

## Driving a Half Million Horses

By EDWIN E. SLOSSON

I hold in my hand as I am writing the tooth of a horse. Yes, that is literally true, for I am so skilful on the typewriter that I can run it with two fingers of one hand with an occasional punch with the left thumb, and the tooth is not attached to the horse. In fact, the owner of the tooth has been dead for some 25,000 years. For this is a relic of one of the earliest horses made use of by man. It was picked up last summer at Solutre, in France, where tons of bones of a hundred thousand horses are piled up about a prehistoric camp of two acres' area like tin cans about a frontier town. They are alike the debris of the kitchen. Yet before the Solutreans had deserted this site they had perhaps learned how to utilize the energy of the living horse, for an engraving has been found of the outline of a horse with some scratches on his head that look like a halter.

This then marks about the beginning of what we might call the Equine Epoch of human history, which is visibly drawing to an end in our generation. Look down a street of any of our large cities and you will rarely see a solitary horse struggling to hold his place in the throng of his mechanical rivals.

For the patient beasts of burden which primitive man trained to work for him, the horse, the ox, the ass, the elephant and the camel, are neither strong enough nor speedy enough to meet the needs of modern man. Nor are they tractable enough. "The horse is a vain thing for safety," said the Psalmist. That is because the horse has a will of his own. So has the mule. But machinery behaves more rationally than animals because it is the offspring of man's reason, created expressly to do his will. Being made after the manner of man's own mind, it is more completely under his control, provided he knows enough to manage what he has made.

To drive a team of six or eight horses requires a man of peculiar strength and skill. Yet the other day I saw a man driving a team of nearly 500,000 horsepower with the greatest of ease. It was in the switch room of the Niagara power-house. In the middle of the clean and empty room was a desk at which sat two men. One was reading a paper so I don't count him. The other sat quietly and for the most part idly, though keeping a watchful eye on the dials, signals and switches that encircled him

on the walls. Occasionally he touched a button or pulled a handle, jotted down a figure on a sheet of paper on the desk or took up the telephone. He looked more like a bank president than a "workingman." He must have to do a daily dozen to the tune of a radio in order to get enough exercise. Yet he had under his thumb the highest powered prime-movers in the world, three hydro-electric units capable of carrying a load of about 84,000 horsepower each.

Only seven men are required to run the entire plant, but fourteen are needed to show visitors around. These turbines and dynamos with their few attendants distribute light and power to an area of two million people. Such an example of individual control and democratic distribution would be impossible to accomplish with any number of horses—or elephants. It is an epitome of human progress, this passage from the hundred thousand horses that the Solutreans ate to maintain their muscular energy, on up to the five hundred thousand horsepower waterfall that this man employs to replace human energy.

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### MEDICINE

#### Babies And Tetanus

Tests made at the Pasteur Institute show that babies may be protected from tetanus infection at birth by administering prenatal doses of tetanus anatoxin to the mother. The immunity of the mother is transmissible to the infant, according to Dr. Emile Roux, director of the Pasteur Institute, but in cases when the danger of infection is severe a greater degree of immunity is produced by injection directly into the body of the new born infant.

The anatoxin was perfected by Dr. G. Ramon, also of the Pasteur Institute, and is similar to diphtheria anatoxin. The experiments carried out by Dr. Roux's students are expected to find greatest application in the tropics, particularly among the native population in Africa, where the infant mortality from a form of tetanus peculiar to new born children runs into large figures. In the days before modern notions of cleanliness and sanitation gained prevalence, the proportion of deaths in South America and in southern United States from this cause was appalling.

Further application of tetanus immunization to the stock breeding industry may be of value.

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### Expensive Foods Preferred

Are Americans becoming a nation of epicureans, fastidious in their demand for choice and expensive foods? This trend is seen by Holbrook Working, of the Food Research Institute at Stanford University, who reports that "the most striking and significant characteristic of the changes in food consumption since 1919 is the tendency to increased consumption of the more expensive foods and to decreased consumption of the less expensive foods."

Mr. Working, who has been investigating the amount of flour consumed by each American, has found that our flour diet has fallen off 21 per cent from 1904 to 1923 when the last census figures were tabulated. But if we eat less bread, we make up the deficit with other foods. More meat and choicer cuts of meat are going into the American market basket, with more sugar, dairy products and vegetables.

The factors which have hit the flour barrel below the belt are complex. Mr. Working cites the greater prosperity of the laboring man which enables him to buy a greater variety of food; also improved facilities for handling and transporting perishable foods; as well as the tendency to less heavy manual labor in this country, which means that quantities of plain bread are no longer so important as a low priced standard fuel to supply energy. Still another factor is the tendency toward a decline in total food consumption in this country, which indicates that a slightly smaller food ration is becoming the rule.

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### GENERAL SCIENCE

#### Fight Anti-Evolution Law

Mississippi's anti-evolution statute, adopted last spring on the Tennessee pattern, will be challenged by the American Civil Liberties Union, the organization which undertook the defense of John T. Scopes in the famous Dayton trial. Arthur Garfield Hays, an active member of the corps of lawyers who represented Scopes, states that the Union has secured the services of a lawyer in Mississippi who will apply to the Federal Court for an injunction restraining the civil authorities from enforcing the law on the ground that it is unconstitutional. As soon as arrangements can be made with a citizen of the state who will be willing to assume the initiative in bringing the suit, the action will be started.

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