

PSYCHOLOGY

# Criminals Who Will Repeat Detected by Simple Test

## Ability to Change Readily Habits of Drawing With Pencil Indicate Whether Criminal Can Reform

THE "REPEATERS" among delinquents and criminals are those who are unable to break their old automatic habits, and this inability can be detected by a simple test of mirror drawing, Dr. J. Q. Holsopple has reported to the American Association for the Advancement of Science.

"Any psychologist whose human material consists of convicted and committed thieves, murderers, embezzlers, and prostitutes, while learning the inadequacy of the old superstition that criminals always return to the scene of their crimes, should be more impressed than most psychologists usually are with the heavy obligation to explain the scandalously high frequency with which criminals do return to the scenes of their 'reformations,'" he said.

To take Dr. Holsopple's test, the delinquent traces with a pencil the outline of a six-pointed star while watching the star and his hand in a mirror. He cannot see the star directly, and the mirror apparently reverses all the movements of drawing. To succeed he must break his old habits used in ordinary drawing or tracing where the work is watched directly.

"Those for whom the drawing was difficult were slow," Dr. Holsopple said. "Their lines were very heavy, very light, or alternately very light and very heavy. Their digressions from the correct path were numerous and wide. They wanted to stop trying, they found themselves unable to move their hand, or at best able only to move it through slight and aimless excursions. Diffuse energy was expended in many pointless ways. They laughed, sighed, squeezed their pencils more tightly, and thought out alibis.

"Those for whom the drawing was easy worked quickly, uniformly, without waste energy, persistently, and without alibis."

Dr. Holsopple found that the habitual criminal or delinquent repeater is unable to successfully break his old habits of drawing and pass the test.

That lack of religious training does

not cause delinquency is indicated by the results of an investigation reported to the American Association by Dr. G. R. Mursell, of the Ohio Department of Public Welfare. Dr. Mursell has given tests of Biblical knowledge, religious attitudes and moral and social attitudes to 800 delinquents between the ages of 12 and 18, and to 600 non-delinquents of the same ages. Half the group was Catholic, and half Protestant. He also had them fill out a questionnaire giving such items as number of times they attended church and Sunday school, and frequency with which they said their prayers. He found no significant relation between these measures of religious training and amount of delinquency.

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CHEMISTRY—BOTANY

## Seeds Of Rubber Tree Yield Valuable Oil

THE rubber planters of the Dutch East Indies, with profits depressed by the present low price of rubber, are

seeking to recoup by extracting oil from seeds of the Para rubber tree. An item in the German scientific journal *Die Umschau* states that rubber-seed oil has in considerable measure the drying properties that make linseed oil valuable, and that it can compete to advantage with linseed oil, because it is at present about 20 to 25 per cent. cheaper. It is used in the manufacture of paint, linoleum and soap.

Hevea, the Para rubber tree, is a botanical cousin of the castor bean, whose seed has long been a source of a widely used oil. Rubber seed oilcake cannot be used for cattle feed because it is poisonous. The planters therefore burn it under their boilers. Gathering the seed for pressing in the Dutch East Indies is made practicable through the low labor costs.

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OCEANOGRAPHY

## Gulf Stream Writes Own Temperature Record

THE SMALL variations of the Gulf Stream from its usual course and temperature are now being investigated over a wider territory than ever before, since the Munson Line steamship *Munargo* has installed a seawater thermograph for mapping the temperature of the waters along its course.

Sailing out of New York the *Munargo* shortly steams across the Gulf Stream, and into the Antilles Current. When its route takes it to the east coast



—Fairchild Aerial Surveys.

### WHERE CONVERSATION BEGINS TO JUMP THE OCEANS

Radio telephone calls to Europe and to South America originating anywhere in this country are brought to these transoceanic antenna systems of the American Telephone and Telegraph Company at Lawrenceville, N. J. The long line of towers carries three separate antennae for three commercial telephone circuits to Europe and the short line of towers in the foreground supports one antenna for service to South America. The antennae are a network of wires hanging like a curtain in a vertical plane. Back of each exciter curtain of wires is a reflector curtain which, acting like a mirror, projects and intensifies the radio waves in the right direction.