

Controversy Called Method of Science

Psychology

Science, the search for truth, is advanced by indulgence in personal prejudice and scientific controversy properly checked by persistent self-criticism, Prof. Edwin G. Boring, director of the Harvard Psychological Laboratory, contended in his presidential address before the American Psychological Association. Prejudice and controversy are considered by Prof. Boring to be symptoms of the same driving force that makes men invent and discover.

"The history of science is full of illustrations of the most violent and seemingly unreasonable controversy that have obscured the truth for long periods and only eventually led to established fact," said Prof. Boring. "Mesmer's discovery of mesmerism (or hypnotism) is a case in point and much can be said in favor of Mesmer who is generally disregarded as a charlatan. John Elliotson's rediscovery of hypnotism half a century later is a similar case where personal prejudice blocked the acceptance of discovery."

Magic and Medicine

Psychology

Magic and medicine are close relatives, chiefly because the element of deception is so strong in both, declared Prof. Lynn Thorndike of Columbia University.

"If nature alone works most cures, neither magic nor medicine will admit this. A confidence game is practised on the patient, who must be cheered and distracted," said Prof. Thorndike. "Where the priest used to tell the sinner to go on a pilgrimage, the physician tells the patient to play golf or sends him to Florida."

Prof. Thorndike reminded his audience that the old magician or priest did the best he could with the available material and suggested that we should not be too scornful of magic.

"Was the world and his milieu actually more topsy-turvy and terrifying to the believer in magic, than to the modern believer in medicine?" asked Prof. Thorndike. "Or did it all seem as matter-of-fact and casual to him as tornadoes in Florida, floods on the Mississippi, germs in towels and drinking cups, and a thousand falling at our side from bootleg liquor and ten thousand at our right hand from automobile accidents, do to us?"

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"Since science is supposed to seek the truth, it would appear that its efforts should be directed toward the elimination of bias and personal prejudice wherever these factors enter into the formation of scientific conclusions. However, it appears that the greatest scientists are often the most prejudiced in maintaining their personal views, and that the personal dynamic urge that leads to violent and personal controversy is also a symptom of the driving force that makes men scientifically productive. This fact of dynamic psychology makes it appear at first as if scientific progress must depend upon individual prejudice and as if scientific truth therefore would always transcend the individual and become, after controversy, the property only of those who have not contributed to its discovery."

Prof. Boring observed that all new scientific movements are controversial in their beginnings. At the start they are not positive but negative.

"Scientific psychology itself began

as a reaction against philosophical psychology," he said. "The newest movements, like Gestalt psychology in Germany and behaviorism in America, exhibit mostly this negative side. Scientific movements are therefore great prejudices that sometimes stimulate progress and sometimes prevent it. The question arises therefore as to whether movements of this sort, which are generally looked upon as constituting the milestones in scientific advances, might not hinder progress as much as they encourage it."

The personal bitterness that hinders scientific progress will be removed, Prof. Boring declared, as soon as the mental conflict essential to research is recognized and controlled. He advised psychologists to develop dissociation of personality so that after allowing personal prejudice to stimulate research, self-criticisms can be made to apply the proper checks.

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Intern System Urged for Schools

Education

The present scheme of compressing education into a few of the earliest years and of stopping it abruptly at some year in the teens was challenged in an address by Dr. A. I. Gates, of Teachers College, Columbia University, before educators attending the meeting of the American Association.

"The old notion that the teens comprise the prime of life for learning has been definitely disproved," Dr. Gates stated. "The decade from twenty to thirty is superior to any other."

To secure the advantage of education in the valuable years of the late teens and early twenties, and to make schooling more useful by relating it directly to the needs of practical life, he advocated a gradual transition from the life of school to life in the world. This method is already used and found satisfactory in medical training, where young doctors serve an internship, and Dr. Gates recommended that young people being trained to carry on the world's work and soon to take civic and social responsibilities should complete their education by a "social internship".

Recent research has dealt a blow

to the old tradition that highly abstract subjects as Latin, mathematics, and physical science are useful because of their disciplinary value to the mind, the speaker said. Prof. E. L. Thorndike has shown, Dr. Gates declared, that these subjects excel very slightly, if at all, such subjects as civics or biology or even stenography, manual arts, or cooking as means of increasing the student's general ability to think.

Underaged Children Make Good

In almost every community the school doors are frequently besieged by mothers asking admission for children who are just a little too young. Some of these children are mentally and physically ready for school, and it is possible to predict with reasonable accuracy whether a child of this sort will make good in kindergarten or first grade, if given his chance, Dr. Edward A. Lincoln, of Harvard University, told the educators.

In an experiment conducted by Dr. Lincoln, underaged children who applied for admission to school at Winchester, Massachusetts, were given an intelligence (Turn to next page)

Tears Express Relief

Psychology

The puzzling paradox of crying from joy and crying from sorrow is not so contradictory, because the tears are due to mixed emotions. This is the conclusion of Dr. Frederick H. Lund, of Bucknell University, and Dr. H. V. Pike, of Danville State Hospital of Pennsylvania, reported to the American Psychological Association.

The psychologist and doctor, who conducted an investigation of the tendency to weeping among mental and nervous patients, reported that neither joy nor sorrow, dejection nor elation in a pure form is very effective in causing tears. In mentally diseased cases, where emotions can be readily observed because they occur in more pronounced form than in normal people, they found no case of weeping in the midst of a depressed psychic state. Typically, crying occurs when a depressing situation gains a redeeming feature, or when tension and unpleasant sensations are replaced by alleviating circumstances, they found.

Activity of the nervous systems of the body during emotional states is such as would fit in with the psychological condition of mixed emotions leading to tears, the investigation showed. *Science News-Letter, December 29, 1928*

Education Meetings—Continued

test. Children who were found to be mentally advanced beyond their real ages were placed in regular public school classes.

Careers of these youngest pupils have been followed through the seventh grade in as many cases as possible, Dr. Lincoln reported. Out of 54, only four slipped back a grade, and in these four cases sickness and home conditions were responsible. The rest averaged well in their studies, especially in reading.

The school careers of 18 underaged children that were refused admission to school on the basis of their mental test scores were also followed. These children probably would not have made good in the kindergarten or first grade if they had been admitted early, Dr. Lincoln pointed out, since most of them did not achieve high standing even when they went through the grades at the usual ages.

The plan of giving mental tests to underaged children who try to enter school has spread to a number of Massachusetts towns. Four hundred children were tested by Dr. Lincoln in twelve towns this year. The plan saves a year later on for the bright

New Calendar Aids Schools

Pedagogy

Education would be simplified if the simplified thirteen-month calendar were put into effect, the House Foreign Affairs Committee was told in a statement by Joy Elmer Morgan, editor of the *Journal of the National Education Association*.

The committee is holding hearings on the proposal to have the United States join in an international conference for the simplification of the calendar.

Mr. Morgan declared that the simplified calendar would be a great advantage to the schools, for the following reasons:

1. It would reduce the number of facts which children are obliged to learn.

2. It would make the month used by people generally, harmonize with the four-week month which is in use by the schools.

3. It would make the comparison of statistics as between one school month and another more easily understood.

4. It would enable schools to plan for fixed holidays which would be the same year after year.

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Rare Science Works Shown

History of Science

Rare scientific books and manuscripts, including one with the Latin original of the rhyme "Thirty days hath September," were on view during the meeting of the American Association for the Advancement of Science at New York. The exhibition was held in the Avery Library at Columbia University.

Many of the rare manuscripts were from the George A. Plimpton library, said to be one of the finest collections of educational source materials in existence. The "Thirty days" rhyme is contained in a manuscript copy of a work on the calendar called "Computus cum Commento" by Anianus. This manuscript is dated 1384 and is the oldest known copy of a book which, after the invention of printing about 1450, went through 50 editions in thirty years. Another treasure that was shown in a manuscript copy of "De Temporibus ratione," by the Venerable Bede, who lived from about 673 to 735. This copy was made on vellum in 1129, directly from the original, and is notable for its beauty, accuracy and age.

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The Last Unknown

Geography

The last great unknown, the Antarctic continent, is being explored. The map on the front cover of this issue will allow you to follow the flights of the Wilkins and Byrd expeditions as they are reported in the daily press. Upon the base map prepared by the American Geographical Society there have been spotted the base camps of the two expeditions. The dotted area in Graham Land shows the approximate extent of snow and ice expanse explored by Wilkins and Eielson on their first flight of December 20, when they discovered that Graham Land is a series of islands and not a part of the continent. Capt. Sir George Hubert Wilkins and his party are based at Deception Island off the coast of Graham Land. Commander Richard E. Byrd and his party are to be based at the Bay of Wales, the point on the Antarctic continent from which Amundsen began his trip to the first attainment of the South Pole.

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Greenland is covered with ice except for a border of land from five to 100 miles wide around the edges.

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