

the family, the ethics of the professions, the ethics of politics, the ethics of friendship, the ethics of religious association. The scheme of duties will be treated with special reference to the moral instruction of children.

The provisional programme for the special courses in this department is as follows: "Introduction to an Ethical Theory," three lectures by W. M. Salter; "The Treatment of the Criminal by the State," three lectures by Dr. Charlton T. Lewis; "Ethics and Jurisprudence;" "The Ethical Ideal of the State;" "History of Temperance Legislation." The names of special lecturers not given will be announced later.

The tuition for the entire school, including all the lectures in the three departments, will be ten dollars. Notice of the place determined upon will be published at an early date. For fuller information in reference either to the instruction or to arrangements for boarding, and the like, application should be made to Professor H. C. Adams, dean of Summer School of Applied Ethics, 1602 Chestnut Street, Philadelphia, Penn.

HEALTH MATTERS.

Vaccination in France.

THE *London Medical Recorder*, Feb. 20, 1891, says, "The French Academy of Medicine is just now the scene of a struggle between those who are in favor of a law making vaccination compulsory, and the others who think that the present permissive system goes as far as is consistent with personal liberty. The general in command of the 'volunteers,' that is to say, of those who object to compulsory protection, is no less an authority than Professor Léon Le Fort, and last week he made a vigorous rally from behind his intrenchments, and, with heavy artillery in the shape of arguments, he prevented the further advance of the attacking forces. There are several points in Professor Le Fort's address which merit attention, especially as the matter is at present under consideration in this country. First of all,—and the news will come as a surprise to those who have been in the habit of regarding France as being at the prow of civilization,—all statistics based on the mortality returns from the different diseases must be incomplete, and therefore misleading, for the cause of death is only recorded for statistical purposes in the more important French towns, and presumably not at all in the rural and smaller urban districts. What the total annual mortality from small-pox in France may be, can therefore only be matter of conjecture. Still, the professor admits that it is certainly higher than it ought to be or need be. Another fact, hardly to the credit of French provincial authorities, is, that nowhere outside Paris is any attempt made to isolate the sufferers from small-pox. He is therefore compelled to fall back upon the Paris returns; and these show that the mortality has been steadily diminishing, from 32 per 100,000 inhabitants, during the period 1865-76, 55 per 100,000 in 1880-87, to 5 per 100,000 in 1889. The returns of the Small-pox Hospital at Aubervilliers testify to the same diminution, the admissions and deaths having been as follows:—

	Admissions.	Deaths.
1887.....	1,400	215
1888.....	1,079	152
1889.....	706	63
1890.....	363	37

"There are no available means of ascertaining the proportion of cases of small-pox per 100,000 inhabitants in the country, still less the proportion of deaths to cases of infection. We are, however, told that country doctors have the greatest difficulty in procuring lymph, and the people have the greatest difficulty in getting vaccinated, even supposing they were so disposed.

"Let us compare these figures with the German statistics. It must be borne in mind that vaccination has been compulsory

throughout Germany since 1835, and in some parts since 1815. The returns are as follows:—

	Deaths per 100,000 Inhabitants.
1834.....	54
1836.....	19
1847.....	9
1856.....	7

"In 1865 the war led to a relaxation of the stringent rules in respect of isolation, and forthwith the number of deaths from small-pox jumped up to 46 per 100,000, and in the following year to 62. During the Franco-German war, small-pox was imported into Germany by the returning soldiers, and more particularly by the French prisoners of war; and the mortality from variola in 1871 attained 59,839, and 77,000 in 1872, equal to 233 per 100,000 civilians, and 31 per 100,000 of the military population. In 1874 the vaccination law was consolidated, and a vaccination service founded for the supply of lymph, and by 1877 the number of deaths (810 in 1876) had fallen to 88. This level, however, was not maintained, for in 1882 the figures had again risen to 1,007. Thereupon the German Government enjoined more stringent measures for isolation, and then the downward tendency returned, and in 1886 the number of deaths was 140 only.

"In England in 1885—a time when vaccination had long been in full swing, but when isolation was not seriously enforced—the number of deaths from small pox in London alone was 1,419. In 1886 the number fell abruptly to 24; in 1888, to 9; and in 1889, to 1. This diminution coincided with the introduction of isolation on a large scale, which reached its apogee with the law for compulsory notification in 1889.

"Professor Le Fort argues from these figures, that, though vaccination has an undoubted and valuable influence in affording protection and in mitigating the severity of the disease, the most effective and reliable means of preventing the spread of the disease is rigorously enforced isolation.

"While it is impossible to deny the salutary influence of isolation, it seems a trifle inconsistent to object to vaccination as an infringement of the liberty of the subject, while rallying to the principle of compulsory isolation, which is as directly in contravention of personal liberty as any measure well could be. To take a patient, *non volens*, and shut him up for eight long weeks in a hospital, is surely as obvious an attack on his liberty as to insist on his submitting to the trivial operation of vaccination. This question of personal liberty, unfortunately, does not admit of any categorical reply. Different people have different ideas as to what constitutes liberty, and as to what limits, if any, are to be assigned to its play. Still, the great object that we have in view, is to secure cheerful submission to an infliction imposed by reason rather than by law; and if this could be attained by persuasion, instead of coercive legislation, then the choice would be easy."

NOTES AND NEWS.

THE Legislature of Arkansas has continued the geological survey of that State, and Dr. J. C. Branner has been re-appointed State geologist by the governor. It is expected that the work will be completed during the next two years. A report on manganese will be published by this survey in about a month.

—Miss Emma Garrett has resigned her position of principal of the Pennsylvania Oral School for the Deaf, to take effect June 20, in order to devote her time to establishing a home for the training in speech of deaf children before they are of school age. Miss Garrett will continue her Normal Training School for Teachers of the Deaf, established in 1881. She will have a summer school this year to accommodate some teachers desiring training at that time. For further particulars address her at Scranton, Penn.

—Bulletin No. 12 of the Hatch Experiment Station of the Massachusetts Agricultural College is a report on insects, by C. H. Fernald of the Division of Entomology. The history of the insects, and the methods of destroying or holding them in check, have been worked out at the station or compiled from the most reliable sources. This last has been done because there have been

so many demands for information about the common insects as to cause the expenditure of a large amount of time in answering inquiries about them. Numerous experiments on insecticides have been conducted during the past two years, but with such results that Mr. Fernald does not feel ready to report them as yet.

—In the winter and spring of 1887 and 1888, the steamer "Albatross" made a cruise from Norfolk, Va., to San Francisco, in the service of the United States Fish Commission. The collection made at this time in the harbor of Bahia, and a small collection made in deep water off Cape San Matias in north-eastern Patagonia, form the subject of a paper by David Starr Jordan, president of the University of Indiana, and containing a list of fishes obtained in the harbor of Bahia, Brazil, and in adjacent waters, published by permission of Hon. Marshall McDonald, commissioner of fisheries, in the "Proceedings of the United States National Museum," vol. xiii. The collection from Bahia includes one hundred and twelve species. As the number of specimens taken does not exceed two hundred, it is evident that the results which would have come from extensive collecting might have been exceedingly valuable.

—An ingenious process of spinning and welding copper pipe has recently been introduced in America, says *Engineering* of March 27. The inventor, Mr. J. H. Bevington, discovered that if a tube was made to enter an annular bell-mouthed die, revolving at a sufficient velocity, the diameter of the tube was reduced to that of the hole through the die, and thus a copper tube could be reduced in diameter to any desired extent. The friction between the surfaces of the die and the tube is so great that the latter is softened locally by the heat, and flows easily. If the bottom of the die be closed, the end of the tube will be welded over, and the end solidly closed. By a modification of the process two lengths of tubing can be welded together.

—The sixth annual meeting of the American Association for the Advancement of Physical Education was held in Boston, April 3 and 4, Dr. D. A. Sargent presiding. The papers read were as follows: "Is Physical Training a Trade or a Profession?" by the president; "Physical Education in Colleges," by Rev. W. D. Hyde, D.D.; "A Comparison of Measurements of Men and Women from our Colleges," by E. Hitchcock, M.D.; "The Growth of Children," by Professor H. P. Bowditch, M.D.; "The Delsarte System of Æsthetic Exercises," by Mrs. Coleman Bishop; "Physical Education in the Young Men's Christian Association," by Luther Gulick, M.D.; "Athletics versus Gymnastics at Home and Abroad," by E. M. Hartwell, M.D.; "Physical Training in the Regular Army," by Charles R. Greenleaf, M.D., U.S.A.; "Some of Galton's Tests," by Kate C. Hurd, M.D.; "A System of Gymnastic Exercises for Public Schools," by Mr. Carl Betz; "The Muscular Strength of Growing Girls," by C. L. Scudder, M.D. At the business meeting Dr. E. M. Hartwell was elected president for the coming year.

—The prizes offered by the American Economic Association for the best essays on the subject of women wage-earners have just been awarded. There were about thirty competitors for the prize. The first prize, of three hundred dollars, was given to Miss Clare de Graffenreid of Washington, D.C. The essay written by Mrs. Helen Campbell of New York received the second prize of two hundred dollars. The essayists were invited to discuss "the early and present condition of working-women; their growth in numbers, both absolutely and in proportion to population; the present extent of their sphere of labor; the economic and social evils connected with their various occupations as wage-earners, and the remedies for these evils." They were asked to deal principally with the American aspects of the subject, though it was not intended that the experience of foreign countries should be excluded. Miss de Graffenreid is a descendant of Baron de Graffenreid, one of the eminent companions of Oglethorpe, who planted a colony in Georgia. Her father was a lawyer of distinction who resided in Macon, where she was born, and spent her early days. Her girlhood was passed amid the strife and strain of the civil war. After her father's death she taught in a private school some thirteen years. She has always been interested in educational

and social questions. After her appointment, in 1886, to the position in the United States Department of Labor, which she at present holds, her studies led her into a very active acquaintance with the industrial conditions of this country. In her economic studies she has travelled over a large part of the East, West, and South. In company with Miss Dodge, she spent a month last summer in London, investigating the conditions of labor there. A recent number of *The Century* contains an article from her pen on the Georgia Cracker, and she was one of the two who equally divided a prize offered by the Economic Association in 1889 for an essay upon child-labor. This essay has been published. A paper by Miss de Graffenreid, on "The Needs of Self-Supporting Women," has also been published in connection with "Johns Hopkins University Studies in History and Politics." Mrs. Helen Campbell is a native of Lockport, N.Y. She contributed sketches to magazines and newspapers at an early age, and later gave special attention to problems relating to the condition of the poor in cities. She began in October, 1886, a series of articles on the working-women of New York, which appeared weekly in the *New York Tribune*, and was subsequently published in book form with the title "Prisoners of Poverty." Similar observations, in person, were continued the year following in London, Paris, Italy, and Germany, the results of which were embodied in her "Prisoners of Poverty Abroad." Besides this, she has written a number of novels and books on related topics. The first prize essay will probably soon be published by the association.

—A press despatch from Paris, dated April 10, says that an enormous reservoir of water one hundred and twenty feet below the surface has been discovered at El-Golea, a small caravan station in the midst of the Sahara Desert. The reservoir was discovered while a number of workmen were sinking a well at El-Golea. The shaft sunk already gives forty gallons of good, clear water per minute, and it is expected that this amount can readily be increased should it be found that a larger quantity is necessary. This is said to be the first time that water has been found at so slight a depth in the Sahara.

—An appeal for funds for aiding in the teaching of speech and lip-reading to the deaf has been issued by William Pepper, provost of the University of Pennsylvania; D. Hayes Agnew, M.D.; Emma Garrett, principal of the Pennsylvania Oral School for the Deaf, Scranton, Penn.; Horace Howard Furness; Lawrence Turnbull, M.D.; Charles S. Turnbull, M.D.; J. Solis-Cohen, M.D.; Harrison Allen, M.D.; Wharton Sinkler, M.D.; Edw. H. Magill, ex-president of Swarthmore College; Charles C. Harrison; Thomas Chase, ex-president of Haverford College; and Mary S. Garrett. In the appeal it is stated that it has been demonstrated that deaf children can be taught speech and lip-reading, be educated, and be enabled to communicate with their families and friends through the same; and a number of pure oral schools for such instruction are in existence in the United States. To the complete success of the method, however, it is necessary that these deaf children should be guided and trained to speech from the age when hearing children begin to learn to talk. As the majority of these children are poor, and as all mothers, even of those who are not poor, do not understand how to train them to speech, Miss Fuller, principal of the Horace Mann Day School for the Deaf (pure oral), Boston, established, two years ago, a home for the training in speech of deaf children before they are of school age. The necessary funds for commencing the good work in New England were raised by the mother of a successfully trained deaf child. The children are, of course, under the care of persons specially trained for that purpose, and their progress already gives great encouragement. Miss Fuller, who has been principal of the Horace Mann Day School for the Deaf for many years, says, "Does it not seem almost unaccountable that the earliest years of deaf children's lives have been so long overlooked in the plans for their mental development?" It is proposed to establish in the Middle States, as speedily as possible, such a home as Miss Fuller has established in New England; and the public are earnestly requested to contribute to the endowment fund required for the same. Subscriptions may be sent to Frank K. Hipple, 1340 Chestnut Street, Philadelphia, Penn., who has consented to act as treasurer.