studied up to the present time.

Our investigation was carried out in an oscillating stainless steel reactor of 150 ml capacity. After charging the reactor with 30-35 g of methylcyclopentane hydrogen was introduced from a cylinder or through an intensifier (for initial pressures above 150 atm), after which the reactor's electric heater was switched on. The set temp. was controlled by a thermocouple, inserted into the reactor, and was kept const to within $\pm 2^{\circ}$. At the end of the expt.. the reactor was cooled. From control experiments at moderate temperatures it was established that the loss on charging the reactor did not exceed 2 g.

The methylcyclohexane we used had the following physical properties: b.p. 71.6° (at 757 mm); d_4^{20} 0.7485; n_D^{20} 1.4098. The corresponding literature values /7/ are: b.p. 71.81° (at 760 mm); d_4^{20} 0.74860; n_D^{20} 1.40969.

After the reactor was unloaded, the liquid reaction products were distilled through a rectification column with the equivilant of 30 theoretical plates. The following fractions were generally recovered: below 45° (fraction 1); $45\text{-}48^{\circ}$ (fraction 2); $48\text{-}51^{\circ}$ (fraction 3); $51\text{-}60^{\circ}$ (fraction 4); $60\text{-}70.2^{\circ}$ (fraction 5); $70.2\text{-}72^{\circ}$ (fraction 6); and $72\text{-}80^{\circ}$ (fraction 7).

At sufficiently high hydrogen pressures (not less than 500 atm at 440°, or less than 700 atm at 450°), the volatile fractions contained 1 to 3% unsaturated hydrocarbons. Under these conditions a small residue (n_D^{20} 1.4250-1.4290) remained after distillation, evidently consisting largely of cyclohexane, the isomerization product of methylcyclopentane. The cyclopentane