pseudo-ternary systems now becomes apparent. The merit or demerit of any catalyst can largely be determined from the result of only one experiment performed under standard conditions. Consider the extreme cases shown in Figs. 5 and 6: through the one experimental point, lines are drawn through the points M and N. All the possible hyperbolas which could result from variation of any one of the operating conditions must lie within the shaded areas. Thus in Fig. 5, where the catalyst is Al_2O_3 alone, the maximum possible oil yield at 100 per cent conversion is about 30 per cent and S is about $\frac{1}{2}$, whereas at the other extreme in Fig. 6 (where the catalyst is platinum on alumina containing chlorine) the maximum oil yield at 100 per cent conversion is greater than 90 per cent and S is infinity. The standard operating conditions are: 435°C, 51 atm., WHSV = 0.97 and a H_2/wax molar ratio of 94. Therefore on the basis of only one experiment it is confidently predicted that variation of any of these conditions will never result in a highly selective performance by Al_2O_3 alone, whereas, for example, lowering the temperature with the $Pt-Al_2O_3-Cl$ catalyst may cause it to show a high selectivity.

On the basis of the results shown in the second paper the order of expected selectivity for various catalysts is $Pt-Al_2O_3-Cl > MoO_3-Al_2O_3-F = CoMoO_4-Al_2O_3 > Pt-SiO_2-Cl > Al_2O_3-Cl = Al_2O_3$. The authors believe the method can be developed into a more general, efficient means of screening catalysts and evaluating reactions in which selectivity is involved.

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Platinum-coated Titanium Anodes

POSSIBILITIES IN INDUSTRIAL ELECTROLYSIS

The important discovery that a thin layer of platinum applied to the surface of titanium provides an economic non-consumable electrode was reported by J. B. Cotton of ICI Metals Division in *Platinum Metals Review* in April. The titanium acts as a bulk carrier of current, while the platinum provides an escape path for the current to enter the solution; small corrosion currents are quickly stifled as polarisation ensues. The platinum coating need not be impervious or continuous, and the electrodes will carry high anodic current densities in many types of solutions.

Commenting further on this development in the June issue of *The Industrial Chemist*, R. J. Watkins, also of ICI Metals Division, draws attention to the advantages of platinum-faced titanium anodes by comparison with carbon anodes in terms of much higher current density limits in many types of electrolytes and of the lightness and better mechanical properties of titanium.

Trials are already taking place with these new anodes for cathodic protection of ships and other marine structures by impressed current techniques, but a further most promising development lies in their use in industrial electrolytic cells for the manufacture of chemicals. In addition investigations are in hand on the possibility of employing them for electro plating, electro-descaling and electro-reduction.