

ject in a practical way. A farmers' institute had been held at Grayling, Crawford County, in which farming on the plains occupied most of the time and thought of those present. When it was determined to establish an experimental farm on the plains, the State Board of Agriculture fixed upon Grayling as the place, because it is in the heart of the jack-pine lands, is readily accessible by railway, is near a large deposit of marl, the people take a lively interest in the experimental work, and the Michigan Central Railroad offered to donate eighty acres of jack-pine land for the experimental farm. The tract of land donated, both as to soil and the natural products growing on it, is considered a fair average of the jack-pine plains. The experimental work at Grayling is only begun, and it is too soon to ask, "What shall the harvest be?"

THE STORRS SCHOOL Agricultural Experiment Station, Mansfield, Conn., has issued its first bulletin. The purpose of this bulletin is to explain to the public whom the station is especially intended to serve, the organization of the station, its spirit, and the character of the work thus far begun. It is the wish of those in charge of the enterprise to make its connection with the farmers of the State as intimate as possible, and to this end copies are mailed to all farmers in Connecticut whose addresses the station has been able to obtain, to a number of other persons within and outside of the State, as well as to the press. By the act of Congress, provision is made for the appropriation of fifteen thousand dollars per annum to each State and Territory, for the maintenance of agricultural experiment stations. Of the fund for Connecticut, one half is, by act of its last Legislature, intrusted to the Board of Control of the State Experiment Station, and one half to the Board of Trustees of the Storrs Agricultural School. The managers of the station recognize that its purpose is both to investigate and to teach, that its duty is to select for study such questions as are of the most immediate and practical importance to the agriculture of the State, and that its work will be successful in proportion to the intimacy of its connection with the farmers whom it represents. But they feel bound to accept the lesson taught by years of experience, in this country and elsewhere, to which we have already frequently referred, that the most valuable results will be obtained by selecting a small number of questions for investigation, by making them narrow and specific, and by studying them with the greatest possible thoroughness. And they desire to avoid, so far as may be, the error into which so many stations, in their early experience, have fallen, in failing to recognize that often the questions which seem most theoretical are really most practical; that the highest, and in the long-run the most useful, work for agriculture is the discovery of the laws that underlie its practice; and that not infrequently the interests of the farmer require that theoretical questions be considered first, for the same reason that the foundation of the house is the first part to be built. In using part of its resources for abstract research, the managers of the station feel assured that it is doing its highest duty, and will have the heartiest support of its constituency.

#### INTELLIGENT CITIZENSHIP.

WE had occasion recently to refer to the growth of the Old South Work. This work has been carried on in various ways, — by lectures, by tracts, and by encouraging the writing of essays on appropriate subjects.

The 'Old South Leaflets,' which have been published during the last five years in connection with the annual courses of historical lectures at the Old South Meeting-House in Boston, have attracted so much attention, and proved of so much service, that the directors have determined upon the publication of this general series, with the needs of schools, colleges, private clubs and classes, especially in mind. The leaflets are prepared by Mr. Edwin D. Mead. They are largely reproductions of important original papers, accompanied by useful historical and bibliographical notes. The aim

is to bring them within easy reach of everybody. The Old South Work is a work for the education of the people, and especially the education of our young people, in American history and politics; and its promoters believe that few things can contribute better to this end than the wide circulation of such leaflets as those now proposed. It is hoped that professors in our colleges, and teachers everywhere, will welcome them for use in their classes, and that they may meet the needs of the societies of young men and women now happily being organized in so many places for historical and political studies.

Some idea of the character of this series may be gained from the following list of the subjects of the first thirteen numbers, which are now ready: No. 1. 'The Constitution of the United States;' 2. 'The Articles of Confederation;' 3. 'The Declaration of Independence;' 4. 'Washington's Farewell Address;' 5. 'Magna Charta;' 6. 'Vane's "Healing Question;"' 7. 'Charter of Massachusetts Bay, 1629;' 8. 'Fundamental Orders of Connecticut, 1638;' 9. 'Franklin's Plan of Union, 1754;' 10. 'Washington's Inaugurals;' 11. 'Lincoln's Inaugurals and Emancipation Proclamation;' 12. 'The Federalist, Nos. 1 and 2;' 13. 'The Ordinance of 1787.' A large proportion of these early numbers relate to the Constitution and the history of its growth, which are now subjects of special interest to historical students.

The excellence of the essays which have been presented during the last seven years, in competition for the Old South prizes, have induced the offer of prizes again the present year. The competition for these prizes, which could well be imitated in other towns, is open to all who have graduated from the Boston high schools (including the Latin schools) in 1887 and 1888.

The subjects for the essays are, 'England's Part in the Crusades, and the Influence of the Crusades upon the Development of English Liberty;' and 'The Political Thought of Sir Henry Vane. Consider Vane's Relations to Cromwell and his Influence upon America.'

Forty dollars will be awarded for the best essay on each of the subjects named, and twenty-five dollars for the second best, making, in all, four prizes.

The Old South lectures for young people for the summer of 1888 will begin Wednesday afternoon, Aug. 1. The general title of the course will be 'The Story of the Centuries,' the special subjects being as follows: 'The Great Schools after the Dark Ages;' 'Richard the Lion-Hearted and the Crusades;' 'The World which Dante knew;' 'The Morning-Star of the Reformation;' 'Copernicus and Columbus, or the New Heaven and the New Earth;' 'The Age of Queen Elizabeth;' 'The Puritans and the English Revolution;' 'Lafayette and the Two Revolutions which he saw.'

Many of those interested in the Old South Work are also interested in the Massachusetts Society for promoting Good Citizenship. In response to the question which is often asked, the society has issued a circular telling what is the object of this society, and what its members are expected to do. It is the intention of the promoters of the society that it shall encourage and assist every thing which tends to make men good and intelligent. The good citizen is, as they express it, before all else the good man. As De Tocqueville saw it to be in his time, so we see it to be in ours, the success of a republican-democratic government depends upon the moral and intellectual capacity of the community. We need intelligence, education, conscience, and health, and it is to promote these that the society is working.

The immediate and special inquiry as to the nature of good citizenship leads to the study of political history and political philosophy, and the society wishes to see a more serious and thorough study of what the world's great thinkers in the past have thought and said upon government and the state; and they would encourage a more careful study of our American history and institutions, our constitutions and laws, and this in comparison with those of other countries. The members of the society individually, or in association with each other in clubs or classes, are urged to these studies for themselves, and to promote and assist such studies on the part of others. The society would have its members study the town and the town-meeting, the city, the commonwealth, the nation, and international relations, believing that by such broad studies in the history of pol-

itics a true civic spirit is chiefly sustained, and that they are therefore the primary duties of the American citizen, and especially of those who desire to promote a more intelligent patriotism and a better public opinion.

As it has so often been urged, so does this society urge upon every good citizen his duty to give earnest attention to the political and social questions of the day, — such questions as, at the present time, protection or free trade, prohibition or license the relations of capital and labor, the limits of state control of industries, immigration, and international arbitration. The society urges that it is the good citizen's duty, which we presume no one will deny, to dispel ignorance and to spread knowledge of facts on these subjects, and to foster a large and worthy spirit in dealing with them. They further urge that it is the citizen's office to make knowledge powerful and controlling by attending punctiliously to his own duties as a voter.

The advantages of lyceums, debating-clubs, and lectures as means in developing an intelligent interest in political subjects are urged, and it is believed that members of the society can do much to sustain these. The society proposes further to aid the efforts of the members by publishing all the really useful matter that it can, in tracts, in pamphlets, and in the newspapers, and it has charged a competent committee with the preparation and recommendation of courses in reading and study. Another committee will give advice and assistance in procuring good lecturers. The larger the membership of this society, the wider will be its field of operation, and it is naturally desirable that there should be as many as possible who will give careful attention to the matter of local organization.

#### SCIENTIFIC NEWS IN WASHINGTON.

Stocking the Pacific Ocean with Lobsters; the First Successful Experiment in transporting Them Alive across the Continent; the Difficulties of Artificial Lobster-Propagation; Only One or Two Mature Lobsters from 12,000 or 15,000 Eggs. — A Curious Iroquois Mythologic Tale. — The Contour of the Atlantic Ocean's Bed; a Beautiful Model sent to Cincinnati by the Hydrographic Office.

##### Sending Live Lobsters to California.

THE United States Fish Commission shipped from Wood's Holl, June 16, 600 live lobsters and 250,000 lobster-eggs. Of the former, 350 arrived safely in Sacramento, Cal., June 22, and they have been deposited in the Pacific north and south of San Francisco. Several previous attempts to take live lobsters across the continent have failed. Of those sent only as far as Chicago, packed in seaweed in crates, only one in four survives.

Colonel McDonald, fish commissioner, personally superintended the packing of the lobsters lately sent to California. A crate or box devised by the late Captain Chester was used. This was placed within another larger box, the intervening space being filled with pounded ice. In the inner box the lobsters were placed between layers of rockweed, which at times was moistened with seawater. Each box had an independent drain, so that the fresh water from the melting ice could not enter the lobster-box. The temperature of the latter was kept at 45° F. A fish-commission car was used, the boxes along the side of it serving as the outer box of the combination described above; one hundred crates, each containing six lobsters, being placed in them, and surrounded with ice. Each morning before sunrise a careful inspection of the lobsters was made, and those that had died were removed. The first day 45 died; the second day, 55. After that the mortality was much less. All of those that died were in an advanced state of shedding, and were in poor condition when they started.

One-half of the 350 lobsters that arrived safely on the Pacific coast were placed in the ocean north of San Francisco, and the other half south. It is hoped that this experiment may demonstrate the feasibility of stocking the waters of the Pacific on the California coast north of Monterey with this delicious shell-fish. The condition of the water in that region is quite similar to that of the Atlantic off the Massachusetts coast. The temperature is about the same, except that it is more constant. The lobster on the Massachusetts coast crawls out into deep water in the summer, where the temperature is low, but it is thought that the equable

temperature of the Pacific will enable the lobster in those waters to spend the whole year in one spot.

Hatching-apparatus was taken to California with the 250,000 lobster-eggs shipped. The young lobsters produced by these eggs will be deposited in the sea at once. Although a fair trial will be made to determine the possibility of stocking the Pacific by artificial propagation, much more confidence of success is expressed by Colonel McDonald from the introduction of mature lobsters. The young lobsters have to be placed in the sea almost as soon as they are hatched, and begin to feed most voraciously, even devouring each other. For a few days they swim on the surface of the water, where they find food suited to their requirements, but where they also encounter millions of enemies. After their walking or crawling organs are developed, they sink to the bottom, which they then make their home. One of the problems which the United States Fish Commission is now attempting to solve is the invention of some method of keeping the little lobsters in confinement and safety after they are hatched, until they have attained sufficient strength and size to enable them to protect themselves. The importance of such an invention will be appreciated when it is known, that, from the 12,000 to 15,000 eggs produced by a female lobster in a year, not more than two lobsters, when left to nature, become full grown. Not only are almost all the little lobsters destroyed by their enemies, but a large proportion of the eggs are devoured by fish and seabirds before they are hatched. If, after artificially hatching the eggs, the Fish Commission could protect the young lobsters until they are large enough to take care of themselves, the supply of lobsters, which is now hardly equal to the demand, and would not one-half supply it if the price was reduced, might be increased almost indefinitely.

##### Iroquois Mythology.

The Bureau of Ethnology, in addition to the great variety of other work upon which it has been engaged, has almost from its first organization been collecting the quaint and curious stories prevalent among the Indians, translating and transcribing them, and arranging them for future comparison and study. Most of these stories are mythological; and it is one of the most curious and interesting facts, recently discovered, that the life of certain tribes of Indians is almost exclusively a religious one, far more so than that of the ancient Hebrews in any period of their history, and that the religious element is more intimately interwoven in the daily life of all the tribes than has heretofore been suspected. In the light of this discovery, the legends and mythologic tales that the Bureau of Ethnology has preserved, and to the stock of which almost daily additions are made, become of greater scientific value than ever before.

As an illustration of the character of some of these stories, the following obtained from the Iroquois, entitled 'Hinohawak and his Grandmother,' is interesting, first, because, although all the characters in it are personified, not one of them is a human being; and, second, because of the picturesque and graphically vivid style in which the story is told. 'Hinohawak,' translated, means 'the son of thunder.'

"There was a very poor old woman who lived in the woods. She was nothing but skin and bones. She lived in a smoky little house, and she cried all the time, both day and night. Her blanket was so old and dirty that no one could tell of what material it was. She had seven daughters. Six of these were carried off one after another by people. The seventh died.

"The daughter that died had been buried some time, when the old woman heard crying at the grave one night. She took a torch, went out, and found a naked baby. The child had crawled up out of the grave through a hole in the earth. The old woman wrapped the naked baby in her blanket and took it home. She didn't know her daughter was with child when she died. She did not suspect it.

"The infant, a little boy, grew very fast. When he was of good size, she came home one day from gathering wood, and could not find him. That night it stormed, thundered and rained. The child returned to her in the morning. His grandmother asked, 'Where have you been, my grandson?' — 'My grandmother,' said he, 'I have been with my father: he took me home.' — 'Who is your father?' — 'Hino ['Thunder'] is my father. He took me