

by the browns. Although they were not banished to the hills and did not form separate colonies as previous reports brought by Mr. Marsh indicated, infants that proved to be white upon birth were often killed and even now white Indian men are forbidden marriage altogether. White women are allowed to marry, but for one reason or another, nodoubt mainly because the brown women are far more attractive than the white, this is very rare.

The production of a new white race is therefore hindered since the largest number of white children would be produced by the marriage of white Indian men with white Indian women.

In spite of the artificial restrictions that customs impose, birth of white children to parents of brown or light brown coloration is so frequent that 50 to 100 times as many white are found among the San Blas as would be expected if the same ratio of one albino in 10,000, the usual figure among other races, was also true for the San Blas. Actually seven tenths of one per cent. or 138 out of the estimated 20,100 San Blas Indians are white, a remarkable percentage.

Thus the White Indians are dependent, under present conditions, upon the browns for their perpetuation.

Dr. Harris and Dr. Hrdlicka both say that the White Indians deserve a most thorough investigation from all points of approach.

INVISIBLE KILLER EATS DEADLIEST OF BACTERIA

Bacteriophage, that mysterious principle or organism, as yet unseen by any scientists though used daily by many, has been discovered in a new role as devourer of the deadliest of bacteria, by Dr. Paul F. Clark and Alice Shiedt Clark of the University of Wisconsin, and Dr. L. O. Dutton of the Methodist Hospital, Memphis, Tennessee.

The most dangerous of the disease-causing organisms which the three researchers have discovered to be a part of the bill of fare of the bacteriophage is known as the hemolytic streptococcus, or blood-dissolving chain-germ, because of its fatal action in the blood, causing one of the worst types of blood poisoning. It is also the causal organism of scarlet fever, and of one of the deadliest types of pneumonia.

Cultures of this organism in test tubes grow vigorously and make the nutrient fluid cloudy, but the introduction of a little material containing the bacteriophage soon makes it clear again, due to the death and disintegration of the disease germs. In Dr. Dutton's experiments, this clearing-up of the cultures took place in as short a time as thirty-six hours.

Bacteriophage, which literally translated means "bacterium eater", is a puzzling something discovered by the researches of F. W. Twort, a British scientist, and F. d'Herelle, a French Canadian. Bacteriologists are very much at odds over it, some claiming that it is a living organism, or at least a living substance, and

others maintaining that though it does some things that living beings do it does not have all the attributes of life.

If it has an organized body at all it must be exceedingly minute, for it has never been seen even with the ultra-microscope, and it can pass through the pores of a fine porcelain filter. Moreover, it is not killed by high temperatures that are fatal to all other known organisms. Yet when even a little of the fluid containing it is added to a culture of bacteria, the latter are soon dead, no matter how numerous they are nor how little there was of the bacteriophage to begin with.

It is this apparent power to multiply itself that sets the bacteriophage apart from even the most complex of lifeless chemicals, for lifeless things do not have the power of self-propagation. Much research on this puzzling stuff is now in progress, from which far-reaching effects in medicine and sanitation may result.

HARD ROADS SAVE TIRES AND GASOLINE

Poor roads may save taxes but the tolls they take on tires and in gasoline consumption and rubber bills, according to Prof. S. S. Steinberg of the University of Maryland and assistant director of the National Research Council's Highway Research Board.

Concrete or brick roads save tires according to tests which have been made to determine what kind of road wears out tires the least. In these tests, both cord and balloon tires are used at the inflation recommended by the manufacturers. The car is run up and down selected level stretches of different road types until the vehicle has covered a distance of 500 miles, after which the wear of the tires is determined. Thus far it has been found that tires wear the least on concrete and brick roads, the loss in weight of each tire on these surfaces being about one ounce for a 500 mile run.

"The tire wear on gravel roads is found to be from 2 to 7 times that on concrete or brick, while that on macadam varies from 10 to 50 times the wear on concrete or brick, depending upon the condition of the surface," Prof. Steinberg stated.

"The results also prove that front tires wear less than rear tires, the amounts being 50 per cent. to 75 per cent. less," he continued. "The relatively greater wear on rear tires is due to the bounding and spring of the rear wheels when traveling over rough surfaces. Experiments also show that when we start our cars from rest the rear wheels exert a downward kick on the pavement, ranging from 100 pounds to as much as one-half a ton. This blow must be resisted by the rear wheels and axle every time the vehicle is started from rest.

"Other investigations are being conducted to determine the relative consumption of gasoline and oil on different types of roads. As a result of these studies, it has been found that the increased consumption of gasoline required to travel by ordinary dirt roads costs the motorist as much as if he had to pay an additional tax of 24 cents a gallon on gasoline. Even good gravel roads impose