

RADIOCULTURE, PLANTS AND CAMILLE FLAMMARION¹

A third development in recent plant-growing is known as radioculture, and is curious and somewhat sensational. It consists in growing plants in differently coloured glasshouses; that is to say, instead of the glass being clear white as is usual in greenhouses, in one case it is red, in another green, and in yet another it is blue, care being taken that in every case the colour of the glass is absolutely pure. A series of experiments on these lines was first conducted by the eminent French astronomer, Mr. Camille Flammarion, and they proved very suggestive.

He took a number of the seedlings of the Sensitive Plant (*Mimosa pudica*) (choosing this plant because of its peculiar sensitiveness), and divided them into four similar groups; one group he placed in an ordinary greenhouse, a second he placed in a blue bouse, a third in a green house, and a fourth in a red house. Then giving to each the same care and attention, and arranging that the intensity of the light should be the same in each case, he awaited eventualities.

At the end of a few months he made an exact comparison between them, and found striking differences. In the blue bouse the little plants were practically just as he had put them in: they were alive and well, but they had not grown or produced new foliage or development in any way. Like the Sleeping Beauty in her castle they had seemingly fallen asleep on the day they went into blueness, and remained unchanged as in a trance.

1. This text comes from an article titled "Some recent developments in plant-growing" and signed by G. Clarke Nuttall, in *The Fortnightly Review*, 1907.

In the green glasshouse the seedlings had certainly shown considerable energy in growing, more so than their contemporaries in the ordinary glasshouse, but, on the other hand, their growth was not really satisfactory, for, though tall, they were inclined to be weedy and poor.

But in the red bouse there were wonderful happenings. The seedlings had become positive giants, and well-nourished and well-developed ones, too. They were fifteen times as big as their sleeping fellows in the blue bouse, and four times as big as the normal control plants. Moreover, they had produced little round flower balls, which none of the others had even attempted; but, more remarkable still, their sensitiveness had increased to an amazing extent. It is well known that if the sensitive plant is shaken or touched all its leaves immediately fold up and their stalks droop, and it is only by degrees and slowly that it recovers from the shock. Now in the red light the plants had become hypersensitive; in fact, one might almost say quite neurotic; at the slightest breath of air their leaves shrank together and hurriedly drooped. Obviously the red light had in every way stimulated their development to an abnormal extent. They were in the greatest possible contrast to the "blue" mimosas, for these had absolutely no feeling at all, and no amount of touching or jarring could prevail on them to respond. Indeed, in every way their life had been deadened.

Encouraged by these results, other plants were afterwards experimented upon, such as oaks, lettuces, and crassulas, and many additional points of interest brought out. Thus, while little oak trees (they were several years old) produced but few leaves in the blue house, their leaves did not fall in the autumn as did the numerous well-developed leaves in the red house, where branched as well as foliage had been added during the summer of experiment. Blue light, therefore, retards the processes of decay as well as those of development.

In the matter of brilliant colourings, both as to leaves and flowers, it was found that coloured light of any sort tended to its elimination; pure white light is necessary for the production of these tints in plants.

Radioculture has not yet been taken up to any extent for practical purposes by florists and gardeners, who are hanging back for further assurance of its value. But it is obvious that there are definite possibilities in it. One would imagine that a red house would become in time an indispensable adjunct to a florist's garden for forcing purposes, and in any event such a powerful stimulant to plant life as red light cannot be overlooked long. A blue greenhouse suggests itself as a place where plants, perhaps at the height of their beauty, could be kept for a time, at any rate, in a quiescent condition, to re-emerge on special occasions to the advantage of the florist and the delight of his customers, for delay of decay may be as valuable an asset in practical gardening as premature development.
