

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.

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#### 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

an additional expenditure equivalent to a 9 cent tax. Compared with the tax imposed by bad roads, the gas tax is paid for highway improvement is truly insignificant."

Artificial winds created by large electric fans driving through a tunnel large enough to hold a full sized automobile are used to study the effect of wind resistance. The velocity of these man-made winds varies from 10 to 40 miles an hour, thus producing the same effect as if a car were driven through still air at these speeds. By testing a number of makes of cars it has been found that when you drive at 35 miles an hour, you are using about 8 horsepower to overcome the wind resistance. If you reduce your speed to 25 miles an hour, you save five horsepower.

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#### BRITISH SCIENTISTS PLAN SCIENCE NEWS SERVICE

A British Science Service is now being planned by a committee of scientists appointed by a conference of representatives of leading British scientific and technical organizations. The British Association for the Advancement of Science and the British Science Guild joined in calling the conference to consider the advisability of establishing a news service to popularize science for the English newspapers and their readers. Resolutions were adopted approving the idea and the committee now at work was asked to recommend methods and organization. Sir. Richard Gregory, editor of "Nature", the leading scientific magazine of England, is chairman of the committee.

Encouraged by the success of Science Service in America, those sponsoring the project feel convinced that there is a place in British science and journalism for a similar organization to furnish authentic, yet interesting scientific news to the press. They realize, however, that there are problems peculiar to English journalism that must be met.

The organizing committee has been assured of the close cooperation of the American Science Service, now five years old, but the American organization, while cooperating and exchanging news, will have no financial interest in the new British organization. The movement for a British Science Service was inaugurated at a luncheon tendered by American Science Service to leading scientists at the Southampton meeting of the British Association for the Advancement of Science last August.

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#### "ONLY CHILD" NOT SO HANDICAPPED AFTER ALL

The only child in a family, so often pointed out as sure to grow up to be a horrible example, has found some one to stick up for him. Tests made in the psychological laboratory at Colgate University show that the only child gets as far as college, at any rate, without fulfilling the awful prophecy.

John C. Stuart, psychologist at Colgate who made the tests, says that the only