is found to pass through a maximum as the distance of the ring from the x-axis increases. Our theory identifies the weight of this maximum volume below the surfaces with the maximum pull on the ring as found experimentally. Harkins, Young and Cheng plot a function of this maximum pull, R^3/V, where R is the radius of the ring and V is the volume of the liquid equivalent to the weight measured by this pull, against γ/p, a curve for each value of $\frac{R}{r}$, where γ is the surface tension of the liquid as determined by a reference method, and p is the pull on the ring divided by $4\pi R$. We show that γ/p is equal to $2\pi\overline{R}/\overline{V}$, a ratio which does not involve the determination of γ by any other method. Now the correction curves found by Harkins and his collaborators are identical with the curves calculated by us from the maximum volume below the surfaces and plotted as indicated, *i.e.*, $\overline{R}^3/\overline{V}$ by $2\pi\overline{R}/\overline{V}$ for a particular $\overline{R}/\overline{r}$. Our calculated curves are probably not as precise as the experimental ones because of the lack of sufficient calculated surfaces and the errors due to the consequent interpolations. But the excellent agreement that is obtained shows that the same values of γ, within the small error of both methods, are obtained whether the relative corrections of the Harkins procedure or the absolute corrections as calculated by us are used. Thus the ring method may now be considered an absolute one, since by it surface tension may be determined without reference to any other procedure. A detailed discussion of this theory is to be published soon.

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PROLONGED EFFECT ON DIGITALIS PURPUREA OF EXPOSURE UNDER ULTRA-VIOLET-TRANSMITTING GLASS

FOR the past three years, a study has been made of the effect produced upon *Digitalis purpurea* L. by exposure in the greenhouse stage under an ultra-violet-transmitting glass. *D. purpurea* is well known as the common garden foxglove, and is also a very important medicinal plant. In 1927 and again in 1928, seedlings were grown about three months under an ultra-violet-transmitting glass, with controls under ordinary glass in an adjacent section of the same greenhouse. Thus it was possible to eliminate differences of temperature, moisture and other factors.

Both series were then grown in adjacent beds under open field culture conditions; and in each year, as reported[1] at the Nashville and New York meetings, the treated plants proved considerably superior to their controls in the content of the characteristic active principles.

The final report now to be given concerns the history of the 1928 plants during their second season of growth, this species being biennial. By careful mulching they were brought through the winter in good condition. Our capricious Michigan weather in 1929 made it necessary to water the plants last summer throughout a season marked by severe drought; but all were treated the same, and had attained the normal early blooming stage at the time the samples were harvested.

For many years it was held that second-year leaves were more potent than first-year herbage but eventually this idea was refuted. We now know from numerous tests that greater activity occurs during the first year of a digitalis plant's life. Therefore, it is to be noted that the actual percentages now given, obtained from second-year growth, are not as high as those previously reported from first-year leaves; but the relative values are again confirmed; the treated plants have the higher potency. Exact values are as tabulated below, all methods having meticulously followed those heretofore used.

Treated group.....	250 per cent. of standard
Control group.....	165 per cent. of standard

Increase of potency, 51.5 per cent.

It thus seems clearly established that *D. purpurea* is benefited permanently by exposure during seedling development under glass that affords an increased amount of ultra-violet radiation. Where digitalis passes its whole cycle under natural, out-of-door conditions in a mild climate, this fact may not be of great significance, but for successful culture of high-grade plants in Michigan we must depend in large measure upon indoor protection during the seedling stage. It is gratifying, therefore, to know that modern methods of glass making have increased the efficiency of greenhouse propagation.

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[1] A. McCrea, SCIENCE, 67, No. 1732, 1928; 69, No. 1798, 1929.

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