type were noted; but these formed only an infinitesimal fraction of the bulk of this new strain. It is possible that the change from variegated to non-variegated is reversible and results from rearrangement of chromosomal material and not from allelic differences, that it is in fact a position effect. From the practical point of view, by maintaining the selection pressure in favour of self-coloured testas, it should be possible to maintain this strain indefinitely. Varieties with red testas are well known in commerce, for example, Valencia, and this strain should not therefore be under any disadvantage in this respect.

It was noted in the course of seed selection in Mani Pintar stocks that a number of brown kernels were being discarded. On closer inspection some of these russet-brown kernels were found to be variegated. Variegation of brown kernels has not been reported by Gregory, Smith and Yarbrough[1] or by Bunting[2]; this character has re-appeared in subsequent generations. The remaining russet-brown non-variegated kernels were planted, and at harvest proved to be a mixture of material which showed definite affinities to Mani Pintar and other material which appeared to be present as a result of contamination.

It is now apparent that the brown-seeded material of Mani Pintar origin, both variegated and non-variegated, is of a hybrid nature. Segregation is occurring within single plant progenies for a great number of morphological characters. Variegated red and white kernels have appeared in pods of some progeny which are quite unlike those of the original Mani Pintar strain.

This work is continuing, and it is hoped to present elsewhere a more detailed account at a later date.

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[1] Gregory, W. C., Smith, B. W., and Yarbrough, J. A., "The Peanut' the Unpredictable Legume" (National Fertilizer Association, Washington, D.C., 1951).
[2] Bunting, A. H., *Empire J. Exp. Agric.*, **23**, 158 (1955); **26**, 254 (1958).

Interspecific Hybrids of *Lycopersicum*

IN a recent issue of *Nature*, H. Nirk[1] described the achievement of fertile interspecific tomato hybrids by the reciprocal grafting of parent plants prior to hybridization. The technique has an older history than is suggested by Nirk's communication. It was used on a large scale more than thirty-five years ago by the Russian plant breeder I. V. Michurin, who termed it "vegetative approximation".

In a report[2] published in 1925 Michurin commended his own innovation in the following terms:

"My original method has been elaborated on the basis of the considerable changes that the properties of a small part of a young plant (a cutting) undergo when grafted on to the crown of a different variety. These changes take place under the action that the entire root and leaf system of the latter exerts upon a very small part of a young plant that is as yet rather unstable in respect to various changes . . .

"I use this vegetative change as an auxiliary means of approximating two different plant species so as to obtain a sexual hybrid by crossing them in the future.

"This is the secret of my success in obtaining interspecific plant hybrids, such as crosses between the apricot and the plum, sweet and sour cherry, *Pyrus salicifolia* and the local cultivated pear varieties; between the various species of walnut, the various species of grapes, the various species of quince; between the pear and the mountain ash; between distant species of apple; between species of currant and other small-fruit shrubs; between pumpkins and muskmelon, musk and watermelon; between the various species of lilies; between Physalis and tomatoes, etc."

Michurin's published descriptions do not in general lend themselves to exact scientific evaluation, so that it is not easy to say how many of his successful crosses were in reality facilitated by the 'approximation' procedure. On the other hand, at least one claim for the method made by members of his school[3] has been independently confirmed. Hall[4], working in Sweden, was able to increase the yield of wheat-rye hybrids from 2–3 per cent to 14 per cent, by grafting the embryo of the future maternal parent (wheat) on to rye endosperm.

It is to be hoped that the new results reported by Nirk will once more direct the attention of geneticists and embryologists to a challenging, and still unexplained, phenomenon.

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[1] Nirk, H., *Nature*, **184**, 1819 (1959).
[2] English translation on pp. 161–172 of "I. V. Michurin: Selected Works" (Foreign Languages Publishing House, Moscow, 1950).
[3] Pissarev, W. E., and Vinogradova, N. M., *C.R. Acad. Sci. U.R.S.S.*, **45**, 129 (1944).
[4] Hall, O. L., *Hereditas*, **40**, 453 (1954).

DR. MICHIE is of course correct in his statement regarding the claims of Michurin *et al.* in respect of this approach to interspecific hybridization. However, irrespective of whether the results of the present investigation furnish corroborative evidence of Michurin's claims, their immediate significance lies in their application in the field of practical plant breeding, particularly in relation to the hybridization of *Lycopersicum* species.

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PSYCHOLOGY and PSYCHIATRY

Cross-Modal Transfer of Training in Monkeys

IN a previous communication[1] the question was raised whether monkeys that have been trained to discriminate at a high level of confidence between two dissimilar solid forms by vision (in the light) will maintain their accuracy of discrimination when objectively the same cues are later made available for discrimination only by palpation (in the dark). The absence of cross-modal transfer between visual and tactile shape discriminations was reported for four unoperated monkeys. Support of this finding was forthcoming from the study of seven additional animals with brain lesions[2].

It was decided to extend this investigation to another sensory modality, and to look for cross-modal transfer between pairs of visual and auditory rhythms.