

ENGINEERING

Train of The Future Given Test Runs

AMERICA'S last word in rail transportation has been completed and is being tested.

It is a light-weight, high-speed, fully streamlined, air-conditioned, three-car, oil-electric powered train designed to carry 116 passengers, baggage and railway postoffice at a cruising speed of 90 miles per hour.

This is railway's most advanced effort to get back some of the fifty per cent. of passenger travel lost to private automobiles, buses and airplanes.

The entire train weighs only 85 tons, as much as one conventional Pullman car, and except for lack of sleeping facilities has the carrying capacity of a whole train made up of usual heavy-weight rolling stock and steam locomotive. It was built of aluminum and recently developed aluminum and steel alloys which attain the strength of the usual steel and concrete construction at one-third the weight.

The loaded streamlined train will be driven 90 miles per hour (top speed 110 miles per hour) by a 600 horsepower engine. A ten-car conventional train carrying the same load at the same speed would require 4,500 horsepower. The weight of this steam train would be 1,000 tons.

Light weight makes possible rapid slowing down and speeding up, and this is almost as great an advantage as high speed for reducing schedule time.

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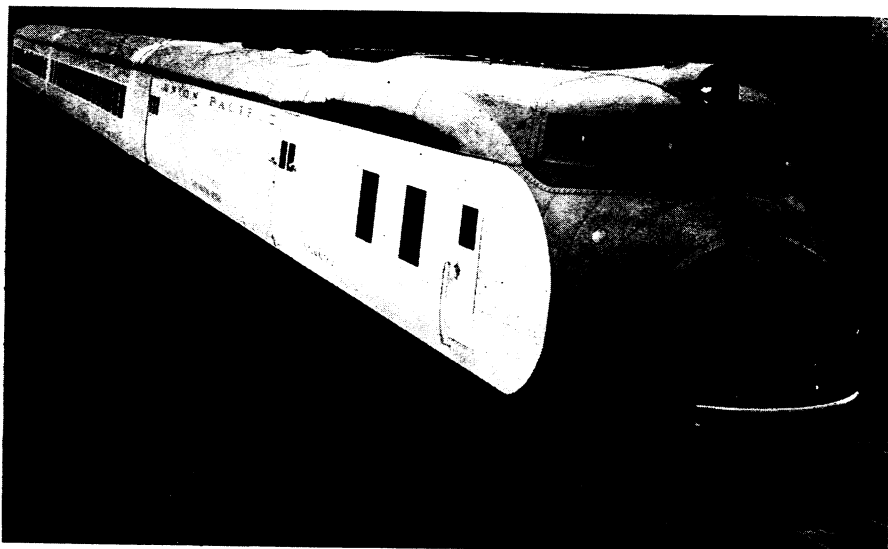
PALEONTOLOGY

Ancient Seaweed Reef In California Mountains

OVER HALF a mile above sea level, in the San Rafael mountains in Santa Barbara county, Calif., Dr. Marshall A. Howe of the New York Botanical Garden has found a great fossil reef formed ages ago by the growth of algae, or seaweeds. The limestone mass is about seven miles long and has a thickness of about 225 feet. It crops out at elevations ranging from 3,000 to 3,300 feet.

Besides the remains of lime-depositing seaweed, Dr. Howe reported, the reef contains remains of oyster shells, starfishes and other marine organisms.

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ANTHROPOLOGY

Blood Tests Relate American Indians to Siberian Tribes

EXTENSIVE blood tests carried out on Indians of British Columbia by Prof. R. Ruggles Gates of King's College, London, and Dr. G. F. Darby, bring fresh evidence showing close relationship of the American Indians to certain tribes found mainly on islands of the Siberian coast, such as the Giliaks of Sakhalin.

Scientists differentiate four main blood types called A, B, O and AB. The importance of these blood types was made evident during medical operations involving blood transfusion, since serious consequences or even death would result if blood of an individual of type A were transfused into an individual of type B. Type O will mix with either A or B, but A and B if mixed together will cause "clumping" or coagulation. A simple test with a single drop of blood quickly determines the blood-group to which a person belongs.

Practically all pure-blood American Indians of various tribes previously tested were found to belong to the blood-group O. In this they differ from Mongolian peoples on the mainland of Asia and Japan, who have a high proportion of B type.

Haida, Tsimshian, and certain other Indian tribes of British Columbia have been considered by anthropologists to

be more like Mongols in appearance than other American Indians. Prof. Gates and Dr. Darby now show that in blood these tribes belong practically all to group O. Out of 300 individuals tested, only two were B and 12.7 per cent. A. And most of the latter were clearly of mixed origin.

Thus, the Mongol-like Indians of Canada's northwest are found different in blood type from the mainland Asiatics, but like certain tribes of the Siberian coast and Sakhalin Island.

These findings support the view of the American anthropologist, Dr. Ales Hrdlicka of the Smithsonian Institution, who has shown that various racial remnants in northern and eastern Asia and neighboring islands resemble the Indians so strongly as to be often indistinguishable from them in appearance. Such are the Giliaks and Samoyeds.

It would be highly desirable, Prof. Gates says, to determine the blood characteristics of all such tribes, before mixed marriages make it impossible to determine exactly their racial origin.

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Soil erosion has so stripped away the fertile top soil in the Missouri-Iowa corn belt that in many sections lands yield only 15 or 20 bushels an acre even in good years, instead of the 75 bushels they once produced.