

black psychologically. It was all well enough to account for them through physics, but there was need of a psychological explanation just as though there had been none in physics. The explanation strikes a broad line, which leaves seeing, taste, and smell on one side and hearing and feeling on the other, the former with chemical action upon the nerve terminals as the stimulus, and the latter with mechanical or a propulsive force as the stimulus.

Now all the main difficulties disappear. White and black are psychical processes caused by chemical action upon nerve terminals in the light in the absence as in the presence of color vibrations.

The vibrations upon the ear are probably of the air, while those of the eye are of that indefinable "somewhat" known as ether. The nerve terminals for each of the "senses" differ from those of all the others. The "fingers" differ, so to speak, or, as Prof. Wm. James would say, they differ in the knives, forks, and spoons which they use. The terminals of the optic nerve will "pick up" no "stimulus" from an air wave or from an aromatic effluvia. Each set of nerves has its own adaptation in the terminals, and the question that remains is "whether or not nerve fibers themselves will transmit only their own quality of currents." The terminals are modifications of the fibers. The fiber itself is not directly excitable by the agency that affects the terminal so easily. For illustration: The terminals of the fibers of feeling are sensitive to heat and cold, but the fiber itself can be touched with ice without our having the slightest sensation of cold. In a general way the same is true of all the fibers. The terminals make the collection, the fibers transmit the currents, but it is not as yet demonstrated to what extent each fiber has power to transmit but one quality of current; *i. e.*, whether or not the fiber has characteristics that determine the terminal characteristics. As this is not yet determined nor discoverable with our present light, we leave this for such time as further revelation shall enlighten us, and turn our thought to other phases of the study of the senses.

VARIETIES OF INDIVIDUAL TEMPERAMENT.

BY PROFESSOR JOSIAH ROYCE.

HARVARD LECTURES ON TOPICS OF PSYCHOLOGY OF INTEREST TO TEACHERS.—(IX.)

The teacher should never apply an abstract method of teaching to all alike. He should individualize, and especially when he is engaged in the really higher task of his employment, the development of the character and personality of each of his pupils; he must respect the manifold variety of their individual traits and the personal element in their mental life and growth.

This is not inconsistent with the theory that the individual should be educated by the process of imitation of the conduct of others. It is true that rational thought and conduct is suggested to the individual by his surroundings. The "man of affairs" conforms to the beliefs and institutions of social life. But the reformer and discoverer is both an imitator and a creator. A great thinker such as Kant can cast down traditional doctrines of philosophy because he has lived through and beyond them. Reason lives by conformity to the significant and the real. The fiercest destroyer of tradition, the most startling revolutionist conforms to universal principles. They destroy the insignificant, and leave the significant and ideal.

Imitation furnishes the material for individuality to use. Shakespeare draws his plots from other sources and upon them produces Shakespeare's plays. Of three young persons who are sent into the same social world one may imitate the men of action, another may turn to mechanics and the third may perhaps follow gamblers and criminals. Individuality is marked by the various social tastes of those who are in the same environment. Originality is the shading of our imitations. The imitation of the conduct of society furnishes the groundwork and full details of our actions.

The genuinely progressive minds of the race tend to rearrange the conceptions and beliefs of society, and thus leave the impress of their personality. The greatest artists, thinkers and scientists show a few times in their lives a power to make novel combinations of truth and facts; but such new departures are valuable only so far as they are based upon experience learned by imitation. The new must appear on the background of the old.

The teacher should not base calculations of the character and ability of his pupils upon the dogmas of physiognomy, for they refer only to abnormalities and extreme variations in the form of the head and body. Physiognomy undoubtedly contains many interesting and certain facts, but it is not concerned with the normal individual. It is also unsafe to judge the individual by the features of his head or face. Such judgments may embody the likes or dislikes of the judge rather than the true facts. First impressions have a capricious basis. Our ordinary impressions of foreigners illustrate our superficial and biased judgments.

The features which change with the movements of the individual are of the most value in estimating his character. It is true that

traces of past movements are visible in the features of the face, but they are complex and ambiguous. If you want to know your pupil's character watch him in his work and play. Seek to learn what holds his attention. At what does he laugh? What makes him weep? What does he like to fondle and caress? What does he tear in pieces? For the eager dissection of a complex mechanism reveals in him a mechanical curiosity in its construction. A single moment of action which harmonizes with the environment of the individual reveals more than a long study of his staid features. But all acts are not equally important in their revelations of character. The natural curiosity and humor of the individual tell most about him. A child's capricious fears may be strong, and yet they may throw no light on his character. Such feelings and the acts to which they lead are insignificant so long as they remain relatively involuntary, and are similar in their nature to the acts of winking. But they become important and serious when they tend to gain a mastery over the individual and to leave an impress upon his character.

But the curious and attentive child is revealing his real character, which the teacher must respect. The growing child is selfish because he has not attained to the higher form of his personality. His present conduct shows his age rather than his real character; or time is needed to develop character, although it is based on temperament. Much harm is done to pupils in particular by hasty judgments. Some teachers judge their pupils at a glance, and thus block the way to a true insight of their character. They should take time for observation and leisure for weighing the evidence. The teacher must respect the wealth in his pupils individuality.

The individual brings into this world a temperament, but not any intuitive ideas. His temperament consists of predispositions in his nervous organization which lead him to react as his predecessors. The poet grows up, and learns his native language as others do. He discovers verse in language, which happens to be peculiarly fascinating to him. He follows these inclinations, and finally becomes what he is born to be. The conscience is a predisposition toward moral truth. As the organist governs the stops and keys and renders the pent-up air harmonious, so our environment plays upon us and we respond, and as the accompaniment of our response we make a revelation of our individual character.

The source of our temperament is in heredity. About one half of it, on an average, consists of the developed traits of our parents. The other half we derive from our remoter ancestors. But what is inherited is probably, or at least in a large number of cases, not acquired habits, but only the predisposition in the ancestors to get these habits. The teacher is dealing with tendencies and not ancestral habits. He must develop the useful latent traits in his pupils. The enormous collection of tendencies is derived from many ancestors. These traits are inherited singly and not by groups, and the possible combinations of them are innumerable. It is the office of education to organize the expression of these hereditary traits; to turn the chance union of these various individual tendencies into the type of a united and well-trained life through the agency of habit. For there appears at first in the individual not that unity and wholeness which is due to an organized and complete character, but merely a chance grouping of the various temperaments which he has inherited from his different ancestors.

The creature is the mere timber for the construction of the temple of personality, the plan of which must be given by the educator. The individual should be led to imitate the thought and conduct of society, but his temperament affords the limitations of his interests and suggestibility. Only by experience can his "bent" be discovered. The architect must keep in mind the nature of the material with which he has to deal, for the same style of architecture is not suitable for all kinds of material. Much of your success as a teacher lies in your willingness to be a naturalist in the study of your pupils. Avoid abstract dogmas as to how all the members of a certain family should be treated. Individualize your pupil.

EDITORIAL MENTION.

Mr. George H. Conley's appointment upon the Massachusetts State Board of Education brings to that body the second active public school man, the other being Mr. George I. Aldrich of Newton. Mr. Conley is one of the Boston Board of Supervisors, having been elected to that board in 1886. He is the youngest man among the supervisors and the youngest member of the board, being but forty one years of age. He is a native of Lowell, where he taught in the public schools for nine years, after which he was superintendent for two years. There is no occasion to remark upon the fact that he is a Catholic; the daily papers have very generally commented upon this. He has been active in the public school life of Lowell and Boston for eighteen years, and he has never been elected to any position as a Catholic, nor has he been any more a Catholic in his public service than other men have been Methodists or Congregationalists. The highest compliment that can be paid him from that standpoint is that he was a Boston supervisor during the years of the great excitement in the schools, in the school boards, and in the school board elections, and he has never lost the confidence or respect of his own church associates nor of those who were suspicious of that influence in the schools. The schools of Boston have had no one of their workers upon the State Board of Education since the days of Hon. John D. Philbrick. Upon Mr. Conley's retirement from the superintendency the Lowell Board of Education said: "With enthusiasm regulated by wisdom and the zeal moderated by prudence, he has succeeded in far more than realizing the expectations of his friends. With patient yet persistent perseverance, he has labored to secure any possible object that promised improvement for our schools, and their condition today testifies to the large measure of success achieved."

Tufts College has taken a radical departure from the time-honored college customs. The unit for indicating the requirements is the *term hour* representing the number of hours per week required in each subject expressed for the term. The requirement for the degree of A. B. is the satisfactory completion of subjects aggregating 126 term hours, exclusive of the required work in physical culture. The program of prescribed studies is as follows:

	Term hours.
Languages (Latin, Greek, French, German; each student to take three),	18
English (Rhetoric, Composition, Themes, Oratory),	12
Mathematics,	6
Science (Physics, Chemistry, Biology; each student to take one),	6
Mental and Moral Sciences (Psychology, Logic, Ethics, History, Economics; each student to take one full or two half subjects),	6
A total of	48

The requirements are by groups, not by special subjects, and in each group except English and mathematics some choice is allowed the student. This plan is at once liberal, controlled, and elastic. Throughout his course the student will have large liberty in choosing his work, but a considerable portion of that work will be arranged for him and directed by men who can judge of his requirements better than he can himself. A reasonable amount of guided specialization is provided for, and each student will be brought into personal relations with an instructor, in a way that can hardly fail to produce good results in his college work. All work actually accomplished by the student will count toward the attainment of the mark of the scholar, the degree. *The period within which that may be attained will now depend upon the industry and ability of the individual student.*

FRIVOLITIES.

BY LAPHSON SMILES.

A NEW VERSION.

The teacher whacked the boy, one day,
Who disobey'd the rule.
The scholars did not laugh nor play
To see that lamm in school.

REASON ENOUGH.

"What's the name of your new boat?"
"Bridget. I named it after the cook, because it makes such heavy rolls."

POOR CONSOLATION.

"Why do you look so glum, old man?"
"I proposed to Miss Galleigh last night, and she said she didn't care for any goods damaged by smoke."
"You might have told her that water had never hurt you any."

FOR THE SAKE OF ARGUMENT.

"Now supposing I borrowed five dollars from you; that would represent capital, wouldn't it?"
"Yes."
"But supposing after a while you wanted to get it back—"
"That would represent labor."—*Life*.

THIS AND THAT.

*If thou art worn and hard beset
With sorrows that thou wouldest forget,
If thou wouldest read a lesson that will keep
Thy heart from fainting and thy soul from sleep,
Go to the woods and hills! No tears
Dim the sweet look that Nature wears.* —Longfellow.

Queen Victoria has just passed her seventy-fourth birthday.

Richard Harding Davis is loitering in Tunis on his tour for the Harpers.

Mrs. Antonio Navarro, nee Anderson, is said to be writing the memories of her stage life.

Peter the Great of Russia married a peasant. She made an excellent wife and a sagacious empress.

James Russell Lowell once remarked: "The United States is the most common-schooled country in the world."

The Prince of India; or Why Constantinople Fell, Gen. Lew Wallace's new book, will make an early appearance.

Charlotte Brontë's intimate friend, Mary Taylor, whom she pictured as Rose York in *Shirley*, has just died in Yorkshire at the age of seventy-six.

The Baroness Burdett Coutts is soon to issue in London—and simultaneously in America—a work on the philanthropic work of women throughout the world.

The first American newspaper printed in Chinese will make its appearance in Chicago. It will be known as *The Chinese Weekly News*. The platform of the new publication is given by Editor Fong in three words: "To Americanize Chinese."

The memory of Miss Lucy Larcom is to be also honored in New Hampshire, if the proposition of the Appalachian Mountain Club is carried out. That organization has commended to the United States Geological Survey that Mt. Whittier (as it is called on the map of the New Hampshire State Geological Survey) be officially named in memory of the poet, and that the minor peak at the northwestern corner of the range (called Mt. Whittier in Sweetser's *White Mountain Guide-Book*) be re-named Mt. Larcom. The association of the two poets and their combined association with the region which they have both celebrated in verse seem very appropriate.