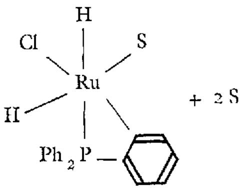
Either *B* or *C* can now undergo ligand-hydrogen exchange through a ruthenium (IV) complex such as *D*.

$HCl(S)_3(Ph_3P)Ru(II) \rightleftharpoons$



(6)

(*D*)

The Ru(IV) complex (*D*) has all the features required of a catalyst – it is a hydrido-metal complex with a vacant ligand site (displacement of S by olefin is facile).

The interconversion of the species involved in these equilibria is very rapid because all triphenylphosphine molecules originally present in the complex, and any added to the system, exchange up to six hydrogen atoms. Further work will examine whether catalytic isomerisation and ligand exchange are closely linked, and if so whether they proceed via a common intermediate. Some recent experiments have shown a decrease in the reactivity of the complex with a decrease in the number of phenyl groups on the phosphine. For example, the complex $Cl_3(Et_2PhP)_3Rh(III)$ is much less active as an isomerisation catalyst than $Cl_3(Ph_3P)_3Rh(III)$. This indicates that the two reactions discussed above are closely related, and we are hoping that a detailed formulation of the catalyst will be one outcome of this work.

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Glass Sheathed Rhodium and Iridium Filaments

Molten metals and alloys can, when contained within a viscous glass tube, be drawn directly to exceedingly fine wires. For several years this technique has been largely confined to copper and copper base alloys which are conveniently handled in borosilicate glass, this remaining as an integral glass skin in place of the conventional organic enamel insulation.

Few attempts have been made to draw fine refractory metals in this way because of the shortage of suitable glasses. A recent report from the Frankfurt branch of Battelle, (K. H. Grunthaler, J. Nixdorf and H. Rochow, *Metall*, 1969, **23**, (4), 310–314) indicates, however, that this problem may now have been solved. Rhodium wire drawn direct from the melt had a blemish-free surface and at diameters of the order of 15 microns retained sufficient ductility for subsequent deformation. The higher temperatures needed for iridium production necessitated improved induction heating equipment.

The technical problems associated with the selection and/or development of a glass capable of behaving viscously and yet containing molten rhodium at temperatures above 2000°C are not discussed in this paper which, surprisingly enough, does not mention whether the residual glass skin adhered to or spalled off the solidified rhodium wire.

A. S. D.