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Attention is called to the "Wants" column. All are invited to use it in soliciting information or seeking new positions. The name and address of applicants should be given in full, so that answers will go direct to them. The "Exchange" column is likewise open.

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NEWS FROM CLARK UNIVERSITY.

A ONE-YEAR'S course in the history and principles of education will begin in October next at Clark University, and continue till June, 1891. This course will be given by the president of the university, Dr. G. Stanley Hall, and by Dr. William H. Burnham, docent in education, and will be divided as follows: I. General history of educational ideas and institutions in antiquity. II. General history of educational ideas and institutions during the middle ages and down to the early decades of the present century. III. Contemporary educational institutions. A good part of the year will be spent in this field, which will be treated as follows: The educational system of Germany will first be considered, and each class of institution from the kindergarten to the university will be described, including legislation, administration, financial methods, supervision, buildings, curricula, training, testing and examination of teachers, methods of instruction in the leading subjects, educational literature, brief biographies, etc.; French educational institutions will then be described in the same way; and then will follow Italian, Scandinavian, Russian, British, and American educational institutions. While the presentation of the systems will necessarily be more or less historical, the chief object will be to describe these systems as they exist to-day. While considering elementary work and grades, much stress will be given to intermediate and higher education, including such topics as the constitution of universities, with historical sketches and descriptions of typical institutions, both European and American; the relations of government to science in the various countries; learned societies, associations, and academies; professional and technical instruction; examinations; etc. IV. Philosophical conclusions and practical applications of this survey; general views concerning the end, direction, and methods of education, with reference to the needs and problems of our own country.

In preparation for these courses, Dr. Burnham, a Harvard graduate, who gave his chief attention to philosophical courses, taught successfully in a normal school, and studied psychology and education three years in Baltimore, taking the degree of doctor of philosophy there in 1888, was some time since sent to Europe by Clark University, to study special problems and institutions in several European countries. Dr. Hall, who represented this department at the Johns Hopkins University, spent last year in visiting educational institutions and collecting literature and other material for this course in every country in Europe except Portugal. A carefully chosen collection of educational literature covering the topics of this course will be placed at the disposal of students, and their reading will be individually directed in it. The methods will consist of lectures, general and individual conferences, special lines of reading, etc. Certificates of attendance will be given to those who follow the entire course, and certificates of proficiency to those who desire to pass an examination at the end of the year. Should the attendance warrant it, and should it be desired, pedagogical excursions may be conducted to institutions in Worcester and other neighboring cities. In addition to these strictly educational courses, the philosophical and psychological courses may, by special arrangement, be attended by students of education. This course is intended for those who desire to qualify themselves for professors of education in colleges or normal schools, and for superintendents, principals, and others who desire to make a specialty of education. For further information address the clerk of the university, Worcester, Mass.

PRESENT CONDITION OF SILK-CULTURE IN FRANCE.

WITH reference to the recent demand of certain delegates representing the agricultural, and especially the silk-growing, industry of southern France for a protective duty upon imported cocoons and raw silks, with certain restrictions upon silk-manufacturers in respect to "loading" their goods in the process of dyeing, the United States consul at Marseilles gives a sketch of the history and present condition of this branch of French industry.

The cultivation of the mulberry-tree for the rearing of silk-worms began in the south of France early in the seventeenth century, but it was not until a hundred and fifty years later that the industry became important or largely profitable. By the year 1780 the annual product of cocoons had risen to 6,600,000 kilograms, which were then worth about 2s. a kilogram. This was a lucrative result in those frugal times; and the business continued to flourish until 1853, when the crop reached 26,000,000 kilograms at about 3s. 9d. the kilogram, thus adding a sum of about £4,700,000 to the wealth of the rural classes. The country was admirably adapted to the growth of the mulberry-leaf; the warm, dry climate of Provence and Comtat Venaissin was favorable for the worm; the labor of raising the cocoons and reeling them could be performed by women, aided to some extent by children and aged people, thus entailing scarcely any increase in the expenses of the farm; and the permanent prosperity of the industry seemed for a time assured.

Then a series of disasters began. The peasants, in their eagerness to raise every possible silk-worm, had for years overstocked their premises, and in the crowded, ill-ventilated, and often dirty and neglected *magnaneries* the worms degenerated from year to year until they became a prey to several new and destructive diseases. The most serious of these were the *muscadine*, which was thought to have been imported with silk-worm eggs from Turkey; and the *pebrine*, a malignant cryptogamous infection, generated by the conditions above cited, and which is commonly cited in France as *la maladie*. The *muscadine* caused a loss of £800,000 in a single season. In thousands of cases every silk-worm in a farmhouse or breeding-establishment perished; and this disease

was succeeded by the *pebrine*, which swept the silk-growing district irresistibly, until a discovery was made which provided a practical escape from its ravages. This discovery was a new and certain method of detecting the disease in the chrysalis, or moth, which lays the eggs that serve as the seed for next year's growth of silk-worms. By the time, however (1880–81), that this remedy was generally known and practised, the situation had become in other respects almost hopeless. After the war of 1871, wages and the cost of living had greatly increased. Selling prices for farm produce of all kinds, which had formerly been ample, were no longer sufficient, in many cases, to pay the cost of production. The price of cocoons, which at one time had been as high as eight francs a kilogram, fell to six, and then to four francs, and even less. Discouraged by disease and low prices, thousands of farmers rooted up their mulberry-trees for fire-wood, and devoted the ground to vines and other forms of culture. The skilled women, who had formerly gathered the leaves for the silk-worms, and reeled the cocoons, had gone to other employments at higher wages than the languishing silk-industry could afford to pay. By this time French manufacturers no longer depended upon home-grown silk.

During recent years important discoveries in the chemistry of silk-manufacture had enabled the spinners, by skilful dyeing and "loading" their goods with gums and mordants, to use inferior grades of Japanese, Chinese, and Italian fibre in place of the superior organzines which had given the fabrics of Lyons and the ribbons of St. Etienne their lustre and renown. It is urged that the manufacturers were protected by high import duties; but the raw material which fed their looms was, and still remains, duty free. It is said that the weighting and loading of French silks have been carried to an extent which has injured their reputation, and not only disgusted French consumers of such goods, but raised the question whether the use of so much low-grade Asiatic fibre has been, after all, a blessing to the manufacturers of France.

There is now a new and steady demand for better material, and the question has now arisen, "Why not protect the native silk-growers, and raise it at home?" It is argued that it is solely due to the competition of foreign cocoons, and the increasing use of low qualities of silk loaded with fraudulent dyes, that French silk culture has languished since Pasteur's discovery conquered the malady which had threatened its existence. The peasants of France, who hatched more than a million ounces of silk-worm eggs in 1872, used less than a quarter of that quantity in 1886.

In conclusion, Consul Mason says, "The government, which had increased the duties on wheat and cattle, left the agriculturists without protection, and, seeing no hope of relief, many have given up the strnggle, and either emigrated to South America, or flocked to the already overcrowded cities and towns. There are, in this consular district, six rural departments in which the population is steadily decreasing, and this decadence of agricultural prosperity involves a serious menace to France."

HEALTH MATTERS.

Oxygen-Gas in Pneumonia.

IN an article on the value of oxygen-gas in pneumonia, in the *Lancet*, May 24, 1890, Dr. John Chambers says that during the early months of last year, as a practising physician in the United States, he met with many cases of the disease, occurring chiefly in adults and men of middle age. These symptoms in the cases observed were due directly to the deficient aeration of the blood. They were marked by difficulty of breathing, together with weakness of the heart's action. The faulty aeration is recognized almost at its onset by the livid hue of the lips, of the ears, and the finger-nails. This condition is well known to every physician, and, as it is the token of immediate danger to the patient, it is important that the best measures be taken to overcome, if possible, the difficulty. In pneumonic cases in young and old, presenting symptoms of deficient blood aeration, the inhalation of oxygen-gas has, in Dr. Chambers's hands, proved to be a remedy of remarkable power. Under its use, the lips recover their redness, the breathing becomes easy, and the toneless heart is strengthened in its action.

As to the method of using the gas, a few words may be added. A supply of pure oxygen-gas can be easily obtained from the laboratory of a chemist. It is collected in a receiver, and can be conveyed a considerable distance without loss of gas. In the immediate use it is better to fill a rubber bag from the tank than to give the gas directly to the patient. The rubber bag should have a capacity of one or two gallons, and be provided with a stop-cock at one end. To this a short rubber tube ending in a mouth-piece can be readily attached. The mouth-piece is applied over the mouth of the patient, the valve of the bag is turned, and the whole or any portion of the gas in the bag can be inhaled at a single dose. As the gas is heavier than air, its escape from the bag will be facilitated by holding this above the level of the mouth, and slight pressure upon the bag will still further assist in the inhalation. From half a gallon to a gallon of gas can be given every half-hour with perfect safety, and with great relief to the sufferer's symptoms. Such doses have been continued for four days and nights, with the most satisfactory results. Life has certainly been saved in many cases when it has seemed that death was inevitable. When cardiac weakness is urgent, an excellent and safe tonic is found in sulphate of strychnia, which may be given in doses of one-eightieth of a grain every four or six hours, until a decided change in the condition of the pulse is manifest. When this occurs, the strychnia is omitted, but may be of use again in a day or two if the pulse should fail. The relief in desperate cases, where asphyxia is threatened, is so marked that it is astonishing physicians have not more generally used this simple remedy. The use of oxygen-gas imposes a great deal of labor on physicians and nurses. With a little training, however, the nurse soon learns to give the oxygen, thereby relieving the physician. Two nurses should be employed,—one for the day, and one for the night.

An Epidemic of Pulmonary Phthisis.

Dr. Marfan, chief of the medical clinic of the Faculty of Medicine of Paris, gives, in the *Semaine Médicale*, Oct. 23, 1889, the details of a localized epidemic. In an important business-house in the centre of Paris, twenty-two persons were employed about eight hours a day. One of them, aged forty, employed at this place for twenty-four years, had been phthisical for three years, when he died on the 6th of January, 1878. He coughed and spat upon the floor for three years, and did not leave his work till three months before his death. From that time, out of twenty-two persons employed, fifteen have died. One only died of cancer: the remaining fourteen died of pulmonary tuberculosis. One year before the death of the first person, who appears to have been the starting-point of the epidemic, two employees, who had been connected with the same business for more than ten years, began to cough and spit upon the floor. They died in 1885. Beginning with the end of 1884, the deaths followed each other at closer intervals.

Dr. Marfan states the unsanitary conditions of the apartment in which these persons were employed. It was small, and the cubic air-space was less than ten cubic metres (350 feet) to each person. It was badly ventilated, badly lighted, and the gas was burned a part of each day, especially in winter. The floor was of wood, uneven, cracked, and very dirty. The first victim of phthisis, and those who followed, spat directly on the ground; and the sputa, becoming dry, was converted in this already unhealthy apartment into a poisonous dust. The room was swept each morning; and sometimes the employees arrived before the sweeping was finished, and while the dust was still floating in the air. It was difficult to sweep the room thoroughly, since the tables were fixed to the floor. It appears very probable that the swallowing and inhaling of this tuberculous dust was an essential factor in the propagation of the disease.

The proprietors of the place where the deaths occurred removed and burned the floor, and so rapidly was the work accomplished that the reporter had no time to collect a sample of the dust from the cracks in the floor for the purpose of experiments upon animals. A new floor was laid, which was waxed and treated from