

those in which the activity of the support was varied by altering its composition. Catalytic reaction tests were devised for measuring each of these activities separately, and the results indicate that above a certain critical platinum activity the reforming power of the catalyst depends on the "acidic" activity provided by the promoted support.

Pumice-supported palladium, rhodium, platinum and iridium were used by Bond and

Addy (7) in an investigation into the reaction of cyclopropane and propane with deuterium. The order of activity for both reactions was found to be Rh > Pt > Pd; however this may have no basic significance since it was measured per unit weight of metal instead of per unit surface area. Preliminary results were obtained for iridium and its behaviour was expected to be closely similar to that of rhodium.

Cathodic Protection of Naval Vessels

In a paper on "Navy Experimental Work with Cathodic Protection" presented to the National Association of Corrosion Engineers (*Corrosion*, 1956, 12, 18-24), Irving D. Gessow describes the work done by the United States Navy Bureau of Ships on the cathodic protection of ships' hulls. Impressed current systems using graphite rod anodes are satisfactory for the external protection of inactive ships, and may increase the docking interval from five to seven or eight years.

No clear evidence is yet available as to the economic advantage of the general use of cathodic protection for active ships, but work has been concentrated principally on destroyers and submarines, where the pitting of plates may have serious consequences. Both sacri-

ficial and impressed current systems have been fitted; magnesium anode sacrificial systems are relatively heavy and require replacement in two years or less while impressed current systems with either graphite or platinum-clad anodes are lighter and more permanent but are higher in first cost. One destroyer and one submarine have been fitted with platinum-clad anodes. The submarine installation appears very successful; results from the destroyer installation were not available at the time the paper was prepared, but it is understood that an inspection of the destroyer after fourteen months of service showed that the anodes were clean and bright and apparently performing satisfactorily, while in general the hull was in excellent condition.

One of seven platinum-clad anodes installed on the hull of a destroyer. Each anode has a platinum sheath 0.005 inch thick on a silver alloy rod 50 inches long

