It was specifically this section of the chapter that made this writer especially cautious and on guard when he drafted the recently published article, so as not to include words or phrases that could be misinterpreted and that would present impressions for which he had no data. And nowhere in the article was it intimated that this was a new discovery of the phenomenon. That was clarified in the first paragraph.

Undue credit is given this author for demonstrating the phenomenon by polarized light. This technique was obtained from previous publications (*6, 7*).

The sole purpose of the article was to show the relationship of the distance between the explants to the frequency of the development of "attraction fields" or "two-center effects." The criticism of the analysis of the data by Dr. Weiss was more than welcome, as was his agreement that the quantitative evaluation of the figures of observed incidence expresses the general predictable decline of the "two-center effect" with distance, and that this is a welcome addition to our knowledge.

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Root-Grafting in Tropical Trees

YEARS ago I wrote a paper (*Am. J. Botany*, **21**, 121 [1934]) calling attention to the enormous frequency of natural root grafts in *Pinus strobus, P. resinosa,* and *Thuja occidentalis.* Since then I have noted an almost equal amount of root-grafting in *Acer saccharum* and *Ulmus americana,* and a great deal in many other genera. Kuntz and Riker (*Wisconsin Agri. Exp. Sta. Bull. 9* [1950]) have shown that there are enough root grafts in oaks to allow rapid dissemination of oak-wilt disease through them.

Recently, on the grounds of the Federal Experiment Station at Mayagüez, Puerto Rico, and in the surrounding region, I noted the great amount of grafting in the roots of the mango, *Mangifera indica,* which is very common along the roadsides. Soil wash and road cuts have exposed the roots of thousands of these trees.

Ficus nitida, which is rather commonly planted, also shows thousands of grafts for every tree. Of course, the genus *Ficus* is noted for root production and root-grafting, and the development of strangling figs, so notable a feature of tropical forests, depends on the ready grafting of roots and branches that soon encase the supporting tree in a complete wooden jacket from which there is no escape. Members of the Clusiaceae as well, though not figs, are stranglers and show the same ease of grafting as the figs themselves.

After I had seen the condition of the mango roots, I looked for natural grafts in all of the exposed roots I could find (Table 1).

TABLE 1

Genus	Family	Genus	Family
Albizzia	Leguminoseae	*Inga*	Leguminoseae
Aleurites	Euphorbiaceae	*Mangifera*	Anacardiaceae
Antonia	Clusiaceae	*Manihot*	Euphorbiaceae
Artocarpus	Moraceae	*Maximilianea*	Bixaceae
Casuarina	Casuarinaceae	*Nephelium*	Sapindaceae
Cecropia	Moraceae	*Ochroma*	Bombacaceae
Ceiba	Bombacaceae	*Parkeria*	Leguminoseae
Citrus	Rutaceae	*Delonix*	"
Coffea	Rubiaceae	*Posoqueria*	Rubiaceae
Couroupita	Lecythidaceae	*Pterocarpus*	Leguminoseae
Diospyros	Ebenaceae	*Sapindus*	Sapindaceae
Enterolobium	Leguminoseae	*Spathodea*	Bignoniaceae
		Swietenia	Meliaceae
Erythrina	"	*Tabebuia*	Bignoniaceae
Euphoria	Sapindaceae	*Tectona*	Verbenaceae
Ficus	Moraceae	*Terminalia*	Terminaliaceae
Genipa	Rubiaceae	*Triplaris*	Polygonaceae
Hura	Euphorbiaceae		

In a cursory examination, root grafts were found in 34 genera belonging to 18 different families. Grafts were seen on trees of a number of genera that I could not identify, and many known genera did not show root exposure enough to determine whether root grafts were present. From my observations I conclude that root-grafting is common in tropical trees—perhaps more common than in those of temperate regions.

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Separation of Free-Living Cells

DR. NORTHCRAFT'S ingenious use of ammonium oxalate to separate free-living cells from carrot tissue culture provides workers in this field with a valuable tool with which to attack the problem of single cell division (SCIENCE, **113**, 407 [1951]). The difficulties he records in obtaining an effective but noninjurious concentration reminded me of similar difficulties that I encountered during certain experiments with ammonium oxalate, to bring about chemical changes in the epidermal cell walls of living cabbage roots (*New Phytologist*, **34**, 30 [1935]). It would be interesting if workers with tissue cultures could cause the separated cells to form a solid tissue again. In this connection I suggest replacing the ammonium oxalate in the culture medium by a slightly alkaline solution of a calcium salt.

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