

PSYCHOLOGY

Twin-Training Experiments May be Great Historic Event

FIFTY or five hundred years in the future the fifteen-month-old girl twins, Florie, the athletically trained, and Margie, the untrained, (*SNL*, Jan. 19, p. 36), may be considered as ushering in not only a new scientific era but a new period of ability of the human race to manage human affairs.

Dr. John Dewey, the philosopher and father of progressive education, made this prediction after seeing Dr. Frederick Tilney and Dr. Myrtle McGraw put Florie and Margie through their paces at Babies Hospital in New York City recently.

"Man knows less about himself than anything else in the world," Dr. Dewey said. "He has penetrated far into the

secrets of physical nature and he has managed and directed the powers of nature, but he shows a great lack of ability to manage the affairs of mankind."

Special psychological training as demonstrated by Florie and Margie, the earlier case of Jimmy and Johnny, and over sixty other children, has great possibilities of giving some insight into just how human behavior develops, Dr. Dewey said.

The brain studies by Dr. Tilney paralleling the behavior research of living children were cited by Dr. Dewey as a unique approach to understanding the complex mental machine that controls the human organism.

Dr. Tilney found that the brain must be ripe, as he calls it, for utilization in a particular way, so that no matter how well trained a baby is, it cannot be made to walk if the proper brain cells have not developed to the proper stage, as they usually do at about a year.

Working with hormones, Dr. Earle T. Engle found similarly that even though cells were fully developed they did not respond to gland secretion until they were ready or ripe.

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ARCHAEOLOGY

Strong Fortress of Incas Unearthed in Peru

WHAT a medieval American fortress was like, in the days of the Incas in Peru, is shown by excavations of archaeologists of the Peruvian National Museum, at Lima.

The fortress of Sacsahuaman, now uncovered from four centuries of accumulated earth, reveals that Incan warriors lived and fought in stone forts as cunningly planned and constructed as medieval castles of Europe's knights.

The Incan fortress was levelled by Pizarro's men in the Spanish Conquest days and since then only hearsay has told what the famous place was like. The fort served as the Incan capital in time of war. It stood on a hill on the outskirts of Cuzco, peacetime capital of the Incan Empire. Incan kings took

refuge in the fort and there they hid the Sun God's gold.

Excavations directed by Luis Valcarcel reveal the old defense walls.

On three sides, where it is very steep, a single circumvallating stone rampart suffices. The fourth side, easy of ascent, is guarded by three walls, one within the other, each at a higher level, and very strangely planned. The walls zig-zag in twenty-three sharp angles across the entire way of approach. In bird's-eye view, these walls suggest some Peruvian zig-zag pottery design. But they had this odd shape for stability.

Wide avenues and moats separate the walls, but they connect at certain places through doors which closed by means of movable stone blocks. The zig-zag bulwarks are constructed of enormous blocks, the largest about 20 feet long and weighing many tons.

These walls, built without cement, are marvels of brute force. The quarry from which the rock must have come is miles away over mountains. The legend of the "Tired Stone," an uncut boulder half way down the slope, reflects on Indian labor methods. Thousands of Indians hauling on ropes, according to the story, could not make the grade. The stone sweated blood in the effort.

A marble "vanity case," with vermilion, blue, and yellow face colors still in it, just as it was dropped and broken by some last defender of Sacsahuaman, was among the numerous articles found in the earth covering the ruins. The marble block had six cylindrical compartments for holding face paint, with lids to cover them.

Incas manning Sacsahuaman in its last days no doubt esteemed the wool-giving llama highly. Many figures of these animals carved in stone were found in the debris. T-shaped copper axes were also present in great numbers.

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ENGINEERING

Rolling Supplants Casting In Making Giant Flywheel

ROLLING supplants casting in the fabrication of the rims for hydroelectric turbines such as the one General Electric Co. is building for the Kanawha Valley Power Company in Virginia. Twenty-seven feet long and weighing fifteen tons, the giant slab of white-hot metal is being rolled into semicircular shape. Formerly such large structures were cast to their half-circle design.

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