den peas; made experiments showing Mendelian inheritance of coat-characters in rabbits (Angora coat, albinism, gray coat, Dutch markings); and made experimental crosses between four breeds of poultry, involving a large number of character differences in plumage, comb and other morphological characters. He established an experimental farm at Burbage, where he was on more than one occasion host to visiting scientists from British Association meetings or international congresses. Here he conducted breeding experiments with horses, showing among other things that chestnut color is a Mendelian recessive to bay. He also demonstrated Mendelian inheritance in the fruit colors of tomatoes, red, yellow or white.

At Burbage Hurst made a valuable study of eye-color in man, making a personal examination of the eye color of entire families, parents and children, and thus securing data of unrivalled accuracy and value. He established for the first time the true nature of blue eyes, a Mendelian recessive character, in which the iris lacks pigment on its anterior wall. Other human studies made by Hurst relate to hair color, skin color, left-handedness, musical ability, etc. He made extensive studies of egg-production in poultry crosses, but these, like the horse-breeding experiments, were largely terminated by the war. His principal post-war studies relate to the genus rosa, in which he regards polyploidy, species hybridization and apomixis as important agencies in the production and spread of new specific or subspecific forms.

Truly Hurst's work forms a remarkable record of varied and productive activity, in a period in which genetics came into existence, a genesis which Hurst personally saw and of which he was a part. Long may his fruitful labors continue.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

THE MEASUREMENT OF SURFACE TENSION BY MEANS OF A CHAINOMATIC BALANCE

DURING investigations on the penetration of killing agents into weeds, it became necessary to determine the surface tension of the fluids used. No apparatus was available for these tests, so use was made of a Chainomatic balance as a modification of the standard ring method of determining surface tension. Counterbalanced wires were hung from the lower pan hooks on the beam ends of the balance, the left-hand wire terminating in a small platinum wire bent into a circular loop of known size, at right angles to the line of pull. The scale pans were left on the balance and an old dissecting microscope stand was used to carry the vessel of liquid to be tested. The foot of this microscope was milled out so as not to touch the oscillating scale pans and an arm and tray were soldered to the rack and pinion to hold a vessel of the liquid to be tested.

In using this device the balance beam is lowered and the vessel of the liquid raised by the rack and pinion of the dissecting microscope so that the surface of the liquid comes in contact with the wire loop hanging from the balance. Care must be used in keeping the wire loop clean. By adjustment of the rack and pinion, equilibrium is established with the pointer needle at zero. The sliding scale of the "Chainomat" is then lowered slowly until the film holding the loop breaks. The reading of the scale indicates the weight necessary to break the surface film. From this and the known size of the wire loop the dynes tension may be calculated.

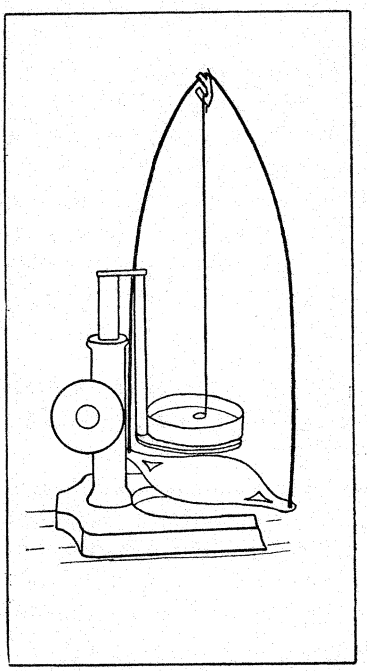

Diagram showing use of old dissecting stand and Chainomatic balance in measuring surface tension.

This instrument has been used quite successfully to date in making surface tension readings. Its cheapness and ready convertibility, coupled with the fact that quite small quantities of liquid may be tested, recommend its use where other methods are not available.

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