PLANT GEOGRAPHY

NATURE RAMBLINGS

by Frank Thone

Houses Divided

FAMILY resemblances sometimes persist even though the families are long divided.

You may have among your own acquaintances a pair of cousins of about the same age whom strangers will mistake for twins. Such cases are not particularly rare, even in kinships that have long lived apart.

Even more striking are the "twin cousin" species of plants that can be found on opposite sides of the Atlantic. Prof. M. Victorin of the University of Montreal has pointed out a number of such almost identical paired species that still persist, though the last land bridge that connected Europe and North America, making the boreal flora a continuous unity, vanished during Tertiary time, a good many millions of years ago.

Among trees, Prof. Victorin pairs off the famous English elm with the slippery elm of this continent, the graceful American or white elm with a similarly shaped tree native to Continental Europe, our eastern white pine with the Balkan pine, the Scotch pine with our jack pine. Among smaller trees, perhaps less known to non-botanists, there is an even more strikingly close resemblance between the American and European species of ironwood. Prof. Victorin remarks, "The segregation is so slight that the two might be regarded as conspecific, according to certain standards."

Prof. Victorin's favorite botanizing ground is the Gaspé peninsula and adjoining areas, near the mouth of the St. Lawrence River. In this region, nearest to Europe of all American lands really hospitable to a rich and varied development of plant life, he has found several genuinely European species that do not occur elsewhere in North America at all. Notable is one kind of sedge, that grows only in limited shoreward areas on Newfoundland and Anticosti Island.

In striking contrast to these conservative cousinships of the old, undisturbed regions, where long-continued stability of environmental factors may be presumed to encourage persistence *in statu quo,* are the settled lands farther up the river, where human colonization came early and where the land has been cleared of its primeval forest and cultivated for two centuries and more. Here, the revolution wrought by ax and fire, plowing and grazing, has seemingly offered freer opportunity for the deployment of new evolutionary forms. Very striking is the wide range of species or varieties in the hawthorn, a shrub of pasturelands and semi-open country that had no chance at all in the old, tightly closed forest.

Prof. Victorin expresses the view that "the critical study of the flora of northeastern America has undoubtedly supplied fresh evidence that vegetable life continues a development initiated very long ago, that new systematic entities, species and varieties, are actually in the making."

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MEDICINE-ECOLOGY

Spring Floods May Bring Late Summer Sneezes

WILL there be a greater-than-normal amount of hayfever in the Ohio Valley flood area this summer?

Possible connection between floods and sneezes seems fairly reasonable on theoretical grounds at least, as a corrollary to a thesis recently advanced by a New York pollen specialist, Dr. R. P. Wodehouse. (*See SNL,* Feb. 27.) The ragweeds, chief causes of hayfever, follow the plow and the scraper, he pointed out; they are first and foremost weeds of the newly disturbed soil left by agricultural and engineering operations.

Dr. Wodehouse did not mention the thick deposits of fresh alluvium left on river bottoms by receding floods, but these also are first-order breeding grounds for ragweeds, particularly the tall ragweed. Anybody who has ever tramped river bottom lands in the Midwest will remember their towering thickets, with tall shafts running up like the spears of Alexander's famous phalanx.

Vast areas of lowland have been overswept by the recent flood, and the

deposits of mud left behind will smother much of the natural vegetation that held it. Other stretches were severely eroded, and the surface vegetation taken away along with the surface soil. Into these bare patches the tall ragweed armies can be expected to march.

Some of the denuded areas, in the country, will of course be seized upon, plowed and planted. But there are considerable empty areas in even more critical places, in the waste lands that fringe the industrial districts and railroad yards of every important city. In the river-deposited mud of these neglected lands the ragweed will flourish as no green bay tree ever dreamed of doing—and their pollen will be launched in greatest concentration just where it will do the most mischief.

There are two flood-caused classes of supplementary areas that will be open to ragweed invasion. Where levees were breached, there will be new mounds of loose earth. Unless these are sodded down immediately they will of course be fair ground for weed competition—and ragweed always wins in that kind of beggars' battle. City dumps, also, are receiving immense quantities of muck, left behind by the flood in city streets and homes and workplaces and shoveled into dump trucks and railroad cars as the first cleanup task. This also is meat for the ragweeds.

It might be a good politico-medical idea to make pollen-sensitiveness a necessary qualification for municipal public office. A sneezing city council would not hesitate long over a proposal to arm relief workers with scythes and send them forth to do battle against the ragweed phalanxes.

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PHILOSOPHY

Free Will Doctrine Advanced By Professor Max Planck

FREE WILL versus determinism or foreordination, old, old riddle that has been a wit-racker to theologians and philosophers in past generations, crops up anew as a source of controversy and discussion, this time in the mouths of scientists. Ironically, too, the new antagonism against the notion of a cosmos completely and relentlessly regimented by exceptionless natural laws comes from the intellectual descendants of the very group of scientists who first forged the seemingly unbreakable iron ring of such laws, the physicists.

Newest voice of challenge to the long-established doctrine of unescapable determinism is that of Prof. Max Planck, Berlin University's Nobel prizeman. He presents a brief but closely reasoned and carefully worded inquiry into the ancient question, from the point of view of modern physics. (*Forschungen und Fortschritte,* June 10.)

His central point is that the laws of physics are iron and immutable in the outside world of observable phenomena, where no kind of will is exercised at all. Here, the observer who knows the rules of the particular game of events going on before him, and who is careful also not to stick an interfering finger into the natural sequence of those events, can confidently predict their outcome.

But if the same observer tries to split himself in two, as it were, in an endeavor to stand aside and watch his own mental machinery grinding out a decision, he inevitably meets frustration. He may have the most intimate objective knowledge of the various forces and considerations pitted against each other and interacting toward the final choice, yet:

Will is Sovereign

"The will indeed permits itself to be influenced by the intellect, but never to be completely dominated. No matter how deeply one's intellectual insight may penetrate into the obscurity of one's own will-motives, at the decision the will is sovereign and gives the final stroke independently of the intellect. Nevertheless, the will of each person, like his character, remains strictly causally conditioned."

Summarizing, Prof. Planck continues: "From without, looked at objectively, the will is causally bound; from within, looked at subjectively, the will is free. No matter how exact is one's self-knowledge, it is impossible to deduce, by purely intellectual methods based on present circumstances and the influences of the environment, a knowledge of one's own future voluntary conduct."

Prof. Planck extends his conclusion from the individual will to the will of communities and nations: "The history of a people is comprehensible on a causality basis only as regards the past; its future on the contrary can never be understood in a purely scientific manner. Hence it is fundamentally fallacious, to attempt to solve the question of decline or advance through scientific research alone. The future blossoms only for that people which applies and activates its will."

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