

III. *An Account of an Experiment, made to ascertain the Proportion of the Expansion of the Liquor in the Thermometer, with Regard to the Degrees of Heat.* By Brook Taylor, LL.D. R. S. S.

IT has, I believe, been generally supposed, tho' not proved, that the Expansion of the Liquor in the Thermometer, is proportional to the Increase of Heat. To determine this Matter with Certainty, I made the following Experiment.

I provided a good Linseed Oil Thermometer, which I marked with small Divisions, not equal in Length, but equal according to the Capacity of the Tube in the several Parts of it, as all Thermometers ought to be graduated. I likewise provided two Vessels of thin Tin, of the same Shape, and equal in Capacity, containing each about a Gallon. Then (observing in every Trial, that the Vessels were cold, before the Water was put in them, as also that the Vessel I measured the hot Water with, was well heated with it) I successively fill'd the Vessels with one, two, three, &c. Parts of hot boiling Water, and the rest cold; and at last with all the Water boiling hot; and in every Case I immersed the Thermometer into the Water, and observed to what Mark it rose, making each Trial in both Vessels for the greater Accuracy. And having first observed where the Thermometer stood in cold Water, I found that its rising from that Mark, or the Expansion of the Oil, was accurately proportional to the Quantity of hot Water in the Mixture, that is, to the Degree of Heat.

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