

secondary battery based on one of the light metals such as lithium, sodium, magnesium, or calcium with a nonaqueous electrolyte." He added that this would be no easy task but, if successful, it would pay great dividends for other electrical storage systems as well as for electric automobiles.

Mr. Reid's article concluded that regenerative braking, traction motors specially designed for automobiles, controls, and auxiliaries all will need considerable development. In each of these areas, research could be justified leading to a final, practical prototype of an electric automobile.

NEW BATTERIES DEVELOPED

Within the past year, two new types of electric storage batteries have been announced. In December 1965, the Edison Electric Institute and General Dynamics announced a prototype zinc-air battery expected to be ready for testing soon. In February of this year Bulton Industries, Inc., announced the successful demonstration of a lithium battery that will be subjected to further development work. During the past decade, the traditional lead-acid battery found in every automobile and the industrial nickel-iron battery developed by Edison have been joined by the nickel-cadmium, nickel-silver, silver-zinc, silver-cadmium and mercury batteries. Developmental work also is going forward on sodium batteries.

An article on developments in electrochemical energy-conversion devices, batteries, and fuel cells, by Dr. M. Barak of Chloride Technical Services, Ltd., Swinton, Manchester, England, summarized recent progress in England, where battery-powered delivery trucks are extensively used, and where passenger vehicles are being designed for battery operation.

Dr. Barak concludes that development work must continue in the direction of lightweight fuel cells with higher outputs, lightweight traction motors, and possibly high-speed transmission before fuel-battery electric cars can become a practical reality.

He reported that over 100,000 electrically propelled vehicles are in operation in Great Britain, including industrial trucks used to transport materials and products in factories, commercial vehicles, mining locomotives, and so on.

A MILLION ELECTRIC CARS PREDICTED

The Electricity Council in Britain more recently predicted that within 10 years a million battery-driven automobiles will be in operation. There are four small electric cars being tested on London streets as a result of the Council's campaign to promote the electric vehicle—two British Motor Corp. "mini" cars, with the gasoline engine replaced by batteries and an electric motor, and two which are specially designed for electric operation by Scottish Aviation and Peel Engineering, according to a dispatch from London which appeared recently in the Chicago Tribune.

The Scottish Aviation model, called the Scamp, and the Peel car, called the Trident, are expected to cost less than \$1,000 when mass produced. They can go only about 30 miles between recharging, at a top speed of about 40 miles an hour. Batteries weigh about 700 pounds in the two-passenger models.

The Electricity Council predicted that eventually parking meters