

Science

Javanese Temples

To visit the bewitching island of Java has been the lingering dream of University of Southern California's Professor of Religion and Archaeology John G. Hill for many a year. Ever since he first saw the alluring label on "Java and Mocha Coffee" cans he has nursed this dream; last summer he saw it realized.

For six weeks he traveled Java by fastest steamer over seas usually smooth as glass; though wickered as Hades when a typhoon was at hand.

Said Archaeologist Hill, describing his trip: "We cut the South Sea between miracle wall of yellow moonrises and blazing sunsets such as are seen only in the tropics. Overhead a velvet blue sky hung low with glowworm stars dripping myriad lights into the blue-black sea. . . . We stopped at Tahiti and Rarotonga long enough to feel that cooling breezes underneath the nodding palms . . . to watch the primitive careless grace of the coral-colored natives of whom we saw many—and much."

Forty million dusky natives crawl like ants over Java's fertile landscape; they dot brown rice fields, green tea estates, coffee plantations, lustrous Chinchoa (quinine) gardens, tangled cane brakes, narrow winding roads connecting bamboo villages.

A graveyard of buried temples is Java. A thousand temples now crumble away in central Java alone. A thousand years ago they flourished when the Hindu faith was the state religion. Like a fresher the Arab invasion swept over Java, buried its ancient glory, forced Mohammed and the Koran on the natives, giving them Allah in place of their Seva, Buddha, and stout animism.

Largest and finest of the world's Hindu temples is Buro Budur (Borobudur). It covers nine acres of ground and contains three miles of the finest bas-relief cut in rough volcanic stone. Six terraces in height it rises; more stories still are believed to be underground.

Guided by Java's famed Archaeologist Dr. Van Stein, S. C.'s Archaeologist Hill visited, examined, studied Buro Budur; saw the huge pile of green-gray stone, every yard of stone surface alive with sculptured figures telling ancient stories of Javanese life, hope, faith; failure, sin, redemptive struggle.

An ornate shrine, rather than a temple, is Buro Budur, huge stupa. No pillars, columns, archways, support it; there is no entrance into it. Like six huge shrines built one upon the other, each smaller than the one below it, appears this monument, sacred, inspiring.

Believes Archaeologist Von Stein: In the beehive shrine on top, there may be a pinch of the sacred ashes of the "Great Enlightened One," whose ashes Asoka, famous Hindu king, priest, prophet, reformer, is reported to have divided into 84,000 parts, distributed them throughout the Buddhist-Hindu world.

Endless reminiscences of the soul are depicted on the upper terraces; now appearing as a gnat, then a rabbit, a fox, lion, bear, elephant, monkey, woman, horse, sage, prince, king, and at length as Buddha, a god. Last is the peaceful serenity of Nirvana reached.

In strange contrast to these figures appears a bicycle rider. Some persons who have seen this bas-relief of a man riding a bicycle surmised that the bicycle was an ancient vehicle of the Javanese; less credulous, more scientific archaeologists believe a waggish modern explorer, sculpturally inclined, may have carved it as a practical joke on posterity. Too recent appears the vehicle's chassis; too similar to present models are sprocket and chain.

Seals, Elephants

Seeking fur seals, sea elephants, other forms of marine life, an expedition, composed of New York and San Diego zoological societies, San Diego naval reservists, prominent scientists, will leave San Diego this week bound for Guadalupe Island, approximately 200 miles south of Point Loma.

Similar expeditions were made in 1924, in 1926. Live specimens of marine animals were captured, brought back to the San Diego Zoological Gardens for study.

Objects of the 1928 expedition: To obtain several live specimens;



BAS-RELIEF ON THE JAVANESE TEMPLE, BURO BUDUR

Did some waggish modern sculptor play a practical joke on posterity?

to bring them back to the zoological gardens; to study not only their life histories and habits, but also the diseases to which they're liable; to attempt to increase the diminishing specimens.

Used to transport members (approximately 82) of the expedition will be San Diego-based naval vessels. Expedition members: New York's Dr. Charles H. Townsend (director, New York Aquarium); San Diego's Dr. H. M. Wegeforth (president San Diego Zoological Society); San Diego Postmaster E. W. Dori; San Diego Pathologist Dr. Rex A. Whittling.

Vernal Equinox

More than is generally suspected will Southern California be affected by the advent of the vernal equinox on September 26 and 27. The theoretical division between summer and autumn, the day when the sun crosses the equator on its way southward, will among other things mark the changing of the tides from low to high in the morning, and high to low in the evening. Thus shipping and the fishing industry will be affected.

Also will the equinox mark the shifting of the sands from many points along the coast, especially in San Diego County where the tides carry the sands to sea after the autumnal divisional period. In a few weeks there will be many miles of barren, rock bound coast between San Diego and Scripps Institute of Oceanography at La Jolla where there were beautifully sanded beaches all summer.

Many have been the arguments as to whether the autumnal equinox would fall upon September 22 or 23. It falls upon neither date, being on the 27th in Southern California; falling not at all in Central and Northern California. The nearest approach to an equal day and night in the central part of the State will be on the 26th when the sun will rise at 6:08 A. M., set at 6:09 P. M. At all points south of the thirty-fourth parallel (near Santa Barbara) will the sun rise at 5:51 A. M., set at the same hour in the evening. Contrary to popular belief, the almanac does not support the theory that every part of the world has two days each year (March 21 and September 22) when days and nights are exactly equal.

Vegetable Children

Brilliant blue in color are the first generation of Andalusian fowl if one parent is white, one black. When sweet, small-eared corn is crossed with less starchy but larger-eared varieties, offspring crops are both large and sweet.

Long have these and similar additional facts been known to scientists, to students of the science of genetics which deals with the heredity of characteristics in plants and animals. But until recently these fundamental laws of inheritance have been recognized merely by dint of observation, not by actual experimentation.

To make contributions to the new science which will rival those already made, was the object of the purchase, last week, by the California Institute of Technology of a



ARCHAEOLOGIST HILL . . . inspired by coffee cans.

plant experiment station in Arcadia. Here will students, professors, noted scientists delve into the mysteries of nature in an attempt to improve many existing breeds of animals, plants, vegetables, flowers. Because they are especially adapted to scientific research, evening primrose and corn will be the first two studies, declared Dr. Eugene Anderson who is in charge of the laboratories. Since genetics is a science which deals primarily with basic theories, experiments are not expected to result in developing any new freak varieties.

On the former site of the Fisher Nursery at Sunset Boulevard near Huntington Drive is the experiment station located. Ten of the greenhouses will be retained, one additional one constructed.

Education

Girls vs. Boys

The cost of clothing for high school students has long been a subject for the discussion of women's clubs, Parent-Teachers' associations, many another group interested in school welfare. The problem for high school girls has been met, with some success, by the adoption of uniform, regulation costumes. Less has been done for high school boys.

Lacking in the discussion of interested organizations has been definite statistics setting forth the cost of equipping Southern California boys and girls. U. S. C.'s Marc Goodnow, director of Journalism Department's bureau of field work, spent several months surveying the per capita purchases of secondary

school students. Goodnow's report, published last week, indicated the yearly buying power of the secondary school girl student to be \$356.54; that of her male classmate, \$233.52.

Girls spend more money than boys on such articles as hats, shoes, hose, dresses (as compared to suits), underwear, coats, gloves, and jewelry; boys are in the lead for musical instruments, sports goods, candy, haircuts and shaves (as compared to haircuts and shampoos), and fountain pens.

To determine the per capita buying power of high school students, Goodnow's survey covered 23 Southern California secondary schools. The schools surveyed: Burbank, Chico, Compton, El Segundo, Harding, John Muir, L. A. High, Long Beach Polytechnic, Mt. Empire, Narbonne, Pasadena, Redlands, J. A. Riis, Riverside Polytechnic, San Pedro, Santa Barbara, Santa Catalina, Santa Maria, Santa Monica, South Pasadena, Torrance, Venice, Whittier.

No Smoking

Bravely may billboard heroines (sketched to look 18 years or more) flaunt their cigarettes, remain unchastised. (See News Review, Sept. 2-8).

Opined Riverside's County Su-

perintendent of Schools Smith last week: Not to with Riverside school-marks; they must forego nicotine; Riverside's youth must not be wrongly influenced.

For many years much mooted has been this question of the use of tobacco by women teachers. The majority of educators have been opposed to smoking, but much exclamation sprang from feminine lungs, while frowned upon, has been ignored.

Superintendent Smith's ultimatum: "No woman who uses tobacco in any form need expect employment by us in any Riverside County school. She must look elsewhere."

Orange's College

Out of a jumble of many a suggestion, opinion and argument came the clear-cut agreement last week between representatives of seven Orange County high school districts in favor of a union junior college district which would include nearly all of Orange County in its scope. Many hours of discussion took place during the past months over this question. (See News Review, week of Aug. 19-25).

At the meeting of the Board of Education last week in the Santa Ana High School cafeteria were representatives of Orange, Anaheim, Garden Grove, Tustin, San Juan Capistrano and Santa Ana high schools. They made plans for a \$1,000,000 bond issue for the erection of junior college buildings and equipment; also for first year expenses.

The valuation of the aforementioned high school district has been assessed at \$122,000,000. The \$1,000,000 bond issue is regarded by the educators as necessary to provide a site costing approximately \$160,000, buildings costing \$660,000, equipment costing \$100,000, and further operating expenses.

Fullerton and Brea-Clinda as yet have not entered into the scheme.

Student Harvesters

Gone are the days when school attendance in agricultural districts dwindled to almost nothing when crops were being harvested. Not that school children no longer need lend helping hands; rather, county school authorities are willing to cooperate with farming interests.

In Ventura County this week many schools in the walnut-growing districts began to hold half-day sessions, permitting students to attend school from early in the morning until the legal number of minutes required by the State had elapsed; then to go to the walnut groves to aid in harvesting the crop.

Ventura County Superintendent of Schools Mrs. Blanche T. Reynolds named Briggs, Center, Del Norte, Montalvo, El Rio, Saticoy, as some of the schools to adopt the temporary half-day session plan. Santa Paula's 100 student-harvesters were transferred to other districts, Santa Paula Superintendent of Schools George A. Bond estimating that not enough pupils were affected only 100 out of 1300 to adopt the half-day plan.

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