line. But, it is believed, that on the whole no injustice is done by the distortions which sometime occur in the application of the method of applying unifrom scale of pressure and volume.

In Fig. 4 are shown the combined diagrams from the high, intermediate, and low pressure cylinders of the triple expansion engine at Sibley College. The saturation curve drawn as already explained for each diagram separately is given, and the corresponding quality is marked on the expansion curves for various points in each cylinder. The curves of quality are shown graphically to the right of the diagram. The engine, in this case, was steam jacketed with high pressure steam on all the cylinders and in both receivers. The effect of the jacket steam on the quality is very marked as is shown by reference to the expansion curve of the low pressure cylinder. It will be noted in this case that the figures indicate in some stages a quality exceeding one hundred. This number should be considered in its true significance as representing the ratio of heat to that in the same weight of dry and saturated steam rather than as representing the per cent of dry steam. This can be taken merely as representing a superheated condition without a specific statement of the degree of superheat. I am well aware that there may be some objections to the use of the word "quality," as cover this case, but its convenience is certainly very great as it saves a laborious calculation, which is of no value when completed.

The peculiar form of the quality curves shown in the figures as pertaining to the high and intermediate cylinders seems very generally true for the usual conditions of the steam engine. In a great many trials that we have considered, the curves have the form shown in each case.

The point of contraflexure in these curves usually occurs some little distance after the cut-off and indicates, of course, the position in the cylinder where the quality has become constant and condensation has ceased and re-evaporation has begun. The peculiar curvature occuring after re-evaporation begins is no doubt largely due to the rapid motion of the piston when near the centre of the stroke and to its very slow motion near the end.

These few remarks serve to show in a general way the character of the analysis and the results which may be obtained by using a saturated curve as explained. I think it will be con-