may be individualized in a large number of objects. And the class to which such a concept may be applied is a "high" class. Thus, the concept expressed by the word "man" is broader than the concept expressed by

the word "Caucasian"; and the class to which it may be applied is a higher class, and includes more individuals. So Caucasian is higher than European.

HIGHER AND LOWER CLASSES. — Thus, we see that broader concepts may be formed from narrower, by dropping out some of the elementary concepts, or "marks," which they contain. And the class to which the broader concept is applied is the higher class. Thus *polygon* signifies a broader concept and a higher class than *quadrilateral;* and this is broader than *parallelogram*, etc.

GENUS AND SPECIES. — The higher class is a genus, of which the next lower class is a species; and a class which was species to a genus may become a genus to a lower species. Thus *polygon* is a genus of which *quadrilateral* is a species; but *quadrilateral* is a genus of which *parallelogram* is a species.

CLEAR AND OBSCURE. — A concept is clear when it is sharply distinguished from every other concept; when it is not so distinguished, it is obscure.

DISTINCT AND CONFUSED. — A concept is distinct when its marks are clearly seen; thus, A quadrilateral is a polygon bounded by four straight lines. The concept denoted by quadrilateral is distinct when we clearly comprehend the two parts of the above definition. But the concept is still *inadequate*, unless we see clearly all the "marks" denoted by the terms "polygon" and "four straight lines." Thus, it will be seen that a concept may be clear, and still be indistinct; and it may be both clear and distinct, and yet be very inadequate.

It should here be noted, that our concepts become

more and more adequate, the more faithfully we study what is involved in them; complete knowledge is necessary to a perfectly adequate concept.

COMPREHENSION AND EXTENSION OF TERMS.—The *comprehension* of a term relates to the number of elementary concepts, or "marks," embraced in the concept to which it applies; thus, the term quadrilateral has a greater comprehension than the term polygon, the term European than the term Caucasian, etc. The *extension* of a term relates to the number of objects to which it may be applied, that is, to the number of individuals belonging to its class; thus polygon has greater extension than quadrilateral, etc.

The comprehension and extension of a term always bear an inverse ratio to each other,—the greater the comprehension, the less the extension, and *vice versa*.

This distinction between comprehension and extension is very important, and it should be fully comprehended by the student. Let him name terms of great comprehension and little extension, also terms of little comprehension and great extension. See if you can find a term which has less extension and greater comprehension than any other, or the reverse.

NOTATIVE AND SYMBOLIC TERMS.—A notative term signifies, by its form, the marks of the concept to which it applies; such terms are polygon, quadruped, etc. By a careful study of the literal and exact meaning of words, many terms which are merely symbolic at first, will become notative.

ABSOLUTE AND RELATIVE.—A term is relative when it implies another term to which it is related; thus, debtor implies creditor; master implies servant, etc. An absolute term suggests no other as corresponding to it; such terms are sun, corn, etc.

POSITIVE, CONTRARY, AND CONTRADICTORY.—A positive term may be opposed by a contrary term, or by a contradictory one. It is very important that these distinctions be understood. A contradictory denies the positive merely, but a contrary asserts the opposite of the positive. Thus, the contrary of good is bad; but its contradictory is not-good. Often, terms are used as contrary in sense, when they are merely contradictory in form. Thus, the term unkind is only contradictory in form, to kind; but it is often used to signify its contrary, cruel. So, unlearned is used to mean ignorant, unwise, foolish, etc.

It is important to notice that two contradictory terms always include the universe between them; thus, everything is either good or not-good, either man or not-man, either Ego or Non-Ego, etc. There is nothing in the world of things or of thought that can not be put into one or the other of the two classes denoted by *any* two contradictories.

LOGICAL ANALYSIS.—This is analyzing a term with respect to its comprehension, as when we find that surface is a necessary element of the concept expressed by the term "polygon."

LOGICAL DIVISION.—This is analyzing a term with respect to its extension, as when we find that the quadrilateral is included in the class of figures denoted by the term "polygon."

DISTRIBUTION OF A TERM.—A term is "distributed" when it is used in its widest extension; thus, "all men," or "every man," is a term distributed, because it includes every one of the class to which it may be applied.

LOGICAL DEFINITION. — In defining a thing logically, we put it into a class, and then point out the difference between it and other objects in the same class. Thus, *a quadrilateral is a polygon having four sides.* Here quadrilateral is put into the class "polygon"; it is then distinguished from other polygons by its having four sides. Every such definition, therefore, consists of the generic part, which puts the object into a class; and of the specific, which marks it off from others of the class. In the given definition, "polygon" is the generic part, and "having four sides," the specific. The specific part is called the *differentia.*

IMPORTANCE OF GENERAL CONCEPTS. — Without general, or logical, concepts, language would be impossible. Most substantives are general terms, and the same is true of verbs, adjectives, and adverbs.

Nor would anything like science be possible without the power to classify; and classification depends upon the power to form logical concepts, according to which objects can be arranged in classes.

PROGRESS OF SCIENTIFIC CLASSIFICATION. — In all the natural sciences there is a marked progress from a classification that is more or less loose, towards that which is more truly scientific. This progress results from a knowledge of deeper and more important characteristics, which are discovered by closer study. In Zoology, no importance is now attached to such a class as quadrupeds, for it is found that the fact of having four feet is not very significant. So, in other sciences, progress in knowledge often leads to new classifications on a more scientific basis, — that is, on distinctions that have a more profound meaning.

Thus, thought in its progress comes more and more into harmony with things; if man shall ever attain complete knowledge, the harmony will be perfect.

It must be remembered that classes, as such, do not exist in nature; there are found only individual objects, with their peculiarities and qualities, some of which are obvious, but unimportant, while others may be profoundly significant, but their significance appears only after careful study. It is held by some that these significant peculiarities express the profound thought of the Creator; and that classification is the more scientific, the more nearly it harmonizes with this creative thought.

GENERALIZING.—According to some writers, the word "generalize" means the forming of logical concepts. Others use the term to signify scientific classification. It is in the latter sense that we have used it as designating one form of the Reflective Power.

SIGNIFICANCE OF GENERAL TERMS.—Some have maintained that there is no such thing as a logical concept, such as we have defined it; some declare that general terms, such as "man," are empty of meaning,—mere names. Those who take this position are, therefore, called Nominalists. One branch of the Nominalists, however, claims that, when the term is not a mere name, the corresponding concept is a concept of some individual of the class, which is a type, or representative, of the class. On the other hand, some have held that classes have a real, objective existence as such,—that is, that there is a real thing, not merely a product of thinking, that corresponds to such terms as "man," "horse," etc. Fierce discussions have been waged over these questions.

ANSWERS.—Doubtless, abstract, general terms are often used as mere words, and sometimes it may be that a concept of an individual of the class does respond to the term. But many know, from their own consciousness, that such words do awaken in their minds concepts that are real, and that are clear, but which are not concepts of any individual,—which are not *images* at all. The Nominalists seem to assume that there can be no concepts that are not *images*. Further, how can an individual represent a class, if the mind can not conceive of a class for it to represent? The concept of the class, however, is purely subjective,—it is a product of the mind; classes, as such, have no objective existence. Only individuals exist; no horse can be found that is not "a horse." The notion of an objective existence that corresponds to a general term, is kindred to that notion of "objective ideas," out of which grew the "little images" of the Non-Egoist (page 73).

CHAPTER XII

JUDGMENT, PROPOSITION, AND REASONING

UDGING.— In forming a logical judgment, or thought, the mind holds before itself two concepts, or a concept and a percept, and decides that these do, or do not, agree; the concepts may be simple or very complex. You bring before your mind a concept of the thing called *snow*, and a concept of the quality *whiteness;* you decide that they agree, and you say, "Snow is white." You bring before your mind a concept of the act called *murder*, and a concept of the quality *rightness;* you decide that they do not agree, and you say, "Murder is not right." Every judgment, then, involves two concepts, and the decision respecting them.

PROPOSITION.— *The expression of a judgment is a proposition.*

This definition is often expressed in a false form by saying, "A proposition is a judgment expressed." We deny that a proposition is a judgment expressed or unexpressed; the judgment is the thing, the proposition is its symbol. Here, as everywhere, the teacher can not afford to confound a thing and its symbol.

As a judgment involves three things, so a proposition must have three parts; these we call *subject*, *attribute*, and *copula*. The subject is the word or words denoting the principal concept; the attribute is the word or words denoting the related concept; and the copula is the word or words expressing the decision. Both copula and attribute may be expressed by a single word, as in the proposition, Water flows. The subject and the attribute are the *terms* of the proposition. In this relation of judgment and proposition is the foundation of all grammar. All complete language is in the form of propositions; hence, every kind of mental activity results in a kind of judgment; if it were not so, all language would not take this form. Sense-perception is a form of judgment called a primitive judgment (page 22). Only such a judgment as we have defined above results from reflection.

KINDS OF PROPOSITIONS. — Every proposition must contain two terms, a subject and an attribute. With the same two terms, four different propositions may be made.

By the *quantity* of a proposition, we mean its character as universal or particular; if its subject is distributed, it is universal, otherwise it is particular.

By the *quality* of a proposition, we mean its character as affirmative or negative; this is determined by its copula.

With the same two terms, then, we may make a universal affirmative proposition, as, All A is B. This proposition is symbolized by the letter A.

We may also make a universal negative, as, No A is B; this is represented by the letter E.

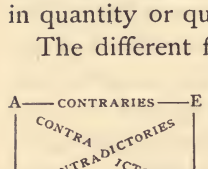
We may make a particular affirmative proposition, as, Some A is B; this is represented by I.

Finally, we may make a particular negative, as, Some A is not B; this is represented by O.

DISTRIBUTION OF TERMS. — In a universal proposition, the subject is distributed, for this is what marks it as universal; the subject is not distributed in a particular proposition. Every negative proposition distributes the attribute, for every part of the attribute must be denied of the subject.

OPPOSITION. — Any two of the four propositions made with the same terms are in *opposition;* but different names are applied, according as the propositions differ in quantity or quality, or both.

The different forms of opposition are clearly shown and named in the accompanying figure.



I, the particular, corresponding to A, is called its subaltern; O is the subaltern of E.

LAWS OF OPPOSITION. — *Universal and Particular.* — If the universal is true, its subaltern is true. If the particular is false, its universal is false.

Contraries. — Two contraries can not both be true; both may be false.

Sub-Contraries. — Two sub-contraries can not both be false; both may be true.

Contradictories. — Of two contradictories, one is always true, and one is false.

Let the student be prepared to give the reasons for these laws. Let him take two terms, make the four propositions, A E I O, with them, and illustrate the Laws.

CONVERSION OF PROPOSITIONS.—A proposition is said to be converted when its terms are exchanged. The original proposition is then called the *convertend;* the new proposition is called the *converse.* The conversion is improper unless the converse is a logical inference from the convertend. This is the rule of conversion: *No term must be distributed in the converse that was not distributed in the convertend.*

There are three kinds of conversion; viz., Simple, by Limitation, by Negation. In simple conversion, the terms are exchanged without modifying them. In conversion by limitation, the quantity of the proposition is changed from universal to particular. In conversion by negation, the quality is first changed from negative to affirmative, by removing the negative particle from the copula and joining it to the attribute: then the terms are exchanged by simple conversion.

HOW CONVERTED.—A is converted by limitation. The attribute of A is not distributed; hence, it can not become the subject of a universal, therefore A must be converted into I. *Example:* All birds have wings; converted, it becomes, Some (creatures) having wings are birds.

E is converted simply, into E. For, as it is universal and negative, both its terms are distributed. *Example:* No men are dogs; converted, it becomes, No dogs are men.

A substitutive proposition may be converted simply, also; for both of its terms have the same comprehension and extension; any logical definition is an example of a substitutive proposition.

I is converted simply, into I. For, as it is particu-

lar and affirmative, neither of its terms is distributed. *Example:* Some sheep are black; converted, it becomes, Some black (creatures) are sheep.

O is converted by negation; it is first changed to its equivalent I, and then that is converted, simply. *Example:* Some trees are not oaks, is first changed to the equivalent I as follows: Some trees are not-oaks; then, by simple conversion, it becomes, Some (things) not-oaks are trees. If you recall what was said about contradictory terms, such as oaks and not-oaks, you will readily understand how O may be thus changed to its equivalent I (see page 114, second paragraph). Every tree must be *oak* or *not-oak*.

If the student will carefully reflect upon these Laws of Opposition and Laws of Conversion, he will soon see that he can not make the simplest assertion of any kind without, at the same time, saying several other things by logical inference. For instance, if one asserts A, he asserts its subaltern, and denies E and O in the same breath; if he asserts O, and in so doing speaks falsely, then A and I must be true, and E must be false. Every proposition asserts its converse.

REASONING

Inference and Reasoning. — One truth may be drawn from another by inference; as, when the truth of one proposition is seen, the falsity of its contradictory may be known by inference; or when an animal is found having no eyes, it may be inferred that such an animal can not see.

But true reasoning establishes a relation between two concepts, through a comparison of each with a third; thus, A equals B, and B equals C; hence, A equals C.

THE SYLLOGISM. — When a process of reasoning is reduced to a systematic form, it appears as a syllogism, or a chain of syllogisms.

Not that all reasoning is put into the syllogistic form; in fact, it is not generally in this form. But all reasoning *may be* put into the form of a syllogism; and this it is well to do, when we would test its validity. A syllogism consists of three propositions so related that one necessarily follows from the other two.

Of course, as a syllogism contains three propositions, it must contain six terms. But, as each term appears twice in the syllogism, only three separate terms are used; they are known as major, minor, and middle terms.

The major term is the *attribute of the conclusion;* the minor term is the *subject of the conclusion;* the middle term is the one with which the other two terms are compared, — it does not appear in the conclusion.

The *major premise* compares the major term with the middle; the *minor premise* compares the minor term with the middle.

The order of the propositions in a syllogism is immaterial; any one of them may occupy the first, second, or third place. For instance:

Socrates is a man;
Therefore he is mortal,
For all men are mortal;

Or,

All men are mortal;
Therefore, Socrates is mortal,
Because he is a man, etc.

TWO KINDS OF SYLLOGISMS. — By one process of reasoning, we derive a particular truth from a general

truth; this process is called *deduction.* It is based upon the principle that what is true of a whole, is also true of its constituent parts.

The formula for a deductive syllogism is this: *a* is *b*, *c* is *a*; therefore *c* is *b*.

By another process of reasoning, we derive a general truth from several particular truths; this process is called *induction.* It is based upon the principle that what is true of the constituent parts, is true of the whole.

The formula for induction is this: *a*, *b*, *c*, etc., are *x*; *a*, *b*, *c*, etc., represent *y*; therefore *y* is *x*.

These abstract formulas should be thoroughly learned; and then, in any given case, the student should fix the value of each term, and then fill the syllogism.

THE DEDUCTIVE SYLLOGISM.—Taking the "stock" example to illustrate the deductive syllogism, let *a* equal man; let *b* equal mortality or certainty of death; let *c* equal Socrates. Our abstract syllogism now becomes,

All men are mortal;
Socrates is a man;
Hence, Socrates is mortal.

Such a syllogism is made in this way: We take the logical concept denoted by the term "man," and we find by logical analysis that mortality is one of the "marks" or elements of that concept; hence, we make the first statement. By logical division, we find that Socrates is one of the class to whom the term "man" applies; hence, we make the second statement. From these two statements, we derive the conclusion, on the principle already stated, that what is true of the whole is true of each constituent part.

When a Conclusion May Be Trusted.— Before a conclusion can be trusted, we must be sure of two things: First, we must be certain that our premises are true; Second, we must be sure that the conclusion necessarily follows from the premises. The syllogism itself gives us no power to test the truth of the premises; this must be done in some other way. But the validity or conclusiveness of the syllogism must be determined by observing whether it conforms to all the "Laws of the Syllogism."

Not all syllogisms are sound or valid, as we shall see by a study of the Laws of the Syllogism. *Every conclusive syllogism is sound;* that is, the soundness or validity of a syllogism depends solely on its conclusiveness. But, if the premises are one or both false, the conclusion from a sound syllogism is untrustworthy; it may be true or false; our reasoning gives us no ground of knowledge as to its truth, although we may be sure that our syllogism is valid. For instance, take this:

> Every tyrant is a good man;
> Washington was a tyrant;
> Therefore, Washington was a good man.

Here we know, from other sources, that the conclusion is true; we also know that the syllogism is valid. But, as the premises are false, the truth of the conclusion does not follow from our reasoning at all.

CHAPTER XIII

REASONING, CONCLUDED

AWS OF THE SYLLOGISM.— In order that we may determine the validity of a syllogism, the following laws are given:

1. *The Middle Term Distributed.*— The middle term must be distributed, in one of the premises, at least. Otherwise, the major term may be compared with one part of the middle, and the minor with another part, and so no conclusion follows. *Example:*

> Oaks are trees;
> Maples are trees;
> Therefore, oaks are maples.

2. *The Middle Term Unequivocal.*— If the middle term is equivocal, it may have one meaning in one premise and another meaning in the other, in which case it would be no true middle, but such in appearance only. *Example:*

> All light bodies are easily lifted;
> The sun is a light body;
> Hence, the sun is easily lifted.

3. *Distribution in the Conclusion.*— No term must be distributed in the conclusion that was not distributed

in the premise. Otherwise, the conclusion would assert more than the premises would warrant. *Example:*

All birds breathe air;
No dog is a bird;
Hence, no dog breathes air.

4. *Affirmative Premises.*—If both premises are affirmative, only an affirmative conclusion can be drawn. For the premises have asserted agreement of minor and major terms with the middle; hence, the conclusion must assert agreement between major and minor terms, if it assert anything.

5. *Negative Premises.*—If both premises are negative, there is no conclusion. For the premises having asserted, merely, that both the minor and the major terms do not agree with the middle, of course we know nothing about their agreement with each other, from such assertion.

6. *Negative Conclusion.*—A negative conclusion requires one negative premise. For the agreement of one term of the conclusion with the middle term must have been asserted, and the non-agreement of the other, in order that we may assert their non-agreement with each other in the conclusion.

7. *Particular Premises.*—If both premises are particular, there is no conclusion. If both are *I*, there is no conclusion, by Law 1. If both are *O*, there is no conclusion, by Law 5. If one is *I* and the other *O*, then the conclusion, if any, must be negative, by Law 6. But this negative conclusion would distribute at least one term; by Law 3, this term must be distributed in the premise; and by Law 1, the mid-

dle term must be distributed; this would require the distribution of two terms in the premises, which is impossible if the premises are *I* and *O*.

8. *Universal Conclusion.*— In order that the conclusion may be universal, both premises must be universal. If the conclusion be *A*, both premises must be affirmative, by Law 4; the conclusion *A* distributes one term; hence, two terms must be distributed in the premises; these affirmative premises must both be *A*, in order to distribute the terms.

If the conclusion be *E*, both of its terms are distributed; hence, three terms must be distributed in the premises; but, as one premise must be affirmative, by Law 5, no premises but *A* and *E* will distribute three terms. Therefore both premises must be universal, in order to have any universal conclusion.

The Inductive Syllogism.— Returning to the abstract inductive syllogism, let us give value to its terms, and then fill the syllogism.

Let *a*, *b*, *c*, etc., stand for all bodies whose expansibility we have tested; let *x* stand for the quality of expansibility by heat; let *y* stand for all bodies, including *a*, *b*, *c*, etc. Then the syllogism will read:

All bodies, as iron, lead, etc., that I have tried as to their expansibility by heat, *are* expanded by heat.

But these bodies *represent* all bodies; hence, all bodies are expanded by heat.

The word "represent" here must be taken to mean *just like, in respect to the thing in question.*

It will be noticed that the first premise states the result of observations; the second premise states an assumption. Hence, the first premise may be false,

if our observations have not been carefully made; and we can never be *absolutely sure* that the assumption in the second premise is not false. The only possibility of absolute certainty in the second premise would be to make *a*, *b*, *c*, etc., equal to *y*, that is, to try the experiment with every one of the class. But in that case there would be no induction at all; the conclusion would be identical with the first premise, and both would merely state a truth discovered by observation.

We do Trust the Assumption.—Although we can never be absolutely certain that the several cases examined do *represent* the class, in the sense in which we have defined the word "represent" as used in an induction, yet the human mind is so constituted that we do constantly trust this assumption, and make our inductions. And, in many cases, we find it perfectly safe to do so. Most of the laws of Natural Science are established by induction.

For instance, the law that all horned and cloven-footed animals ruminate, that all metals are expanded by heat, that all magnets attract iron, etc. Let the student see if he can take the abstract formula for induction, and so fill the terms as to make these inductions.

The conclusion of an induction may become the major premise for a deduction. For instance:

All horned and cloven-footed animals ruminate;
The cow is a horned and cloven-footed animal;
Hence, the cow ruminates.

The major premise of a deduction is usually the result of an induction; or it is a necessary truth, to be defined hereafter.

NOT ALWAYS SAFE TO DO SO.— But some inductions are found to be false, because the assumption of the meaning of "represent" is unwarranted. Sometimes the reason is that not enough cases are examined before the assumption is made; then the induction is said to be too narrow. Sometimes circumstances prevent us from examining such cases as would show the falsity of the assumption. It is said that a traveler from a cold country once told the King of Siam some very strange and improbable stories about things in his own country. However, the King believed all that he said until the traveler told him that sometimes in his country water became hard like a rock. This was too much for the King's credence. Why did he reject it? Because he had made an induction with which it was in conflict.

Many superstitions, as that Friday is an unlucky day, Thirteen is an unlucky number, etc., and many of the so-called "signs," as that a certain position of the horns of the new moon indicates a wet month, are the result of careless or false inductions.

Let the student see if he can put the King of Siam's induction, or any of the others, into the formula.

THE ENTHYMEME.—An argument in which one of the premises is suppressed, is called an enthymeme.

This is often done in the deductive argument; and usually the suppressed premise is the major,—it may be supposed to be so well understood as to need no statement. *Four pencils cost twelve cents because one pencil costs three cents*, is an enthymeme of this kind, the suppressed premise being that four pencils cost four times as many cents as one pencil.

Often an enthymeme which seems plausible will be seen to be faulty if the suppressed premise is supplied. For instance, some one shows you that a certain habit or opinion is working great evil among men, therefore he urges that it is your duty to give your whole time and energy to the overthrow of this habit or opinion. His argument is an enthymeme, the suppressed premise being that it is your duty to give your whole time and energy to the overthrow of bad habits and opinions among your fellows. A sophistical advocate will sometimes put his argument in the form of an enthymeme purposely, because the statement of the suppressed premise would show the misleading nature of his argument.

Hypothetical Reasoning. — This is of two forms, conditional and disjunctive, represented as follows: If *A* is *B*, *C* is *D;* but *A* can be shown to be *B;* hence, *C is D;* or, Either *A* is *B*, or *C* is *D;* but it can be shown that *A* is not *B;* hence, *C is D*. These are not, properly, forms of reasoning at all, because there is no middle term; they are, rather, forms for drawing an immediate inference.

Let the student be careful that he does not assume that, in the first of these cases, *C* is not *D*, when it can be shown that *A* is not *B;* the condition gives no ground for this conclusion. Nor does it follow, in the hypothetical form, that *C* is not *D*, when *A* is found to be *B*.

Two Kinds of Truth. — There are two kinds of truth; viz., *necessary* and *contingent*. Necessary truth is independent of time and place; and its contradictory is unthinkable or absurd. Such truths belong mostly to Mathematics and Logic (page 48).

Contingent truth is no less truth than the other, but it is dependent on time, place, and circumstance; nor is its contradictory unthinkable. *Napoleon was Emperor of France*, is a contingent truth; so is the truth that *The Nile flows northward.* *The sum of the three angles of a triangle equals two right angles*, is a necessary truth.

Two Kinds of Reasoning.— Reasoning upon necessary truth is *demonstrative* reasoning; reasoning upon contingent truth is *probable* reasoning. It is not meant, however, that probable reasoning *may* not lead to results that are just as certain as those reached by demonstrative reasoning. But the results of demonstrative reasoning are always certain, or they are worthless; while the results of probable reasoning may range from certainty down to the barest possibility.

Demonstrative Argument, Peculiar.— Demonstrative arguments have two peculiar characteristics: First, every argument is perfect, or it is worthless; Second, one conclusive argument is as good as another, and one is as good as a thousand. It is not meant that all arguments are equally neat, or concise, or ingenious; but an argument is conclusive, or it has no force; and all conclusive arguments are equally strong, and one is sufficient.

Direct and Indirect Demonstration.— In demonstrative reasoning, there are two modes of procedure; one shows the truth of a proposition directly, and the other shows its truth by proving that no inconsistent proposition can be true. For instance, if a geometer wants to prove that the line *a* is equal to the line *b*, he may be able to show that each is

equal to the line *c*, and hence they are equal to each other; this is direct reasoning. Or, he may show that if he supposes *a* to be either longer or shorter than *b*, such a supposition will lead to an absurdity. If, therefore, *a* can not be longer nor shorter than *b*, they must be equal in length; this reasoning is indirect. Both are equally conclusive.

PROBABLE REASONING. — Reasoning concerning contingent truth is *probable* reasoning. In this kind of reasoning, different arguments may carry different degrees of weight, and the more arguments tending to the same conclusion, the stronger becomes our confidence in the truth of that conclusion. Sometimes we may trust the conclusion as implicitly as we trust the result of a mathematical demonstration. From this certainty, the degree of probability established by this kind of reasoning may diminish to a conclusion that is simply possible.

The sources of evidence in probable reasoning are three; viz., *Testimony*, *Observation* or *Experience*, and *Analogy*.

TESTIMONY. — It is natural for men to put confidence in the testimony of others; and it is reasonable to do so. For men tell the truth much oftener than they tell falsehoods; if it were not so, society could not be held together. Even the worst liars speak the truth more than they lie.

Weighing Testimony.—Nevertheless, men do often tell untruths, sometimes by mistake, and sometimes from purpose; hence, it becomes us to weigh testimony. The value of testimony is determined by the following considerations: The number of the witnesses,

their competence, and their honesty, the independence of their statements, the degree in which their statements concur, and the question whether the witnesses have any motive to falsify. All these points must be taken into account in deciding how fully we are to receive what is told us. Nor must the one who weighs testimony forget that if he has any *bias* in his own mind, any leaning towards one side rather than the other, he is likely to be misled; he is in danger of receiving too readily that testimony which accords with his bias, and of unreasonably rejecting the testimony opposed to it.

Degree of Probability. — We must believe, if we are reasonable, what rests upon the testimony of a sufficient number of competent, honest, independent, concurrent witnesses. It is said that an eminent mathematician has demonstrated that a sufficient amount of such testimony should cause us to believe any story, no matter how improbable it may be; in other words, it is mathematically more improbable that a certain amount of such testimony should be false than any possible improbability in the story told.

Fact and Inference. — A careful distinction, however, must be made between the testimony of a witness as to *fact*, and the statement of his *inferences* from that fact. If a sufficient number of witnesses say that they have seen a ghost in a grave-yard, we are bound to believe that they have seen something; but that does not bind us to receive their inference that it was a ghost. Witnesses in court are often cautioned to state only facts, and not their opinions concerning those facts, — to tell what they *know*, not what they *think*.

A few years ago, a story was started that a farmer in eastern Illinois, being in his field one day, cursed the Almighty, because of the drought or something else; and that he was struck dead, and his body stood there for days after, with a constant stream of fire issuing from his mouth and nostrils. It was said that many different persons had seen the body standing thus. Now, should we be justified in believing such a story? Undoubtedly we should believe the story as to the body, if it was supported by sufficient evidence; but that would not oblige us to believe the inference that the man's death was a judgment inflicted by the Almighty, for his blasphemy.

Observation or Experience.—The evidence of our own senses is observation, and it may be trusted under fair conditions. But we are guided in respect to the present and the future, largely by knowledge derived from past experience. This knowledge is almost entirely in the form of inductions which we have made from that experience; and often they have almost the force of intuitions.

Analogy.— By analogy we mean the inference that, because two things are alike in certain particulars, therefore they are alike in some other particular. Of course, the more known points of resemblance, the stronger the analogy. But analogy is very untrustworthy as an argument when taken alone; joined to other arguments, it strengthens the case more or less. For instance, our observation that some of the other planets are flattened at the poles, adds to the force of other arguments for believing that the earth is flattened at the poles.

Analogy as a Defense.—But, while analogy weighs but little in support of a proposition, it may be a most powerful instrument in destroying the argument of an

opponent. For instance, if the opponent has built up a plausible argument in support of a certain position, and we can make another argument just like it, but which leads to a palpably false conclusion, we have destroyed the force of his argument. The original question remains as it was before.

Example.— Some years ago, a skeptical writer constructed a famous argument to show that the miracles of the New Testament are incredible. He was answered by an argument precisely similar, showing that it is incredible that such a man as Napoleon Bonaparte ever lived.

Much of what we have said here concerning the Reflective Power, strictly belongs to Logic ; but it claims a place in Psychology because it has to do with the necessary action of the human mind.

CHAPTER XIV

THE SENSIBILITY,—GENERAL STATEMENTS

NTERACTION OF POWERS.—The human being is a unit. We may divide Man's powers into physical and psychical; again, we may divide the latter into Intellect, Sensibility, and Will,—we may subdivide still further. In thought, we may distinguish these different activities and states; sometimes, in fact, one or more of them may be especially prominent, while the others are comparatively quiet or unnoticed. But after all, it is the one Ego, the one indivisible human being, that knows and feels and acts,—body and mind both concerned in it all. And each of the powers and susceptibilities interacts with all the rest, and influences them all.

Studying, in different chapters and under different heads, the several powers, susceptibilities, and activities of man, there is danger that we shall forget or overlook his unity, and the interdependence and interaction of all with each, and of each with all. So, as we take up the study of the Sensibility, we must remember that we have not passed over into a foreign realm, independent of the one we have left, and un-

connected with it. We have simply brought under consideration another part of the same mind's activities and susceptibilities, blended in actual life with all the rest, — acting upon them all and modified by their action in return. "The action of the soul in feeling depends more or less upon its action in knowing and willing; its action in knowing depends on its action in feeling and willing; and its action in willing depends on its action in feeling and knowing."

The teacher, especially the young and inexperienced teacher, is in great danger of forgetting the essential unity of the child, —unity in all his bodily powers and capacities, together with all the distinct but dependent capacities and activities of his mind. Only as all are duly regarded in their relation to one another and to the sum total which makes the individual pupil, can education be truly symmetrical.

Not Definable. — We can not define Sensibility, or Feeling in general. Professor Bowne says: "We can only identify and name it." It is one of the primary things in human experience, — easily distinguished from all others by its subject, readily expressed by tone, sign, or word. But, as in the case of all first things, we have nothing simpler on which we can frame a definition. We know when we feel, we distinguish the peculiarities of the experience; but that is the end of it, — we can not define it.

Nor is there any certain test by which we can be absolutely sure that the experience is the same to others that it is to ourselves, although there are many reasons for inferring that it is so. Least of all, is there any sure measure of the relative intensity of our feelings as compared with those of others. Nothing

seems more certain than that many who are the most vehement in expressing their feelings, are most shallow in their experience of them.

Sensibility Begins Where?—The lowest form of Sensibility is found in what we have known as a sensation, that is, a cognized affection of the nerves; but it must be kept in mind that the nerves do not feel, the mind feels through the nerves. No matter how great the stimulus to the nerves, if the mind is not affected by it, there is no sensation. Hence, what is sometimes called physical feeling is really a psychical affection. And it is quite certain that the first movements of mental activity in the babe begin in the cognition of these nervous affections. From this lowest form of Sensibility, its range extends to the highest flights of sublimity, duty, and adoration.

We have noted that all our terms in Psychology are borrowed from sense; notice such terms as tasteful, loathsome, disgusting, sweet, fragrant, insipid, etc. All have a secondary meaning which has no reference to sense, although all are borrowed from sense. Again, conscience is said to prick us, or to buffet us; joy elates us; grief depresses us; love warms us, etc. We use the term "warmth" to apply to fullness of feeling in general; and coldness signifies lack of feeling. From the lower forms of Sensibility, then, we borrow terms for the higher.

Two Classes.—In a very true sense, any movement or form of Sensibility is psychical; but it is easy to draw a distinction between two well-marked forms. The first is the feeling that arises solely from the condition or functions of the nerves of the body, as in the sensations. This we may call physical feeling; and it is the ground of a large part of our comfort or discomfort.

The feelings which have a purely mental source are much more numerous and important. These do not arise from the organic functions, but from some "conception or mental state." Such are psychical feelings proper; but it may be observed that physical sensations may be their remote cause, as when the hearing of a noble piece of music gives rise to exalted emotions. We must note, however, that in proper psychical feeling some act of the intellect is the immediate cause. We feel sorrow, or joy, or anger, or pity, because of something we know, or think we know. The feeling of the ludicrous arises from the juxtaposition of incongruous concepts; take away the concepts, and the feeling passes. If one insult us never so grossly, we feel no anger if he speak in an unknown tongue, —there is no act of the intellect to give rise to anger.

All Feeling, Pleasurable or Painful.—Dr. Haven says: "One general distinction lies at the outset, patent and obvious, running through all the forms and modes of Sensibility; namely, the difference of *agreeable* and *disagreeable*." The quality of pleasure or pain may exist in almost infinite degrees; some feelings may even partake of both characteristics. But perhaps we can not conceive of any feeling that should be strictly indifferent; as Dr. Haven says: "The state of indifference is not an exercise of Sensibility, but a simple *want* of it, as the very name denotes by which we most appropriately express this state of mind, i. e., *apathy*." Professor Bowne says: "We might define feeling as the state of consciousness which consists in some form of pleasure or pain, like or dislike, satisfaction or dissatisfaction. Of course

this is not a definition, but only an identification. What the terms mean can be known only in experience."

We may notice that painful feelings — fear, dread, suffering, are always costly ; they diminish the vigor and efficiency of the mind. Hence, such feelings should be used, or appealed to, as motives only when nothing better can be done. This fact has an important bearing in reference to a government by force and punishment.

Source of all Joy and Sorrow. — It is not in knowing or willing that we find our happiness or unhappiness, our pleasure or our pain; these belong to our feelings alone, or rather, they *are* our feelings. For, as has been said, all feeling has one or the other of these characteristics, which are not found anywhere else. To be sure, the feeling may arise in consequence of knowing or willing in a certain way; but the joy or sorrow, the pleasure or the pain, is not *in* the knowing or the willing. For this reason, it may even be said that feeling is more vital to us, concerns us more, as it were, than any other form of mental state or movement. So far as our personal interest is involved, it may perhaps be said that the chief reason why we should know rightly, and choose and act rightly, is because in that way alone we shall secure to ourselves a feeling of happiness. Neither knowing nor willing has come to fruition as to its subject till it has been followed by the appropriate feeling.

Motives to Action. — Not only are our feelings the source, or seat, of all our happiness or unhappiness, but they furnish the motives in view of which we choose and act. "The springs of human action lie here. Here we find the motives which set the busy world

in action, the causes which go to make men what they are in the busy and everchanging scene of life's great drama." It seems possible that knowledge alone might lead us to will and to act; but it seems certain that it never does. It is only when desire or aversion has arisen in consequence of what we know, that there is anything affecting the will, soliciting it to act. Many know well enough in respect to right behavior, whose feelings in respect to the right are too sluggish to urge the will effectually.

Professor Bowne says: "The desires and their opposites form the transition from knowing to willing. In knowing and feeling, we have the conditions of desire; and in desire we have the condition of proper volition. Our feelings and interests are the deepest things in us. Will and understanding have no significance except as instruments of this throbbing and aspiring sensitive life."

In common language, "the heart" is the term to express the sum total of our feelings; hence, we see the philosophic correctness of the Wise Man when he says, "Keep thy heart with all diligence, for out of it are the issues of life."

Close Relation to the Body.—The relation of the Sensibility to the body, if we may say so, is more intimate than that of the intellect or the will. Its lowest form arises simply from the affections of the nerves. In their reaction, our feelings have an astonishing effect on the vital functions of the organism. Shame reddens the cheek, joy quickens the pulse, fear sometimes paralyzes the muscles. Not unfrequently excessive feeling has been fatal in its results.

We have noted before, that nearly or quite all forms of mental activity have an appropriate bodily expression; but, while this is true, it will be found

that the bodily expression of the feelings is far more striking than any expression of the intellect or the will. Many of the bodily expressions of feeling are common to man and brute.

Expression and Repression.—A feeling is often induced, or at least intensified, by indulging in its expression. Hence the wisdom of restraining the expression of unlovely feelings. One may not be able to overcome his anger at once; but it will help him to do so, if he refrains from showing the feeling. Desirable feelings, on the other hand, may be induced or strengthened by their free expression.

However, sad and depressing feelings are sometimes prolonged if their expression is repressed; while a full expression is found to be a relief. This is seen in the benefit sometimes found in a "good cry." The tendency to deepen a feeling by restraining its expression is also seen in the case of one moved to mirth in a place where laughter would be unseemly. In such a case, that is sometimes found to be irresistibly funny, which in other circumstances would be only slightly diverting. Teachers will generally do better to let pupils indulge in a reasonable laugh when there is any cause for it, instead of trying wholly to suppress it.

Sensibility and Intellect.—We have seen that cognition is necessary to the lowest form of physical feeling; also, we have seen that knowledge, or a movement of the intellect, is a necessary condition for the higher forms of psychical feeling. On the other hand, the intellect does its best work only when it is favored by helpful feeling. Conditions of bodily comfort, interest in what is attempted, a buoyant and hopeful

frame of mind, are necessary to the best accomplishment of any intellectual task. Such work is greatly aided, also, by love for one whom it will please, or by the hope of applause or reward. All these and similar facts have great significance for the teacher.

In order, however, that feeling should be helpful to intellect, it must be moderate in degree; a mind perturbed by feeling of any kind can not think well. In such a case, Intellect and Sensibility may be said to be opposed to each other, or to "exist in an inverse ratio." It is sometimes said that the highest intellectual power is not found in persons susceptible to the most intense feeling. Probably, however, the opposite is generally true; the great intellect and the keen sensibility usually go together, but such persons are rarely the most demonstrative of their feelings.

Temperaments.— Much has been written, both in ancient and in modern times, about the so-called temperaments. Not a little of what has been said is purely fanciful; but marked differences do exist among men in those respects which the word has been used to designate. The word itself seems to refer to the *tempering* of the man by the proportionate blending of the several parts which go to make up his nature or disposition. These differences of temperament are seen conspicuously in the feelings.

Many names have been applied to the different temperaments; but perhaps the most common are: First, the bilious or choleric; Second, the sanguine or nervous; Third, the melancholic; and Fourth, the phlegmatic or lymphatic. There are certain physical characteristics which are said to indicate these different

temperaments; and these are accompanied by corresponding mental characteristics. It is said that comparatively few pure and unmixed types of temperament exist; but that in most people two or more types are blended.

We have not space to dwell on this topic, concerning which there is much confusion; but it appears to be worth mention, because it is clear to every observer that differences do exist in human constitutions, corresponding more or less fully to what these names of the temperaments have been held to express. And any one who has to attempt the management of human beings would do well to remember that different temperaments require different treatment. Hence, this is a matter worthy of the careful attention of the teacher.

Moods.— Every one who has observed much of his own mental states, or those of others, knows that they are not uniform. At one time he feels a special tendency to be joyful, at another to be sad. No apparent reason may be known; like Antonio, he may have to say, "I know not why I am so sad." He may be in a jubilant frame of mind, or in a peaceful, serene state, with just as little knowledge of the cause. Doubtless, in many cases the *mood* depends upon the physical condition; but often no complete reason can be found here.

Some people are much more subject to varying moods than others; but probably no one is wholly free from their influence. A teacher should recognize this fact, and watch with great care both his own moods and those of his pupils. In this way, very much friction may be avoided, and fewer causes for subsequent regret will arise.

CHAPTER XV

SPECIFIC FEELINGS

NALYSIS, NOT EXHAUSTIVE.—A recent writer says: "The doctrine of the feelings is the most confused part of Psychology, and has been least developed." One reason is that the subject itself is very complex; the feelings are many and of many kinds, and they are intermingled almost inextricably. It would be difficult to make a complete list of them, and much more difficult to make a complete classification, if the list were made.

One attempt to classify the feelings results as follows: First, the Ego-feelings; Second, the social feelings; Third, the impersonal feelings,—embracing the æsthetic, the ethical, and the religious. The ground of this classification is clear enough; but it would be very difficult to arrange all the feelings properly under these heads. We shall not attempt an exhaustive analysis nor a complete list, still less, a perfect classification. We shall speak only of such of the feelings as it concerns the teacher especially to regard.

THE USUAL CLASSIFICATION.—The feelings are commonly divided into three classes; viz., *Emotions*, *Af-*

fections, and *Desires*. The emotions are simple feelings, as comfort, joy, etc. The affections are feelings that go out towards an object, as love, etc. The desires go out towards an object with the wish of possession, as a desire for food, money, etc.

Each of these classes has its two poles, as they may be called; the emotions range from bliss, joy, happiness, down to sadness, sorrow, misery. The affections extend from profound love to the deepest hate; and the desires, from a passionate wish to possess, to a mortal aversion or dread.

In each class, too, there is the feeling that results immediately from sense, and the higher feelings based on ideality, knowledge, or thought. We experience the satisfaction that attends the simple gratification of any of the senses, and the delight that follows the contemplation of beauty, truth, and goodness. Love reaches from the low plane of a mere liking for some object of bodily appetite, to the most absorbing love for the Highest. Desire may have for its object something that will gratify a bodily craving,— perhaps a base one,—or it may earnestly seek the best good of others, or the perfection of one's own personal character in its noblest form.

Affections and Desires.— The affections are often classified as benevolent or malevolent; but this seems to be a bad use of terms. We have noticed the two poles of the affections, which may be named, comprehensively, love and hate; but love does not necessarily and always imply good will, or goodness in any form: so there may be a hate which is entirely proper, and has no mixture of ill-will.

There is a logical order in this arrangement of the three classes of feelings; enjoyment, preference, desire,—these words express the natural order of the movement of the feelings. That which gives us pleasure, we come to like; and we desire to possess it more fully. Hence, desire is a secondary feeling, in that it is preceded by another feeling, enjoyment, or liking re-enforced by the knowledge of previous experience. One would not be expected to desire anything which he has never experienced as a gratification, or source of enjoyment; but often imagination may be found in place of actual experience, as leading to desire. In this way we can explain why desire, not seldom, turns to its opposite, aversion, after the object of desire has been gained.

Passions.— When the affections or the desires become violent, taking possession of the mind, as it were, spurning the control of reason and conscience, they are called *passions*. The exhibition of passion does not betoken strength, as it is sometimes supposed; the passionate man is not the strong man, but the suffering man, as the word "passion" clearly implies.

Motives.— In the form of affection or desire, the Sensibility furnishes the *motives*, soliciting the will to act in conformity with the feeling. In this fact lies the great importance of a knowledge and control of the feelings, both in one who wishes to shape his own conduct aright, and in one who wishes to influence or guide the conduct of others.

Work of the Teacher.— The teacher's success or failure in the most valuable part of his work will be largely determined by his power or weakness in

dealing with the sensibility of his pupils,—not solely, nor chiefly, in dealing with their intellect, as many seem to think. The Sensibility, as we have seen, is the seat of happiness or its opposite; here, also, motives to action are found, and from motives and actions, character results. Intellectual success, too, is impossible unless the Sensibility is enlisted in behalf of the work attempted. No child is likely to make much progress in a study which he thoroughly dislikes, especially if he dislike his teacher at the same time. Even the mature man finds his intellect will work with redoubled power and success when the glow of emotion accompanies its action.

We will now note some of the forms of Sensibility that demand the teacher's careful attention. (See Scheme, page 28).

Love of Self.— This is a feeling altogether natural and proper. St. Paul says: "No man ever yet hated his own flesh"; nor is it his duty to do so, notwithstanding all that is truly said in decrying selfishness. For true self-love is not selfishness. Selfishness is either a regard for self to the injury of the rights or the feelings of others, or it is the purblind wish to gratify some present personal desire at the expense of personal good in the future. In either case, it is opposed to the truest self-love. We hear much of the virtue of self-denial; it is a virtue of a noble kind, when some present demand for self is denied, in order for a higher good, either for self or for others. But, in itself alone, self-denial is no virtue; there is no merit in mere self-tormenting. An appeal to self-love, then, is entirely proper, whether the purpose be phi-

lanthropic, or the acquisition of some worthy good for one's self. Self-love, rightly viewed and directed, is a powerful aid in building a desirable character.

Love of Others.— Genuine love for others,—even unworthy persons, or animals,—is one of the noblest virtues; and it is significant that the "Golden Rule" makes self-love the measure of love for others.

Love of Country.— In a greater or less degree, a love of country seems to be natural to every normally constituted human being; and, strangely enough, it is often exceptionally strong in those whose native land would have few attractions for a stranger. There are abundant reasons why this feeling should be especially strong in the people of our country; and there are special reasons why our young people should be carefully taught to do well their part in promoting the well-being of our country, for under our institutions the well-being of the country depends upon the right actions of its citizens.

Love of Beauty, Truth, and Right.—The first of these lies at the foundation of all æsthetic culture; the second, at the foundation of all right thinking; and the third, at the foundation of all right behavior. Hence, to the teachers of the young, all these feelings appeal for development and guidance; nor can teachers do more important work.

Training the Pupil's Love.—The child's love for good things, for his fellows, and for his teacher, must be carefully trained and strengthened. Here is a worthy field for the power of the teacher with the wisest head and the noblest heart. But it is no place for pretense or sham; all work here must be genuine.

If you wish to arouse a child's love for anything, or for any person, your efforts will be successful only as you show a genuine love in the same direction. If you wish to awaken the child's love for yourself, expect it only in return for genuine love for him. Stage smiles and honeyed words, with no heart back of them, will not serve. It is easier to deceive a grown person than a child in this respect. In the old poem, the child says:

> "I do not love thee, Doctor Fell;
> The reason why, I can not tell."

No doubt, there was a good reason which the child *felt*, although she could not tell it. And we think that an equally good reason generally exists for the child's personal likes and dislikes.

But perhaps some teacher is ready to say: "Well, it is of no use; I never did love children, and I can not; at least, I can not love uninteresting and disagreeable children." Then, we say, you ought to do one of two things: either set about acquiring this power at once, or forever forego any attempt to teach children. One of the surest ways to develop a love for any person or thing is to make that person or thing the object of your special care, interest, and effort. If persistence in such a course will not beget a love for its object, we think the case is hopeless.

The Feeling of Hate.—But the child's capacity to hate or dislike needs attention, as well as its opposite. We remember with what earnestness and effect an old associate of ours used to say to his pupils, "*Boys, hate mean things.*" That they have not been trained to hate mean things is the trouble of to-day

with too many of our boys, and girls as well. But the child should be carefully shown that the hatred of mean *things* must not be allowed to pass over into a hatred of the *persons* who do them. He should be taught that *hatred towards persons is never right.*

THE APPETITES.—Such desires as are bodily cravings, we commonly call *appetites*. Little ever needs to be done to strengthen them; but young people need careful training as to their regulation and control. We believe these appetites are given us, not only for the purpose of sustaining life and propagating the race, but that they are intended to be a source of innocent enjoyment,—as they are always found to be whenever they are not abused.

DESIRE OF SOCIETY.—This is a very strong propensity; it is often called an instinctive feeling, and this seems reasonable when we reflect that most animals share it with man. But it is more than an instinct, for the more a person grows in knowledge, the more he realizes both the necessity and the pleasure of companionship. But, because of the momentous interests and influences that inevitably pertain to society, pupils need special care and instruction that they may both receive and impart nothing but good in their social relations.

DESIRE OF POWER.—This desire seems to be universal. And, when properly guarded and controlled, it is most fruitful in usefulness and happiness, although its abuse may lead to the gravest evils.

DESIRE OF APPROBATION.—Much the same may be said of the desire of approbation that was said of the desire of power; and, because both its use and its

danger are so great, the teacher needs to use all his wisdom and tact in dealing with it.

Curiosity. — This feeling is a compound of a desire for novelty and a desire for knowledge. Both these desires are proper to a well-constituted mind, and both are combined in what we call curiosity, although their relative proportions vary in different cases. Not unfrequently, the pupil's curiosity is the teacher's greatest annoyance; but it should be his greatest friend and helper. Woe to the unwise teacher who attempts to crush it, instead of stimulating and directing it. In every true sense, such a teacher is a complete and predestined failure, whatever literary or scholarly qualifications he may possess.

Hope and Dread. — Hope is compounded of desire and some degree of expectation; while its opposite, dread, is a compound of aversion and expectation. Hope and dread maintain a kind of warfare, perhaps in nearly all minds; but, in some minds, hope seems to be generally in the ascendant, while dread is quite as predominant in others. The result is a radical difference as to the happiness or unhappiness of the individuals; and at the same time it is a cause of great difference in their power and usefulness. Both these feelings are powerful motives to action; but one is buoyant and helpful in its influence, while the other has a depressing effect. Remember that dread or fear is a painful feeling, and that all pain is *costly*.

Interest. — This word is not easy to define, but it is seldom misunderstood. It always involves a more or less conscious recognition of some relation to self. Interest is essential to the best success of any mental

effort; and, other things being equal, that is always the best teacher who can best arouse, hold, and direct the interest of his pupils.

ADMIRATION.—The word "admiration" was formerly nearly synonymous with wonder. It retains something of the same meaning still, but there is added to wonder a feeling of approbation, as well. As we now use the word, we admire that which seems to us wonderful and pleasing at the same time.

The child's power of admiration, and his tendency to admire, demand careful attention. Owing to the activity of imagination in children, the persons that seem to them admirable are thought to be perfect. Children are born hero-worshipers. And the things that they admire are likely to be thought "altogether lovely." There is a psychological reason why, in the vocabulary of young persons, "splendid" and "horrid" exhaust the list of descriptive adjectives so often. Now, because admiration always contains the element of approval, it is easy to see that one's character is indicated by the persons and things he admires; not only is his present character indicated in this way, but his future character is largely determined as well. In the admiration that boys conceive for the characters depicted in the robbers and Indian killers of the wretched "dime" literature of the day, lies the chief danger of the poisonous stuff. And the young girl's admiration of the vain, vapid character of the heroine in the trashy novel she reads, is likely to work lasting injury to her, for the same reason. There is little danger threatening the character of any young person whose admiration is thoroughly fixed only on

such people as are noble, and such things as are "pure, honest, lovely, and of good report."

REVERENCE.— By reverence, we mean a profound regard for what is great or good, or both. When the feeling becomes intense, we call it veneration.

There is special need in this country, and in this age, that the reverence of children should be cultivated and thoroughly trained. In the abounding life and freedom of this new country, we seem to forget, to a great extent, that there is anything to be treated with reverence and respect. And it is a serious question whether this tendency is not on the increase. Much of the flippant nonsense in our newspapers that passes for wit, would lose all its point if the irreverence were taken out of it. And the children and youth are not slow to imitate the example of their elders. The "old man," or "the governor," is the boy's frequent appellation for his father, nor does the "old woman" signify the mother much less frequently. Similar disrespectful terms are ready to apply to men and women who, by age, or character, or position, should be treated with special respect.

The reverent attitude of mind or speech, towards God or man, seems to be very unpopular just now. This fact does not augur well for the future of our people; and the best efforts of our schools should be turned to its correction.

SYMPATHY.—This word literally means fellow-feeling, or feeling *with* another. It is often mistakenly used as synonymous with pity; nor is commiseration much nearer to its meaning. For, by sympathy, we may enter into any feeling which another has.

Like the desire for society, sympathy is both instinctive and rational; in its lower forms, it is possessed by the brutes. Young children are especially susceptible to sympathy; and it is an element so essential to successful dealing with them that one who wholly lacks it may as well make no attempt to teach or to guide them. Nor does it cease to be very important to any one who attempts to teach or to guide, no matter what age or class he may work with. One with quick sympathies can readily "put himself in another's place," —a thing that must always be done before the most efficient help can be given.

The heart that will not respond to real sympathy in any of its exhibitions, is rarely found; its possessor lacks an almost essential element of humanity. Through the magic power of sympathy, the show of any feeling is likely to be met by a similar feeling in the beholder. No teacher should fail to recognize, at all times, this grand principle of human nature: *That the exhibition of any feeling is likely to awaken the same feeling in another.*

CHAPTER XVI

CONSCIENCE AND MORALITY

NOT WELL DEFINED. — Few topics have been discussed more than conscience, and its relation to life and conduct; but the discussions are rarely or never clear and consistent. The difficulty seems to be the want of a clear and consistent definition of conscience, — a definition in which all will agree, and to which all will adhere.

Mr. Bain would make conscience only the recognition of the claims of custom and law; he says: "Duty is the line chalked out by public authority or law, and indicated by penalty or punishment." Others seem to regard conscience as the everpresent and infallible voice of God in every human soul, both instructing and urging in regard to duty. However, such a conception is usually intimated in a vague and loose way, rather than clearly stated. In fact, we have observed that vague and loose statements about conscience seem to be the rule, even with writers of ability.

AN INSTANCE. — A celebrated writer on education says: "Conscience, that inherent, instinctive sense of right and wrong." What does he mean? Does he

mean the intuitive notion that there is such a distinction as right and wrong? But is that conscience? Does he mean an inherent, instinctive sense which knows right from wrong in every case? Is there such a sense? If so, why do conscientious men differ respecting right and wrong? Does he mean a feeling of personal obligation, or *oughtness*, in regard to the choice between right and wrong? Or, does he mean two or more of these, or something different from any one of them? In fine, is there evidence that he had any clear meaning to express?

A Feeling.—Amid all the clashing opinions of psychologists, there is almost universal agreement in teaching that mental activity has the three distinct forms of knowing, feeling, and willing; and that these are all. Now, in which class shall we put that form of activity called conscience? We unhesitatingly put it among the feelings, and restrict it to the feelings. It is certain that in every act of conscience as treated by any writer, a feeling is involved. We believe that feeling to be *all* that should receive the name of conscience. If, however, one chooses to make the term cover the intellectual action that goes with the feeling, the question is simply one of terminology. But we think obscurity is the consequence.

Definition.—We offer the following definition: *Conscience is that feeling which prompts us to do what we believe to be right, and to shun what we believe to be wrong; which commends us when we obey it, and condemns us when we disobey it.*

This definition contains all that we think should be covered by the term "conscience"; and, if it were gen-

erally accepted and adhered to, it would settle many disputes, and simplify others.

The definition indicates a double act of conscience, —an act of prompting before a choice is made, or a volition is put forth; and an act of commendation or condemnation following the choice or volition. Does not every rational human being recognize in his own consciousness a feeling that acts thus? This feeling we mean by the term "conscience," and we mean nothing more nor less by the word.

Relation to Judgment.—Like every other rational feeling, conscience requires an intellectual basis; a rational feeling arises in consequence of something we know, or think we know; that is, a judgment always precedes a rational feeling and forms its basis. The judgment that gives rise to the feeling of conscience is a judgment that a certain thing is right or wrong, and that we have a duty in regard to it. As soon as this judgment is pronounced, conscience responds with its imperious "You ought."

Judgments Differ.—In respect to judgments of this kind, men differ widely; not seldom they are diametrically opposed to each other. Education, habit, and custom have much to do in determining such judgments; bias arising from desire or inclination, often clouds one's view in relation to the ethical character of a choice or course of action. In such a case, too often "the wish is father to the thought."

Yet, in respect to the right or wrong of many things, the judgments of men almost universally agree; this is true in respect to truth, honesty, kindness, goodwill, oppression, injustice, cruelty, murder, etc.

Universal and Identical.—We believe conscience to be a universal feeling among men; otherwise, we can not account for the feeling of guilt or ill-desert, which we suppose every one has felt, at some time in his life, at least. And history intimates very clearly that this feeling has always been common to humanity, in every age and every stage of culture. The strength of conscientious feeling varies greatly with different men, and at different periods in the lives of the same men. With some, it is a ruling power habitually; others seem to regard it as little more than an impertinence more or less troublesome.

Moreover, it is very important to notice that the action of conscience is always the same, in all men and at all times. This imperious and imperial feeling, which is within us and yet hardly seems to be of us, which assumes supreme authority to guide and then to reward or to punish, never changes the nature nor the direction of its action.

We often hear that the Hindoo woman conscientiously throws her babe into the Ganges, while the Christian woman as conscientiously preserves and cherishes her offspring. This is the "stock" illustration to show that conscience acts differently in different people. Looked at carefully, it illustrates exactly the opposite. Both women do what they believe to be right; they differ in their judgments, but agree perfectly in their consciences.

A Safe Guide?—If conscience rests upon judgment, and judgment is fallible, is conscience a safe and sufficient guide? Will it always lead us aright? Of course not; if the judgment is wrong, conscience

must necessarily urge us towards the wrong. Many men have been wrong-headed and exceedingly conscientious; and such men are among the most mischievous and the most intractable. No amount of sincerity can make that right which is inherently wrong.

But is a person who conscientiously does wrong, to be blamed? Or, to put the question in another way, ought one to follow his conscience at all times? It is inconceivable that it should be one's duty to violate his conscience; nor, strictly speaking, can we believe that one is ever to be blamed for obeying his conscience. But, if his judgment is wrong through any neglect or perverseness of his own, he is to be blamed for *his wrong judgment with all its consequences*.

What is Morality? — With some, morality seems to be only some form of refined self-interest,—prudence, for example. With others, like Mr. Bain, it seems to be nothing more than conformity to custom or law. It is restricted to its literal signification, as derived from the Latin *mores*, or manners. We believe that morality in the full meaning of the term signifies a supreme regard for the right; hence, it rests upon a habitual conformity to conscience. In order to train one, then, in ways of morality, it is necessary to cultivate his judgment and conscience.

How Cultivated? — But how shall conscience be cultivated and made stronger? In the same way that every other power is cultivated and strengthened,— *by wise use*. Every time that the voice of conscience is heard and heeded, it gains strength to speak with more clearness next time. Every time it is disregarded, it is shorn of some of its power; this may be

continued until conscience will sleep quietly while one does things that would once have caused the keenest anguish. Thus, conscience becomes "seared as with a hot iron",—it withers and decays like an unused muscle. And yet, sometimes, it wakes after a long slumber, with a fearful power, and stings like a scorpion. This is remorse. An educated conscience, then, is a conscience that is habitually obeyed; but it must follow a judgment rightly educated, if the result is to be a high type of morality.

Four Elements.—The psychological elements of morality are four in number, and four only. These are: First, the *intuitive idea* that there is such a distinction as that of right and wrong; Second, the *judgment* that decides whether any particular thing is right or wrong; Third, the *conscience* which moves us towards the right and away from the wrong; and Fourth, the *will* that chooses or refuses the right. All true moral training must regard all these; it must recognize the underlying idea; it must develop and train the judgment; it must appeal to the conscience; and it must lead the will to a proper choice.

With Young Children.—With quite young children frequent appeal to conscience is the proper way to awaken and strengthen it. Let the parent and teacher assume that the child has a conscience;—press upon him the word *ought* in all the fullness of its meaning. If there is any doubt as to whether one ought, or ought not, to do a certain thing, the only safe way is to give conscience "the benefit of the doubt." A very young child understands such an appeal, for conscience begins its work almost as soon

as the earliest perceptive powers. "Is it right?" "Then ought you to do it?" These are questions that he will appreciate; and it is sad that such questions so often give place to mere appeals to expediency, or self-interest, or pride, or custom. In view of this fact, it is not strange that so few grown persons are able to stand boldly for what they believe to be right, even if they have to stand alone. How can the moral fiber be otherwise than flabby if it has never been strengthened?

With Older People. — The same method should continue with older persons. But little good will follow lessons on morals, or the learning of moral precepts, or the reading of books on the subject, unless some course is taken to lead the student to individual action in conscientious behavior, or into the formation of moral habits. Every act has its moral significance when viewed rightly, for we are so bound together that every act of ours has an influence to benefit or to harm others directly, or through its influence upon ourselves. There is an ethical value in the smallest and most trivial actions; for instance, the cleaning of one's shoes on the scraper and mat. If one neglects this small thing, he defiles the house; and some one must perform additional and needless labor on his account. So of other matters which we commonly regard as insignificant; some of them are right or wrong in themselves, and some have this quality by virtue of their relation to other things or to other persons. As we learn *to put conscience into everything we say or do*, we shall make real advancement in a true morality.

FORCE OF HABIT. — Here we see the pedagogical value of habit; for, by constant attention to the ethical quality of all our words and actions, — even those commonly thought insignificant, — we form the habit of obeying conscience in all things. Nothing more is wanting to a perfect morality, except that judgment shall be trained to decide correctly as to the ethical quality.

Every student will notice the resemblance of the words conscience and consciousness; this is due to the fact that they are derived from the same roots. By some old writers, one is sometimes used for the other; but modern writers make a distinction which should never be disregarded.

We have insisted thus strongly on the supremacy of conscience, because, unless its promptings are obeyed, correct behavior will not follow, however clear the judgment may be. But, as is intimated in the first paragraph on page 162, judgment must decide rightly and conscience must be obeyed, in order that the man may be right.

CHAPTER XVII

THE WILL

EFINITION.— *The will is the power by which we choose and execute.*

Or, we may perhaps better say, The will is the mind, or soul, or Ego, choosing and putting forth effort, or force, to execute its choices. A completed act of the will includes both the choice of an aim or object and the putting-forth of energy to accomplish that aim, or to attain that object. To expend energy in executing without any choice would show will no more than a machine shows will. But if we choose without making any effort in the line of that choice, that is no act of the will; it is a mere preference, or *wish.* Dr. Samuel Harris says: "A choice is not a mere preference of one thing to another, but it is the choice of an object *to which the activity is to be directed.*"

That which makes the human animal *a man,* is his power to select an object of choice, in view of deliberate judgment and in the presence of motives, and then to exert force in the line of the choice thus made. In these acts, or in the power to do these acts, reside man's personality and his responsibility.

In the process of knowing, man has no choice. True, he may elect to put himself in the proper relations in order that he may know, or he may deliberately refuse to do so. But this election is not an act of knowing; if he puts himself into the proper relations, knowing follows in accordance with unchangeable laws. So the feelings come and go in obedience to fixed laws, although it is not always possible to trace these laws perfectly; the will has even less power in respect to feeling than in respect to knowing, because we have less power to control our relations here. But, in the act of willing, man becomes a law unto himself. Hence, in this act alone, man shows himself a personal, responsible agent.

MAN, A CAUSE.— In exercising his power to choose and to execute, man shows himself to be a *cause*. Whatever may be his intellectual judgments, or his desires and motives, in view of which he makes his choices and puts forth his volitions, these judgments and desires do not *cause* his will to act as it does. In thus acting, he is himself a cause, and the results which follow, he causes to be different from what they would have been had his will acted otherwise.

"The will (or the Ego willing) is the cause of its own determinations." "The will is the source of its own actions, and thus the cause of its own actions." "In knowing himself as possessed of will, man must know himself as a cause; and whenever he sees causation exerted in connection with evidence of intelligence, he naturally attributes it to mind." "Here is a being capable of interposing his own free choice and his power of volition, and thus

purposely causing that to be which, but for him, would not have been." "A free act has a cause as much as any other. Its cause is the free spirit."

SPONTANEITY, NOT WILL.— It is important to distinguish will from some things which have been confounded with it, even by eminent writers.

Many of our acts are performed spontaneously, as the foot kicks when it is tickled, or the thirsty man rushes instinctively to the water. Perhaps all the acts of brutes which seem to be the result of will, are of this nature. But human will—rational will—always acts from judgment and motive. The judgment reaches certain conclusions, motives are present in the form of desires, and then the mind freely chooses, in the presence of these judgments and motives. Will stands above spontaneity, and watches over and controls it. The thirsty man may believe that drinking water at this time would injure his health; and so, however much he may desire it, prompted by a regard for his health, he wills to refrain from drinking.

Desire itself has sometimes been confounded with will. But this is a mistake; one never wills a thing until he chooses it, no matter how much he may desire it. Doubtless he may be led to a final choice of the thing itself by first choosing to harbor the desire for it; this is the danger of one who permits himself to dally with temptation. Otherwise than in choosing to entertain or to reject his desires, one has little or no control over them directly. But, through sheer force of his will, he may deny himself that which he desires most ardently; his will is his own,—it is the exhibition of his deepest selfhood.

FREE WILL. — The discussions about freedom of the will are endless; nor need we wonder at it, for no question is more fundamental as respects human action, character, and destiny. We hold that the human will is free; but it is very important that we conceive clearly just what we mean by freedom of the will. When we say that man's will is free, we mean that, having in his consciousness certain decisions of the intelligence and certain motives in the form of desires, he is able to select for himself his own course of action and to put forth force or effort for the execution of the course he has chosen. For illustration: One may be conscious of some desire of sense prompting him to act for its gratification; at the same time he may be moved to some different act by the known preference of a friend and by his desire to please that friend; furthermore, his reason and conscience may, at the same time, urge him to do something still different. In this state of things, because his will is free, he is able to choose any one of the three courses. Or he may arbitrarily refuse them all, and decide to do something quite different from any one of them.

EVIDENCES OF FREEDOM. — We have evidence of this freedom in that most trustworthy of all witnesses, our own consciousness. Every man is conscious that he makes a free choice and acts accordingly, scores of times, every day of his life. For this reason he holds himself responsible for his actions, and blames or praises himself accordingly. If one believes that there was no alternative for his action, that he could not have done otherwise than he did, no power can awaken in him any feeling of responsibility for the act.

Furthermore, the universal consciousness testifies to the same fact. We hold others responsible for their acts, and we praise or blame them accordingly, because we believe their acts are the results of their own free choices. On this ground rest all law, all notion of desert of any kind, and all punishment. Here, too, is the ground for the reasonableness of any exhortation, or argument, or appeal designed to influence another's conduct.

To blame a machine, or a stick, or any inanimate object for an undesirable result, is well regarded as an act of supreme childishness, or folly. Xerxes has been held up to the ridicule of the ages for chastising the sea because it wrecked his fleet; but every magistrate who punishes a criminal is equally ridiculous, and far more blameworthy, if that criminal has no free will. If man is a machine, his responsibility is at an end, or never existed. But the fact that men everywhere, and in all ages and in all states of society, hold themselves and others responsible, is proof positive that man has free will; because it is a fact sustained by the universal consciousness of the race. In truth, there is little doubt that any philosopher whose system denies free will to man, would blame the thief who should steal his purse.

Two Sides. — Our definition recognizes two parts, or two sides, in every completed act of the will; viz., the choice and the volition,—which is the putting-forth of force or energy in the line of that choice. Both choice and volition are self-determinations. But, as has been well said, "Choice is self-direction; volition is self-exertion or self-restraint."

In the element of choice man has perfect freedom, nor can such freedom be destroyed and the man remain. But in volition, or the outward act, he is only partially or relatively free. To accomplish our choices we must work in accordance with the fixed laws of nature. For instance, one may choose to have the force of gravitation grind his corn. But, in order to make his choice effective, he must select a stream of water which has a suitable fall, he must construct his dam properly, he must put his wheel in the right place, he must arrange his machinery according to the laws of physics, and he must turn on the power at the proper time. If he fail in any of these respects, he will fail to realize his choice, however ardently he may desire to do so. Or he may be prevented from executing his volitions by human interference, by the conflict of some stronger will opposing his own. But, so far as the *choice* extends, he is subject to no limitations,—here he is autocrat.

Dr. Hopkins well says of choice and volition: "The one is absolute, and so belongs to us, that to be deprived of it we must be destroyed. The other is contingent, and we can be deprived of it by accident, or disease, or by the will of others. The one is the essential element of freedom manifesting itself in the spiritual realm, and is the immediate object of the divine government; the other is simply instrumental and executive, and is that of which human governments chiefly take cognizance."

When a man proves to be what we commonly term "a failure in life," the reason for his failure can generally be found in lack or misdirection of his will-power. Not many fail solely

because circumstances are against them; fewer succeed by sheer good fortune, or a combination of fortuitous circumstances. "Good luck" is largely a myth. Often the trouble is a want of a well-considered, fixed choice or dominant purpose in life. Such a person labors in one direction to-day and in another to-morrow. We say he has no aim in life; often the reason he has no aim worthy of the name, is that he has too many aims. "Unstable as water, he shall not excel."

But some fail who have a worthy choice firmly adhered to, because they lack will-power on the volition side. They are feeble, or wavering, or unreasonable in their attempts to accomplish their choices; opposing circumstances appal and defeat them, where a stronger will would readily have overcome these very opposing circumstances, or would have changed them into helpers. No man ever accomplished much in this world who had not a strong will on both sides of its manifestation. We should add, also, that this strong will needs the aid of a sound judgment in all cases.

MOTIVES. — The will, especially in its choices, is perfectly free; but it never acts without some motive to prompt its action. These motives are always in the form of desires of some sort, soliciting the will to act. No conclusion of the judgment or reason, nothing purely intellectual, is a motive till it has been followed by a feeling of desire. Nothing from without can prompt to a choice or an act of the will, till it has awakened a desire within.

The will is often solicited by opposing desires, in various degrees of conflict. But these desires do not move the will one way or the other, as the heavier weights draw down their arm of the scales. The will is no such inert thing as that implies; the process of willing is not a mechanical obedience to the strongest force. The motives simply solicit or influence the will, which, in its regal capacity, freely determines for

itself to which of the opposing motives it will yield, with which it will put itself in accord. There are philosophers who deny this freedom of the will, and declare that it obeys the strongest motives.

"The determinations of will are always made under the influence of motives"; but the motives do not determine, the will does not *obey*. But, under the influence of motives, the will freely chooses; and it often chooses in defiance of what seem to be the strongest impulses. Here is, probably, the difference between the human will and the will of the brute; the brute always yields to the strongest impulse, and the only way to change his action is to induce in him a stronger impulse than the one he now obeys. But man, endowed with reason and conscience, has the power to put any impulse or desire under his feet, and to choose freely.

We think that any one who will examine the movements of his own mind, in the light of consciousness, ought to see the truth of what has been said. He is conscious of the actions and judgments of the intellect, he is conscious of the awakening of desires seeking gratification, he is conscious of the appeals of conscience, and he is conscious of a free choice; and, furthermore, he is conscious that every one of these differs from all the others.

Choices Give Character. — Because man is perfectly free as to his choices, it is his choices that determine the moral quality of all his actions. Without this freedom our actions could have no moral quality whatever; and to this fact of our constitution alone, is due all responsibility, and all character so far as it re-

spects morality. Yet choice alone,— that is, as indicating mere preference,— is far from working out a character in harmony with itself. It must be a choice followed by volition, making a complete act of the will. To be moved again and again towards a worthy choice, to choose so far as simply to approve, but nothing more, is a weakening and a deadening process as regards the forming of a worthy character. For this is the very thing we mean by that properly contemptuous word, *sentimentalism*.

It is by his choices and volitions that man builds his character as a moral being. A supreme choice is followed by a multitude of subordinate choices in line with itself. And, out of these repeated and continued acts of the will, grow *habits*. So our subsequent choices are influenced by those we have already made. Furthermore, these choices bias our judgments, and largely give rise to motives that influence our wills to future choices. Hence, by the very freedom of his will, man comes to limit it. "The outcome of volitional action is habit, fixed disposition, settled character. Freedom may choose the seed, but it can neither determine nor escape the harvest."

True Freedom.—We have used the word "freedom" to mean man's ability to choose freely, even though his choice should be a choice of wrong, or should be purely arbitrary. But, as we have just seen, the wrong exercise of this freedom may result in bitter bondage. One has attained to true freedom only when his free choices are habitually in accord with the right, or the highest reason. "Real freedom exists only in the complete harmony of the rational and natural motives

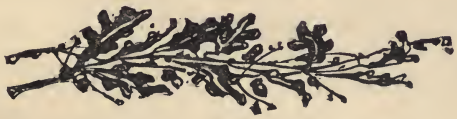
with one another and with reason." This is a will acting in "self-conscious freedom"; its outcome is a righteous character, in which the soul is in peace. In so far as a man reaches this stage, in so far he is really free. He is no longer under the law, for he has become a law unto himself; and this law is no bond, for he is in harmony with it. He has realized the divine words, "The truth shall make you free."

Training the Will.—Like all the rest of our powers, the will is rightly trained by right use. Nothing is more desirable than a strong will, if only it is rightly used. A man with a weak will is a pitiable object. It is the will which gives one his moving force; that makes him a power rather than a mere helpless thing. One who lacks will-power is like a log floating at the mercy of the current; while one with a strong will is like a steamboat, that can not only stem the current, but can make headway against it. There is no danger that one will have too much will, if only it is joined with right motives and sound judgment. The man of strong will is not necessarily willful in the bad use of that word. A man of strong will need not be mulish.

There has been much discussion of the question whether a child's "will should be broken?" The answer turns wholly upon what is meant by "breaking" the will. If by this is meant simply that the child must be taught to bend his will to rightful authority, then it is one of the first lessons to be learned; it is an act of the greatest kindness to the child to break his will in this sense. But if, by breaking the will, we mean to destroy its power, or to diminish it, then

it is a heinous crime to do it. For, one with his will broken, in this sense, is like a watch with the mainspring broken. Instead of this, special effort should be made to strengthen the child's will-power. Use all reasonable means to lead him to cease saying "I can't," and to cultivate the habit of saying "I can" and "I will." Of course he should be taught to judge rightly as to whether a thing ought to be done, before he says "I will do it." Even kindly ridicule or gentle sarcasm may be used with good effect here, and sometimes resort may well be had to something a little more vigorous.

Give the child the opportunity to exercise his will within all reasonable limits, and then hold him to the responsibility that belongs to a free will. Above all things, never thwart or cross a child's will unless there is a very good reason for it. Many a well-disposed child has had his will wantonly denied, or needlessly thwarted, by a thoughtless or tyrannical parent or teacher until the result has been deplorable weakness or a settled perversity.



CHAPTER XVIII

CONCLUSION

OR YOUNG TEACHERS.—As it is stated on the title-page, this book is designed for young teachers. It has grown out of the author's efforts to prepare young persons for the teacher's work. In the course of nearly forty years in the school-room, he has been led to give much attention to the phenomena of mind. He has also read many books treating of the human mind more or less directly. From these years of observation, reading, and reflection, he has come to certain conclusions respecting the facts of the mind,—its powers, its laws of working, and of growth. These facts, especially such as relate to the work of teaching, he has endeavored to state in the fewest and plainest words he could command. He has stated these facts as they appear to him; of course, he will not be surprised to find that, in some respects, they may appear differently to others. It is urged again, upon all who read the book, that they test the truth of its statements by their own observation, and especially by referring to the testimony of their own consciousness.

Writers on Psychology often give much time and space to theories and speculations; but the author has aimed, as far as possible, to avoid all discussion of theories, and to confine himself to what, in his view, are the facts of the science. Again, in many books, much space is given to controversy, to the stating and refuting of the opinions of other writers. In this book we have aimed to write nothing controversially excepting in cases that we deemed essentially vital to truth. Nor have we given space to the history of the science or to the history of the opinions that different men have held concerning its facts.

In brief, we have endeavored to put the facts of the science before young people in such a way that, by study and thinking, they may understand them; hoping that they will be able to apply them in the work of teaching. We have tried to make a *text-book*,— that is, a book of texts,—striving to give what may be of immediate value, at the same time that it will awaken a desire for further investigation, and will aid in making that investigation profitable, both by guiding personal observation and by aiding to understand other books upon the same subject.

Sources of Information.—A student of mind has three sources of information, three fields in which he may glean. The first and most important is found in his own mind, studied in the light of his own consciousness. As we said in a former part of the book, Psychology differs from almost every other study in this respect. But it must be remembered that one's own mind is an important object of study, not only because here is found an original source of informa-

tion, but also because it furnishes a test for all the information gained from every other source: such information has a value for us only as it is interpreted and tested in the light of our own conscious experience. We know about other minds only in the light of what we know of our own minds.

But the teacher, who has to deal with minds that are in the process of development, not only needs to study carefully his own mind as its activities are revealed in present consciousness, but he needs to call to his aid all that memory can give him, of his mental experiences when he was in the stages of transformation or growth. If a person has forgotten his own childhood, he is not fit for a teacher of children.

Another very important field for study is found in observing the mental operations of others, as they are revealed by gestures, words, and the different forms of behavior. The teacher has extraordinary opportunities for this kind of study, especially as it relates to juvenile and growing minds. His pupils are constantly before him as specimens; he is in most intimate relations with them, and these relations are most largely in the sphere of their mental activity. If he will observe carefully, he will not only discover the characteristics in which all minds are alike, but he will be strongly impressed with the fact that no two minds are exactly alike;—each is marked by individuality, peculiarities, and idiosyncrasies. These differences call for special care and attention. Probably Garfield was thinking particularly of them when he said that a teacher should study the boy more than he studies the book.

Thirdly, the student of mind can find access to wonderfully rich stores of literature relating to the subject. Many of the ablest men in all the ages have given profound attention to this study, and they have left in books abundant records of the result of their labors. And, dry as such books often are to the beginner, they become strangely fascinating to one who has already made some progress in the study, and who is thus able to comprehend their contents and to enter into their meaning.

Unity and Diversity.—As was just said, no two minds are exactly alike; then the question may arise, whether there can be any science of mind in general. Science deals with classes and uniformities. Psychology, however, is not singular in this respect; no two horses are just alike, nor are any two oaks; and the same may be said of two objects in any class in nature. But it is found that, notwithstanding all the differences, there are certain well-marked and invariable likenesses, which are the ground of scientific classifications and laws. The same thing is true of human minds; it is found that all sane and sound minds are alike in all those grand general characteristics which form the subject-matter of Psychology. These *general* truths must be recognized as such, and they must be carefully distinguished, especially by the teacher, from such mental facts as are individual and peculiar.

Are All Powers Good? — If one may judge from statements he sometimes meets in books, or hears in conversation, it would seem that some people, impressed with the evil results following the abuse of

some of the mental powers, are inclined to believe that some of our powers are better than others, that some even are bad in themselves, and that it might be better for us if we lacked them. Such persons make a great mistake; all our powers are evidently designed to serve a good and useful purpose, but all may be abused. Let us ask, however, in what sense a mental power can be called good or bad. Evidently not in any moral sense; morality relates only to the use that is made of the powers,— it has nothing to do with their nature. Our powers are all good, in one sense, if they are certain and efficient in producing their results, just in the same sense that a knife is good when it is made of good steel. But good powers may be put to a bad use, just as the good knife may be.

Education should aim to render all the mental powers efficient; but, more than that, it should endeavor to lead to such a use of them as shall promote right thinking, right living, a harmonious subjection of the lower appetites and impulses to reason and conscience, and to such a use of the will as shall lead its subject into true freedom, as its meaning has been explained.

Body, Soul, and Spirit.— We have divided man's powers into two classes only; viz., physical and psychical. But we often hear it said that man has a threefold nature: body, soul, and spirit. We accept this division, using the word "soul" to mean such of the lower psychical powers as the nobler brutes possess, in some degree, in common with man. These will not include reason, conscience, and a free will. In the possession and exercise of these higher powers, man

shows his real spiritual nature,—a nature that includes personality, morality, and responsibility.

Dreams, Insanity, Etc.— In many books on mental science, much space is given to the discussion of questions respecting the action of the mind in dreaming, insanity, and abnormal manifestations. Many of these questions are very fascinating, perhaps, because of the veil of mystery that hangs about them. But we have purposely ignored all such questions. We are writing a book especially for teachers, who have to do with minds only in their waking activities, and in their sane and normal manifestations.

Man, a Unit.—Once more, we desire to impress on our readers, as we leave them, that man is a unit; he is not a sum of powers and activities; he *has* many powers and activities, but these do not constitute the man. Nor are these powers and activities entities in themselves. If our language sometimes seems to imply actual existence of the powers as things, it must be remembered that such language is used simply for convenience, and it must not be taken literally with all its apparent implications. These powers are simply different manifestations of the man,—a complex unit,—acting in various ways. Furthermore, in these actions the powers are blended; rarely or never is the man showing himself in one of these forms of activity alone. In thought, the powers are distinct and separate, but in fact, they are inextricably blended and interwoven, in their action.

Precepts.— We conclude by giving twenty-four short precepts, for the consideration and guidance of teachers especially. With respect to most of them,

it will be easy to see that they are deductions from what has been said in the previous pages. They are given here in this compact form, in order that they may be remembered and applied the more easily:

EIGHT PRINCIPLES OF MIND-ACTIVITY AND MIND-GROWTH

1. *Health.*—The mind can not do its best work unless the body and brain are in good condition.

2. *Attention.*—No mental activity is of any value without careful attention to the thing in hand.

Corollary: One thing at a time.

3. *Self-Activity.*—There is no way in which a mind can increase in knowledge or power except by its own activity.

4. *Growth.*—Mental acquisition, and mental power or skill, are forms of growth; and all growth requires time.

5. *Origin of Ideas.*—Ideas and thoughts are never *conveyed* from one mind to another; they are formed, or awakened, in that mind where they exist.

6. *The Senses.*—The mind gains the crude material for all it knows or thinks, through the use of the senses.

7. *Habit.*—Neither knowledge nor skill is fully ours till it has taken the form of habit; frequent repetition tends to produce a habit.

8. *Expression.*—One can express intelligibly what he understands clearly; one can not express clearly anything that is not clear in his own mind; the attempt to make a clear statement helps towards clearness of thought.

EIGHT GENERAL CHARACTERISTICS OF YOUNG CHILDREN

1. *Attention.*—The attention of children is intense, but volatile; they have little or no power of voluntary attention.

2. *The Senses.*—The mental activity of children is chiefly shown in the use of their senses.

3. *Muscular Activity.*—Children delight to use their muscles, when they can use them according to their own will or fancy.

4. *Imitation.*—Children have a strong propensity to imitate, especially in things that please them.

5. *Faith.*— Children instinctively believe what is told them, especially when told by one whom they esteem.

6. *Curiosity.*—The curiosity of children is very active; but, for the time being, it is easily satisfied on any one point.

7. *Memory.*— Children remember *well* what they understand clearly, and what they have an interest in.

8. *Imagination.*— Children delight in the play of imagination,—a fact which the teacher may make good use of, both in teaching and in governing.

EIGHT PRINCIPLES OF TEACHING

1. *Teaching?*—Teaching is causing another to know what he did not know before.

2. *Begin Where?*—Begin where the pupil now is; use the pupil's present knowledge for a foundation.

3. *Attention.*— Make no attempt to teach till you have the pupil's attention; stop, if you lose it.

4. *Interest.* — Aim first to arouse the pupil's interest in what you propose to teach, and to awaken his curiosity in respect to it.

5. *Symbols.* — Do not allow meaningless symbols to be used; do not confound the symbol with what it represents; be sure that all symbols mean the same to teacher and to pupil.

6. *Fixing.* — Fix *exactly* in the pupil's memory what ought to be there; but never load the memory unnecessarily.

7. *Responsibility.* — Hold the pupil strictly responsible for all that he ought to know or do.

Corollary: Do nothing for him that he can do for himself.

8. *Individuality.* — In teaching, always have regard to general principles, but respect the pupil's individuality in their application.

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