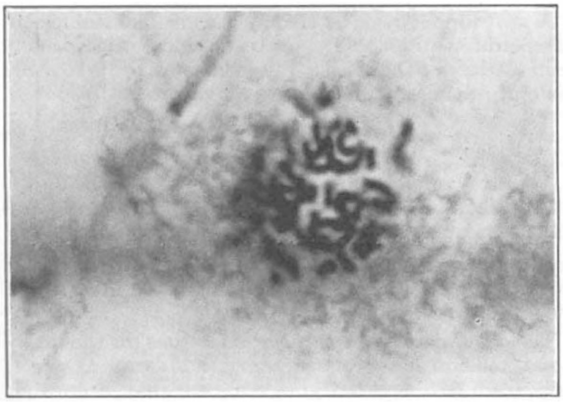
Golden Beauty of *Zea Mays* $2n = 20$, $2B$ as the male parent, I obtained a single seedling. This plant has received the expected 40 chromosomes from the *Saccharum* parent and 12 chromosomes from the male parent *Zea*. Amongst these the VI nucleolar chromosome of *Zea Mays* is recognizable.



Photomicrograph of the chromosome complex of the hybrid between *S. officinarum* (Vellai) and *Zea Mays* (Golden Beauty) showing the single VI nucleolar chromosome and the *B* chromosomes received from the maize parent.

The hybrid resembles the *Saccharum* parent more closely as we should expect from these chromosome contributions, but it has the characteristic epidermal hair found on the upper side of the leaf in *Zea Mays* and related genera. The cross, however, is dwarf in habit and although it has tillered freely, has not produced flowering canes after twenty-two months. It lacks the vigour and early maturity found in *Saccharum - Sorghum* hybrids.

This cannot be due simply to the remoteness of the cross since the *Saccharum-Bambusa* hybrids are very vigorous. It must rather be due to the inequality of the contribution of the polyploid and diploid parents. The same consideration is likely to vitiate the fertility of the hybrid. The occurrence of these remote crosses in experiments indicates that the degree of anastomosis in the ancestry of polyploid species may be much greater than is commonly suspected.

E. K. Janaki Ammal.

Sugarcane Breeding Station,
Coimbatore,
South India.

[1] Mangelsdorf, P. C., and Reeves, R. G., "Hybridization of Maize, *Tripsacum* and *Euchlæna*", *J. Hered.*, **22**, 327–343 (1932).
[2] Thomas, R., and Venkatraman, T. S., "Sugarcane—Sorghum Hybrids, *Agri. J. India*, **25**, 164 (1930).
[3] Venkatraman, T. S., "Sugarcane—Bamboo Hybrids", *Ind. J., Agri. Sci.*, **7**, Pt. III, 513 (1937).

Vowel Vibrations and Vowel Production

The dark band in Fig. 1 is the reproduction of the speech track of a vowel (*a* in *hatch*) on a sound film. The serrated upper edge is the registration of the vibratory movement of the particles of air, that is, it is the curve of vibration. It is seen to consist of a series of portions—vibratory 'bits'—each of which begins strong and fades away to zero. Such a curve is the registration of a free vibration aroused by an impulse that is not a vibration. The glottal action consists of the repeated opening and shutting of the glottal slit. A puff of air is sent into the vocal cavity at each opening movement; each puff sets the air in the cavity into vibration.

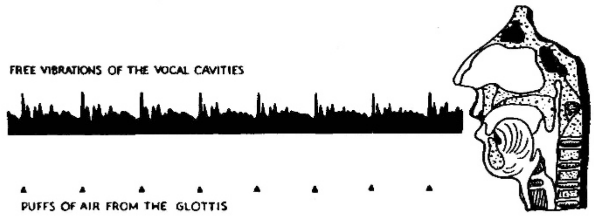


Fig. 1.

The 'profiles' in the vibratory bits are different for the different vowels (Fig. 2). The vocal cavity, therefore, has a different form in each case. The progressive change in the profiles of a vowel indicates that the vocal cavity changes its form constantly.

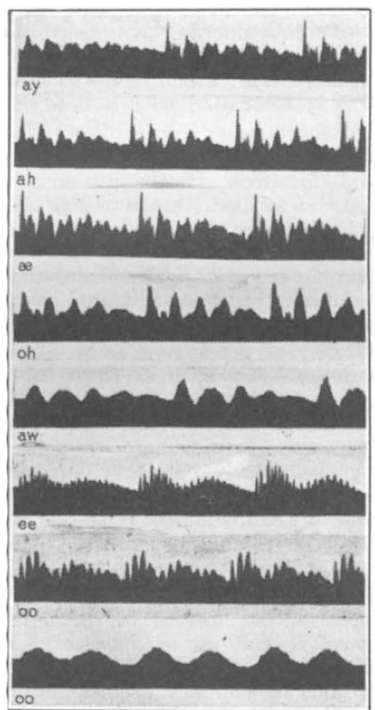


Fig. 2.

Every element in a vibratory bit has its characteristic rate of fading (logarithmic decrement). This is always large and never zero. Forced—or resonance—vibrations do not fade; their logarithmic decrement is zero. The vowel vibrations are, as the tracks show, not forced vibrations; they cannot have been produced by resonance.

E. W. Scripture.

Phonetic Laboratory,
62 Leytonstone Road,
London, E.15.