

THE AMERICAN INVASION OF AUSTRALIA BY CACTUS

By Dr. Edwin E. Slosson.

Cactus is an American invention and a most ingenious contrivance for living in an arid land. Its thick stalks enable it, like the camel, to go long without water and their small surface prevents loss of water by evaporation. Its spines protect it from being eaten even where food is scarce.

Previous to the visit of C. Columbus to this country, the entire cactus family was exclusively American. Notwithstanding this fact, the cactus continues to be put into scenes of biblical life by painters, movie directors and writers. For instance, Donn Byrne plants cactus in a recent rewrite of the Gospel story.

But once America was opened to the world, the cactus spread and now is to be found in regions as remote as those reached by our sewing machines and phonographs and kerosence, but is not so popular. There being no patent on this American invention, local cactus plants have sprung up in various places that outstrip the original in production.

In Australia more than twice as much land is now occupied with the growing of prickly-pear than with all other crops put together. The latest estimate of the area infested or invested by the pest is put at 40,000,000 to 45,000,000 acres. This is larger than old England, larger than our Georgia. The invasion is still advancing and Queensland alone is losing usable land at the rate of over a million acres a year. And Australia cannot afford to lose much land, for although on the map its area is as great as that of the United States, so much of it is desert that it can never be expected to support more than a fifth of our population.

The prickly-pear was first carried to Australia in 1788 to serve as food for the cochineal insect, which had been brought from South America in the hope of starting a thriving industry in the dye stuff. The insect and the industry failed to thrive, but the prickly-pear did. It grew so well that certain squatters (a squatter in the Australian language is the same as a rancher in the American) took cuttings into the interior to plant cactus hedges around their stations (ranches). The hedges grew so well that in the course of time they covered all the land and the stations had to be abandoned.

The pest was introduced into Queensland by a country gentleman who on a trip to Sydney in 1858 was so much interested in this curious plant that he procured a joint and carried it carefully home in his saddlebag some four hundred miles. He planted it reverently in a choice spot of his garden and diligently tended it. Finally, the growth of two new branches proved that the transplantation was a success, and the proud owner was able to eat of its fruit. In fact the transplantation was more successful than anyone had anticipated, and in 1921 the Queenslanders spent \$390,000 trying to eradicate the prickly-pear, and yet they are losing ground.

The public land infected by the cactus cannot be sold. It cannot be given away. It cannot even be given away with a bonus. The government has offered a bonus as high as \$20 an acre to anybody who would take the land and clear it, but could not dispose of it at that. Land within twenty miles of a railroad has been offered free in lots of a thousand or two thousand acres on condition that it be freed from cactus within ten years, but there were no takers.

In America where the prickly-pear has been so long acclimated it is an

interesting and comparatively innocent plant, though uncomfortable to those who come too close to it. It contributes a picturesque feature to an otherwise monotonous landscape and bears a delicious fruit for those who like it. But in the fresh fields and pastures new of Australia it flourishes better than on its native heath. The individual clumps measure ten to thirty yards in circumference and often stand so close as to be hog-tight. Survey parties have to chop a path through it in places. When it is cut off the crop weighs 700 to 1000 tons per acre. In New South Wales where four million acres are more or less infected the annual loss is estimated at \$2,500,000.

How to get rid of the prickly-pear, or at least check its further spread, has been the subject of an investigation of a commission of the Commonwealth under the scientific control of Dr. T. H. Johnston of the University of Adelaide. His conclusion, as expressed to the Wellington meeting of the Australasian Association for the Advancement of Science, is that chemical means of extirpation, such as poisoning by arsenic, are so expensive as to be prohibitive, and that there is no probability that cactus can be turned into a source of income, as has been the case with another pest innocently introduced, the rabbit. He regards the prickly-pear as of little value as fodder for sheep or cattle. It has been found in New Mexico and South Africa that the juice of the fruit can be fermented and made into alcohol, but this, he concludes, could never be made profitable. There remains only the biological method of attack and Dr. Johnston proposes to draft into the warfare various sorts of bugs and worms, beetles and weevils, bacteria and fungi, that have been found preying upon the cactus in any part of the world. These, the natural enemies of the pestiferous plant, would attack it at all points, root, stem, segment and fruit, and by keeping up the conflict day and night may accomplish what man cannot do directly.

It is an ingenious plan of campaign, but there is always the danger that the insect or parasite introduced to attack the cactus may find the crops as good or better feeding, and so the allies desert to the side of the foe. The lesson of it is that a nation cannot be too careful what sort of immigrants it admits, be they vegetable, animal or human.

CONVENTION PHOTOS SENT BY WIRE

Photographs taken at the Republican National Convention in Cleveland were transmitted by wire to New York, where negatives prepared from them were made available for press distribution. This service was a further test of the invention of a method for the rapid wire transmission of photographs, announced recently by the American Telegraph and Telephone Company, and demonstrated before an audience of newspaper people in New York and Cleveland.

A transmitting machine was installed in the Cleveland Discount building, and the one and only receiving apparatus was located in the Telephone Building at 195 Broadway, New York. The transmitting and receiving equipment were connected by a long distance telephone circuit and were in operation daily throughout the convention. Regarding the futures of the invention, officials of the company said that the extent to which it is installed on their long distance lines will depend entirely on the demand which arises for such a type of service.

The system is the outcome of work covering several years and provides a simple, rapid and accurate method for transmitting pictures which will operate over a telephone line. The simplicity of the method is such that a positive transparency