

to Central America. Wheeled toys, a parchesi game, pan-pipes, coca-lime chewing, several art motifs, looms and resist-dyeing were things which may have been brought on ships to the western shores of Central America, she said.

On the other hand, she pointed out, many important old world inventions were never known to the new world before Columbus started the westward migration. In addition there was an almost complete divergence of agricultural methods. There are sometimes fundamental differences between supposedly shared inventions, like pyramids. And no social customs seem to have been transplanted.

But the weight of the evidence, she thinks, lies with the existence of irregular contact across the Pacific between southeast Asia and Central America.

Studies Talented People

► **HIGH-SCHOOL** salutatorians seem to make more money in their professions and jobs than do the valedictorians.

This was one of the conclusions arrived at by 18-year-old Ruth F. Harrell, senior at Maury High School in Norfolk, Va. She is ranked number one in her class. She studied, as her scientific project, the subsequent careers of 64 of the valedictorians and salutatorians who had graduated from her school since 1916.

The second honor graduates, Miss Harrell found in studying the questionnaires she devised and which were returned to her, averaged \$6,429 in annual income, for those who were working, while first honor students averaged \$4,690.

Bright students tend to have a higher proportion of fathers who are in the professional class than is found in the general population. And their fathers are less likely to be laborers.

Only one divorce was found among those of the 64 who had married. This is much less than the average rate. More than two-thirds of the women are married.

Men are superior to the women in the group in average scholastic standing and also in average test scores for college entrance examinations. In the group studied there are almost twice as many women as men.

Aureomycin Helps Fish Grow

► **TROPICAL FISH** grown in an aquarium with the new wonder drug, aureomycin, added to the water seem to have much more vitality than fish grown without the antibiotic. Also, there is some evidence that they grow larger, concludes 17-year-old David A. Goldstein.

The young scientist, who is a senior at Monroe High School, Rochester, N. Y., divided 31 tropical fish into three tanks. To two of the five-gallon aquaria he added 100 milligrams of aureomycin daily. The third he used as a control tank.



KILOWATT CHINA—Undergoing trial by lightning to reveal any flaws are these ceramic insulators. The white streamers cascading over the porcelain are arcs of man-made lightning, 90,000 volts strong. Electricity jumps from the three solid brass conductor rods to the vertical electrodes placed in the center of each insulator, then flashes over the insulators themselves.

At first, the fish without the antibiotic surpassed in growth those swimming around in the aureomycin solution. But after about a month and a half, the treated fish surpassed the control fish. One surpassed the control fish by 35% in growth rate.

Some of the aureomycin fish died, but of no evident disease. None of them developed the diseases which maturing fish so frequently contract, said the young scientist.

On the other hand the fish without the wonder drug developed a disease known to tropical fish fanciers as the "shimmy." This finally made necessary the stopping of the experiment.

Observes Jupiter

► **BUILDING THREE** telescopes and two machines for grinding and polishing telescope mirrors was the scientific project of 17-year-old Eugene E. Epstein.

With this equipment, the Hollywood (Los Angeles) High School senior was able to approximate the equipment of a professional observatory and to carry out a series of observations on the planet Jupiter.

He constructed a long focus, ten-inch telescope, a six-inch telescope with two mirrors, and a portable four-inch telescope.

With this ten-inch telescope, the young scientist determined the drifts and rotation periods of three atmospheric disturbances on the planet Jupiter. The first was the

famed Red Spot, the second a white cloud south of the planet's south temperate belt, and the third a split in the south temperate belt.

Builds Stereophonic Recorder

► **CONSTRUCTION** of a machine which will record music so that an orchestra will sound as though it is actually in the room with the listener was the scientific project of Dana D. Mitchell, 18, a New Rochelle (N. Y.) High School senior.

Mr. Mitchell attempted to achieve the effect of binaural or stereophonic hearing of his recordings, somewhat as the old-fashioned stereoscope gave a three-dimensional effect to photographs. He did this by placing two microphones in front of and at each side of the orchestra and recording the sounds picked up by each microphone on separate channels of the same magnetic tape.

Two loudspeakers, placed in positions similar to the microphone then, he figured, would give the listener if he shut his eyes the illusion of being in the concert hall. The instruments would sound as though they came from different parts of the "stage."

Mr. Mitchell largely built his own tape-recorder. He has plans to test the most effective placement of the microphones and also of the performers.

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