

or art where the imagined immodesty is reserved for impure minds, and is the farthest possible removed from that criticism of Longfellow's "Launching of the Ship" in which there is no imaginary indelicacy except to those already in the depths of vice.

MODERN PSYCHOLOGY.—(IV.)

It is not the purpose of these unpretentious articles to argue and rarely to explain the record made of the facts that to us appear easily demonstrable. We shall endeavor to keep well within the lines so that we need not defend the positions. Of course, it is not expected that the speculative philosopher or the Herbartian psychologists will accept the conclusions or the statements always as facts, but they will doubtless acknowledge that they are a fairly clear and always honest statement of the conditions as they are interpreted by those later German physiological psychologists who think they find in the brain activities not what Wünder found, but rather evidences that the psychological conclusions of Locke and Bacon were largely correct, even though they had no physiological insight into the minds' mode of using the brain.

Reflex action is a tangible, nerve-directed muscular activity, but it has no mental qualities. There is no satisfactory ground for belief that the reflex acts are at all dependent upon the brain, for in the case of the frog they will continue even when he is brainless.

Reflex acts are invariably the result of a definite stimulus and suffer no modification. A given excitant will produce a definite reflex act whatever other conditions may exist and this is the leading characteristic of this act, distinguishing it from all other nerve activity.

Automatic reactions are a stage higher and have an entirely different signification. The term automatic as here used has no reference to the popular use of the word as applied to the involuntary physical activities such as the beating of the pulse or actions of the heart. By *automatic reactions* is meant that which is sometimes styled *rhythmic action*, or the unconscious doing of a thing which we have done so many times that it does itself, as for illustration, the walking along a familiar street while our mind is wholly engrossed with things other than the placing of the feet. We walk with perfect safety; the eye is the guide for we should not walk without thought were it dark. The distinguishing characteristic of the automatic action is that while it is a response to a stimulus much as in the case of the reflex activity, it is modified by external stimulus through the eye, ear, etc., and is not purely the result of a mechanical stimulus.

Ziehen who has furnished the only satisfactory connection between the physiological and the psychological that I have seen and who is followed closely in these interpretations without giving credit for every step taken with him, has experimented with the frog. Remove the cerebrum of a frog and pinch his leg and he will leap as though alive. This is pure *reflex action*. But he stumbles over anything that chances to be in his way; he will leap against a wall or into the fire as quickly as into the water; he merely goes where the reflex action sends him.

But if in removing the cerebrum the optic thalamus is left, he will avoid all obstacles as he leaps. Pinch him and he leaps by reflex action but he avoids danger by automatic action although almost brainless. Consciousness passes to non-consciousness through habit by means of the sense activity which ultimately comes to act without calling to its aid any other mental energy. All automatic acts have come through much practice either individually or through the race by inheritance.

What is known as *instinct* is reflex action rather than automatic. It is not inherited but is in the nature of the animal so that certain sights, sounds, smells, etc., stimulate or excite to certain reflex actions and it carries a straw for a nest, or runs on the scent for game. Instinctive acts frequently take on automatic phases under certain conditions. The reflex acts are unvarying while automatic acts are diversified. But neither are psychological. They are purely physiological. In the true sense both are mindless. The reflex acts are brainless, the automatic acts not brainless, but mindless. We are now prepared for the study from the physiological side of the mind activities in the brain.

THE CONSTITUENTS OF AN IDEA.

BY PROFESSOR JOSIAH ROYCE.
[Reported for the JOURNAL.]

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

Abstract ideas are habits of action in us. The mental life runs parallel with the nerve centers, acting in a more or less complex response to the stimulus of surroundings. One of the most important truths that modern psychology has to impress is this, that the highest types of mental activity are similar to the simplest reflex act. The outward signs of our reaction may be almost invisible. We learn to suppress most of our conscious reflex actions, but this is none the less sensory motion.

We have habitual sense impressions connected with all our regular series of thought. Oral or written composition is always dependent upon environment. In conversation we inevitably respond to the whole aspect of our surroundings. In the dark we have organic, bodily sensations. Meditative trains of thought are dependent upon essential sensations of bodily posture. We can only get rid of the body by respecting its conditions. What one thinks of is not necessarily what sets the trains of thought in motion. Sensory disturbances lead to an excitation of the brain processes. There is never such an excitation without a definite motor response, although it may often escape our notice.

The brain is a sensory, motor organism. What it does when it acts, under excitation, is to set in motion or to restrain activities that would otherwise be set in motion. Self-restraint is as much action as is self-direction. We could not act as we do were we not directed to choose the right by suppression of the wrong. We can have no thought that does not tend to run out in our muscles. If we ceased to inhibit, we would at once begin the construction of our intellectual images. All definite brain activity leads to motor processes.

Every individual goes through a process of evolution. From infancy he is exposed to countless sensations. These come to possess regularity under like conditions, leading to like results. Thus associations of ideas, habits, are formed. Character, our systems of responses to our world, is similarly formed. Each individual comes to have ideas about what he would or would not do under certain circumstances. Thus there is a sensory basis for every form of will. An incoherent will means confused, weak ideas about one's self. Physiologically, the will is actually the beginning of the deed. The will is an epitomized memory of past actions and plans of action; a sum total in one great idea of what could be done by this self.

The unconscious reading aloud, which we have to inhibit consciously, unmasks our lower and simpler reflex action. Repetition is one of the oldest reflexions, showing, indeed, the way in which our language was formed. It is present naturally in children. Later, the lack of time in which to allow habits to develop causes these motor habits to dwindle, till they became merely a feeling of power or effort. They became epitomized into a feeling in the presence of the recognized word, a sort of "could if I would" feeling, of the reactions which the sound naturally starts. This feeling is characteristic of the conscious intelligence. It forms a sensory element, massive but organized. It, and neither will nor intelligence, gives color or tone to consciousness. This feeling is "the nascent motor reaction, the 'fringe,' which is present in all consciousness.

EDITORIAL MENTION.

Minneapolis will pay \$25,000 to supply the schools with free text-books.

Russian education is at low-water mark. Out of 195,000 recruits to the army one year recently, 145,000, or three fourths, were unable to read and write. "The Sahara of ignorance" is the way one critic speaks of it. There are 18,000 schools where there should be a quarter of a million.

The teachers of New York are saddened by the death of the president of the Teachers' Mutual Benefit Association of that city, principal of Grammar School No. 42. Mr. Boyle was fifty-eight years of age and had taught in that city forty-four years, beginning at the age of fourteen in School No. 7 at \$50 a year, as a monitor teacher. He became principal of No. 42 in 1863, and in 1885 was made principal of the evening high school.

Rev. A. D. Mayo has just finished the field work of the thirteenth year of his ministry of education in the South by a four months campaign, chiefly in Kentucky. Mr. Mayo will spend the coming three months in Washington, D. C., in preparing a circular of information for the National Bureau of Education, entitled "The Story of the American Common School." His address is National Bureau of Education, Washington, D. C.

The New England Classical and High School Teachers' Association held its twenty-sixth annual meeting at the Latin School Hall on Friday and Saturday, A. B. Goodrich of Salem presiding. Elbridge Smith of Dorchester presented an historical paper; Mr. John F. Casey of Boston talked on "Successful Preparation for College by the English High Schools"; C. W. Stone of Boston discussed "English in the Secondary Schools"; while Wm. H. Burnham of Clark University spoke upon "German Educational Literature," Truman H. Safford of Williams on "Mathematical Preparation for College," and James W. McDonald of Stoneham on "The Teaching of Languages in Classical and High Schools." The notable feature of the meeting was the address by Pres. C. W. Eliot of Harvard discussing the "Preparation for College that the English High Schools Give." As is usual with Harvard's presi-

dent, he saw little to praise and much to criticize in the work of the English High School; but his conclusions were that the best preparation for college is the best preparation for life, and the best preparation for life is the best preparation for college, and that the college and the school should appreciate this and govern themselves accordingly.

Mr. Editor:—In your JOURNAL for March 30 you quote from an article by Dr. Bayard Holmes, published in the *Journal of the American Medical Association*, for Jan. 14, 1893, a passage in which the present management of the medical schools in the United States is spoken of in a disrespectful manner (as a professor of medicine has a perfect right to do), and by some error you refer this to "the agent of the U. S. Bureau of Education;" whereas, the passage which you quote is in the words of Dr. Bayard Holmes, and not from the portion which he quotes from the agent of the Bureau. Inasmuch as the Bureau of Education holds in high regard the good opinion of those who control medical education, I wish that you would kindly give this note a place in the next number of the JOURNAL, and oblige,

Yours very truly,
W. T. HARRIS,
Commissioner of Education, U. S.

FRIVOLITIES.

BY LAPHSON SMILES

PAT. APPLIED FOR.

Johnnie: What's the name of your father's new man?
Tommie: "Pat."; I saw it on his snow shovel.

DEFINITIONS.

The roll of the sea,—hardtack.
Generally speaking,—the fair sex.
Of morbid tastes,—the auctioneer.

AT THE RESTAURANT.

"This must be a canvas-back duck."
"How can you tell?"
"By the bill." (\$4.00.)

SMALL CHANCE.

Willis: That young man who plays the cornet is sick.
Wallis: Do you think he will recover?
"I'm afraid not. The doctor who is attending him lives next door."
—*Life.*

KNEW HIS BUSINESS.

Teacher: Is your composition finished yet?
Boy: No'm, not quite.
"You told me an hour ago you had a subject."
"Yes'm, but it wouldn't do, and I had to hunt for another."
"What was the matter with the first one?"
"I couldn't spell it."

THIS AND THAT.

Lady Tennyson has been an invalid for years.

In China every village has its theater; every city, several.

Robert Burns married a farm girl with whom he fell in love while they worked together in a plowed field.

A New England college numbers among its students, scholars from Kioto, Japan, Thessalonica, European Turkey and Iceland.

Zola has been an aspirant for a seat among the immortals of the French Academy four times: Once as the successor of Emile Augier, again in place of Octave Feuillet, and twice since then.

The much discussed flag which Barbara Frietchie was said to have waved "over the heads of the rebel host," and which was so beautifully immortalized by Whittier, is now in the possession of her niece, Mrs. Handschers.

Israel Putnam, a great grandson of the Revolutionary hero whose name he bears, is a resident of Oregon. He is a pensioner of the late war and is very proud of his descent. He has in his possession the uniform dress coat and cane presented to his great grandfather by Lafayette.

Mr. Herbert Spencer tells with amusement of a letter he received not long ago from an American publisher, asking "how much he would take for the exclusive right to publish his poem, the 'Faerie Queen,' in the States."

The question of Miss Ellen Terry's birthplace has been settled at last. Miss Terry, like Juliet, had a nurse, a Mrs. Atkins of Coventry, and this lady has been interviewed. She says she was present at the interesting event, which took place at No. 5 Market Street, now occupied by a green grocer.

The Smithsonian Institution possesses the most valuable egg in the world. It is an egg of the great auk, which became extinct about fifty years ago. The value of it is nominally \$1,000, but it could not be purchased for that sum.

TO THE WORLD'S FAIR.

On the present basis, the rates to the World's Fair at Chicago round trip tickets will be as follows;

Trains taking more than thirty-five hours between Boston and Chicago:

Fitchburg and West Shore,	\$32 00
Fitchburg (Erie & Boston Line)	30 40
Fitchburg, via Montreal,	29 60
Trains making the run in thirty-five hours or less:	•
Fitchburg & West Shore,	\$40 00
Fitchburg (Erie and Boston Line),	38 00
Fitchburg, via Montreal,	37 00