



PRIMITIVE DRESS — *This naked Onge man appears to be elaborately dressed because of his covering of geometric painted designs applied by his wife.*

appear to be clothed because their bodies are covered in painted geometric designs applied by the women of the tribe. Pipes made from claws of crabs are smoked.

When a man dies, the widow removes his jaw bone, decorates it and wears it around her neck for the rest of her life.

The body of the dead man is buried under his bed.

Scientists Study Indians

► **THE AUTOMOBILE** is replacing the traditional horse among the Navajo Indians in the American Southwest, Dr. Evon Z. Vogt of Harvard University's Peabody Museum reported.

Increased travel from Navajo country into white towns and cities has tended to break down the isolation of the Indians. At the same time, the automobile is serving to hold the tribe together.

The new mode of transportation has made it possible for more Navajos to attend the large ceremonials of the tribe, such as the Night Chant and the Mountain-Top Way. Cars have also made it much easier for a Navajo family to import a singer who knows the traditional songs to take part in local community ceremonials.

During the last ten years, Dr. Vogt said, the number of automobiles owned by the Navajos has increased at least fourfold. The horse and wagon are becoming a thing of the past.

It is not just the "modernized" Indian who is driving a car but the "backwoods" Navajos, Dr. Vogt noted.

Science News Letter, September 15, 1956

PSYCHOLOGY

Reaction to Brainwashing

► **THE REACTION** of the American public to Communist brainwashing of American war prisoners is in some ways as disturbing as the brainwashing itself, according to Dr. Raymond A. Bauer of the Massachusetts Institute of Technology, who has been co-director of research of the Harvard Project on the Soviet Social System.

The violent reaction of Americans may indicate, Dr. Bauer told the American Psychological Association meeting in Chicago, that "we share in common with the Communists a lack of security in our own ideological beliefs, even though we both proclaim our confidence that we have the true way of life."

Actually, the record of the American POW is remarkably good in resisting Communist brainwashing tactics, Dr. Bauer said.

Yet a sizeable proportion of the American public has taken the position that it is unthinkable for even a single American to fall for Communist propaganda or to collaborate with the enemy unless he has been subject to unnatural influences.

Americans feel it would take a combination of the theories of the Russian physiologist Pavlov and the wiles of Fu Manchu (fictional villain of Sax Rohmer's hair-raising movies) to cause a single American soldier to collaborate.

The wonder actually is, Dr. Bauer believes, that the Communists should have gone to such a great amount of trouble to produce collaboration, confession or change

of ideology; that they should be willing to devote so much energy to the conversion of persons who disagreed with them, rather than that they should have succeeded in the case of such an exceedingly small fraction of American POW's.

However, a single American soldier converted to Communism, he said, could arouse our feelings of anxiety and guilt over our own repressed ideological doubts. Hence, our eagerness to attribute such conversions to demonic machinations.

Dr. Bauer discounts the influence of Pavlov's theories in brainwashing tactics. The influence of Pavlov in Russian political and military affairs went out when Stalin came into power, he has found.

The effect of semistarvation on making men docile and willing to accept the will and judgment of others was reported to the same meeting by Dr. Josef Brozek of the Laboratory of Physiological Hygiene at the University of Minnesota.

Stresses, he said, even though they cannot strictly be classified as "torture" or even "maltreatment," may result in severe personality deterioration.

He reported very dramatic results obtained in a matter of only days when he kept subjects on a diet totally deficient in thiamine, or vitamin B1. Depression rose to frightening extents and the subjects also showed a substantial rise in hysteria and hypochondriasis.

Science News Letter, September 15, 1956

BIOCHEMISTRY

Fish Test Mental Drugs

► **GUPPIES** swimming in their fishbowls are likely to help the chemical attack on mental disease.

Studies showing that these little fish are a good tool for this purpose are reported by Drs. Doris L. Keller and Wayne W. Umbreit of the Merck Institute for Therapeutic Research, Rahway, N. J., in *Science* (Aug. 31).

The abnormal behavior can be permanently induced in the guppies by treating them with indole and LSD, the latter a chemical that induces hallucinations in humans. The guppies return to normal when given reserpine, tranquilizing drug widely used in treating human mental patients.

When guppies are put for one hour in a solution containing LSD and then transferred to water, they develop a characteristic vibrating behavior. They swim rapidly until they reach the wall of the bowl and then continue to swim, apparently unaware that they are not making any progress.

Goldfish under the influence of LSD tend to swim backward. Cave-fish do not move at all. All kinds of fish respond to other hallucinating drugs, such as mescaline and

yohimbine, but in a different and often less characteristic way than to LSD.

Serotonin, antagonistic to LSD in humans, had no effect on the guppy's response to LSD. The related chemicals, indole and tryptamine, however, had a marked effect. One hour's exposure to either of these, followed by one hour of LSD, markedly prolonged the LSD effect.

Abnormal behavior persisted as long as a week, sometimes for months, when the guppies were treated first with indole and then with LSD.

The abnormal behavior would alternate with periods of normal behavior, and consisted of normal behavior conducted in an exaggerated and abnormal manner. The courtship pattern of the guppies, however, was not disturbed.

Although reserpine made the guppies behave normally and remain so, chlorpromazine, another tranquilizing drug widely used for human mental patients, was very toxic to the fish. It did not make their behavior normal, perhaps because it had to be used in such small doses.

Science News Letter, September 15, 1956