after the Great War we are to be called upon to play a new part in world affairs calling for larger homogeneity and national purpose on the part of our people; and if we are soon to undertake new educational efforts along agricultural, industrial, technical and political lines, as now seems certain, it is of fundamental importance that we eliminate from the organization and administration of our schools these features which stand as serious obstacles to their development on a thoroughly professional basis. We must also so shape their administration as to offer good inducements to the best of our men and women to make careful preparation for public service as school administrators, and we must assure them entrance to the work on the basis of preparation and competency, a chance to perform useful and unobstructed service, and the possibility of desirable life careers in the work. That this is not the case today in our county and state educational service, or even in our city educational service to the extent that is desired, is largely due to the obstacles to educational progress, chiefly of a political and provincial type, which I have just enumerated.

ELLWOOD P. CUBBERLEY

STANFORD UNIVERSITY

HUNTER OR HUSBANDMAN¹

THE assumption that all the wild life growing upon the land belongs to all the people, and that any one who can do so is free to take it, is, of course, a direct inheritance from the day when all the game belonged to the king; when the king could do no wrong. We, the people, have succeeded the king. We have acquired his rights and privileges—his right to kill, his right to overrun the fields of the farmer, his right to get something for nothing.

We need now to recognize that the day of wanton exploitation is past, and that we have

¹ Extract from an address recently delivered before an audience of farmers at the New York State College of Agriculture.

entered upon an era of conservation during which we must live on the increase of nature's products that our own hands have secured for us; no longer something for nothing, but everything for care and forethought and the application of science to bettering the conditions of life.

The primary assumption should be that the region where farmers live is an agricultural community—not a howling wilderness or a hunting preserve.

Hunting there must be to satisfy the human craving for sport—sport of a kind that is normal to the growing up of every youth, and that is a legitimate part of a man's recreation. But hunting is, at best, a savage sport that is pursued with dangerous weapons; and it should be pursued in civilized society only in places set aside for the purpose. The farmer should possess his farm in peace. The part of the public that desires to hunt should have proper places provided, and these places should be publicly marked for hunting; and peaceful farms where the wild life is treasured should not have to be marked against it. As there are public waters stocked by the state in which any one may fish, so there should be public game and forest preserves where one may hunt.

The farmers want freedom from the nuisance of the hunters who are merely raiders and economic pirates, and should unite to secure it. Every man's farm should be his own, free from ravage by hunters, free from menace by guns. All its wild products should be in his own keeping, subject only to his neighbor's interests, rights and welfare. The farmer should be free to raise on his farm any kind of plant or animal without permit or license from any source. Such artificial barriers ought not to obstruct the path of forward-looking agricultural enterprises.

The conservation measures that will best secure these ends are those which will protect and preserve the wild life in suitable places and provide hunting for the future; for men will hunt, and many of the farmers themselves desire this sport. The measures already before us that will go farthest toward removing the hunter from the farmer's premises are these:

- 1. State game farms, where wild game may be propagated, for distribution to public and private preserves.
- 2. Reserves, where the wild life may be maintained—forest and game preserves.

There should be not only one great state preserve like the Adirondack State Park, but every county in the state of New York should have its own smaller reserve, made out of the waste land that is still cheap and available. There is land in every county of the state that would be of far more worth if put to raising timber and game. We have talked much about reforestation: we have practised it little.

Portions of such public reserves should be kept as sanctuaries, free alike from the hunter, the lumberman and the engineer; and in these every wild thing, not harmful to the public, should find a place, and should be let alone. These places would serve as centers of natural propagation and dispersal for wild game species; but they would also keep from extermination many other things in which the hunter is not interested.

They would serve the interests of the public at large by preserving to future generations some of the wealth of life with which nature has endowed our country. There are three important reasons why it should be preserved:

- 1. Its esthetic value. Many of the wild things, both plants and animals, are interesting and wonderfully beautiful.
- 2. Its educational value: many of these things are important for teaching purposes; and the youth has a right to know what the native life of his native land was like; otherwise he will not be able to understand its early history.
- 3. Its possibilities of undeveloped economic values. We are only at the beginning of knowledge how to best utilize our natural resources. We should not exterminate the wild species. We do not know what use the future will have for them. Though they are all products of the evolution of the ages, they may be quickly destroyed, as the history of the passing of the wild pigeon shows. Once gone, they are gone forever. The interest that the public has in keeping them is in the long run far

more important than the interest of the hunter in shooting or the farmer in raising crops.

JAMES G. NEEDHAM

CORNELL UNIVERSITY

SCIENTIFIC EVENTS

THE TEACHERS' SCHOOL OF SCIENCE

THE Teachers' School of Science, Boston, announces a summer excursion to Alaska under the charge of Professor Geo. H. Barton. The party will leave Boston on July 6, and after a visit to Toronto, will pass through Lakes Huron and Superior, making a short stop at Sault Ste. Marie. It will then visit Fort Williams and Winnipeg, and spend four days at Jasper Park in the Mount Robson region, thence to Prince Rupert, along the Skeena River to Skagway by steamer, via the Inside Passage and the Lynn Canal (fiord), stopping at Wrangall and Juneau. The party will then go by rail over the White Pass and down the Yukon to Dawson by steamer. Returning, the party will visit Lake Atlin, Vancouver, Seattle and Tacoma, spend three days at Mount Ranier and five days in Glacier National Park. A day each will be spent in Chicago and Toronto, and thence the journey will be by steamer through the Thousand Islands and the Lachine Rapids to Montreal and rail to Boston.

The school will also give its annual field lessons in geology and botany. The schedule of the courses follows:

April 21, Fitchburg—Tourmaline crystals, beryl, mica, feldspar; bathylith, granite, concentric jointing; a monadnock.

April 28, Medford—Decomposition and disintegration (exceptional); frost action, talus.

May 5, Hudson—Bed of dolomite in mica schist, with wernerite, sahlite, titanite, etc.; drumlins and channels of a glacial stream.

May 12, Quincy—Bathylith, granite, erupted into Cambrian slates with much contact phenomena. May 19, Cedar Grove—Transverse fault; anticlinal fold; melaphyr, tuffs, shale.

May 26, Brighton—Old lava flows; igneous intrusions and dykes; amygdaloidal melaphyr; quartz, epidote, calcite, etc., alteration minerals.

May 30, Annual Field Reunion, Wayside Inn and Nobscot.