A well-dressed lady remarked to the writer that it was well enough to tell people how many proteids and the like could be seen in food by the aid of the microscope, but for her part she preferred not to know that they were there!

As an example standard luncheon No. 2 weighed 20 ounces, and included ten ounces of escalloped meat, four of bread, seven-tenths of an ounce of butter, and five ounces and three-tenths of apple sauce. This represented in grammes, of proteids 32·2; fat 26·8; carbohydrates 138·8; calories 942·5; and the cost of raw materials was six cents, while the price asked for the prepared luncheon as served was thirty cents. This interesting exhibit of domestic science is under the direction of Mrs. Robert H. Richards and Mrs. J. J. Abel, M.D., and is in connection with the Bureau of Hygiene and Sanitation, as part of the Massachusetts exhibit. The ladies named give more ample details of their purpose and methods in "The Story of the New England Kitchen," a pamphlet full of new and valuable information concerning experiment stations in Boston.

Immediately next the Rumford Kitchen is a similar institution known as the New York Cooking School Exhibit, under the personal direction of Miss Juliet Corson. This lady, so far as is known, was the first person in America to give cooking lessons as part of the curriculum in the education of girls. The writer, therefore, regarded it as a privilge to hear what she had to say concerning the subject under consideration. To begin with, however, Miss Corson paid due tribute to the diet kitchens founded during the war, at Washington and elsewhere, by Mrs. Annie Wittenmeyer, which revolutionized the preparation of food for the sick and wounded in our military hospitals. Mrs. Wittenmeyer also published a book on the subject with special instructions for army nurses. But this work was to meet an emergency, and was accordingly transient.

Some twenty years ago, when the hard times following Black Friday made it difficult for many people to secure the ordinary comforts of life, Mr. James Gordon Bennett, Jr., started soup kitchens in New York City. He hired Rannhofer, Delmonico's *chef*, to manage them, on the principle of securing for poor people the best food at the lowest cost. At about the same time, or perhaps the previous year, certain prominent society women, among whom were Mrs. Judge Roosevelt, Miss Annie Newcomb, Mrs. A. M. Palmer and Mrs. S. C. Courtney, formed a training school for women in Miss Corson's residence in the old Rutgers block. Wheeler & Wilson gave them a number of sewing machines and also a cash donation. Work was obtained from the clothing stores, which was given to poor women at a fair price. Proofreading, shorthand, bookkeeping, etc., were taught gratis. The school was afterward removed to rooms at 625 Broadway, and at a later day to 47 East Tenth Street, where the rent was generously paid by Mrs. Elizabeth Thompson. From this point the work became popular, and all New York stood ready to help it forward.

In 1873 Miss Corson, who was both secretary and manager, got hold of the lectures that had been given at the London Exposition by Dr. Buckmaster on the chemistry of cooking, and resolved to try them in her training school. She first negotiated with an ex-cook of Governor Tilden's, a Frenchman, and as an experiment ordered him to prepare for four ladies a simple lunch. Such was this *chef's* idea of a frugal repast that the bare materials cost over $17. That would never do, and on further inquiry they found a highly trained French cook who also had proper notions as to economy, and they employed him to teach all who came for the purpose, rich or poor, how to cook all kinds of food, coarse or fine, delicate or common. The ladies themselves meanwhile studied the subject with great zeal, and Miss Corson traveled extensively, investigating local methods everywhere in their economical, sanitary and scientific relations. At their suggestion, in 1878–79 the United States Bureau of Education sent out circulars requesting from all sources all available information, and thus gained a mass of knowledge subsequently embodied in a cooking school text book.

Under the auspices of Hon. John Eaton, United States Commissioner of Education, and encouraged by Mrs. President Hayes, Miss Corson gave a series of lectures and practical lessons in Washington, D. C., attended by women of all classes, as well as by the girls in the high school and other institutions. Then the Ladies' Educational Association, of Montreal, under the patronage of the Princess of Wales, invited Miss Corson to do similar work there. The result was that scientific cookery was made a regular part of the education of girls in the public schools, in which they were examined as in other studies, and graded according to their proficiency. The next city where this plan was adopted, under the instruction of the same indefatigable teacher, was Oakland, Cal. During the last decade there have been numerous cooking schools originated by her in Chicago, Cleveland, St. Louis, Philadelphia, Baltimore, Hartford, Concord and Washington, as well as in the State Charities Hospital on Blackwell's Island, the city hospital of Brooklyn, and various other hospitals and sanitariums.

When it was proposed to have a model cooking school at the World's Fair, Mrs. Potter Palmer wrote to Mrs. J. S. T. Stranahan, of Brooklyn, vice-president of the New York State Board of Lady Managers, who suggested what has since taken shape as the New York State Cooking School Exhibit, under Miss Corson's personal direction. Here are shown daily, from 10 A. M. to 4 P. M., the best scientific and practical systems formulated as the result of twenty years' experience and investigation. Women are especially invited to use this opportunity to introduce novel methods of kitchen work and inventions in culinary art.

The "Corn Kitchen" is still another exhibit of the same general nature, though more especialiy intended to show the many uses of corn as a food. This is under the direct auspices of the State of Illinois, and is located on the second floor of the Woman's building. Mrs. Sarah T. Rorer, from the Philadelphia School of Cookery, has charge of it, and in addition to corn cooking, aims to illustrate every kind of kitchen work. Her lectures are so popular that the guards often often have to break the crowds that gather around the doors after every seat has been taken. The following order is observed: Monday, soups and other dishes, with meat for a basis; Tuesday, bread made with yeast; Wednesday, pastry, plain and fancy; Thursday, poultry, including dressing as well as cooking; Friday, waffles, johnny cakes, and all kinds of quick bread; Saturday, desserts of every description. The rules require that something about the use of corn must be taught at each lesson. Around the hall are arranged different articles regarded as desirable for household use, including novel forms of cook stoves, heaters, etc.

Mrs. Rorer has also a training class of girls between 12 and 16 years of age. It is limited to twenty pupils, and is free, five days a week, for one month; after which another class takes its place. Any girls may apply, regardless of family influence, race, color, or condition; the first applicants that come being taken. During the month they have passes admitting them to the Fair grounds. While in the general lectures Mrs. Rorer and her assistants do the cooking in the presence of the audience, the girls in the training classes have to do all the work themselves under the direction of the instructor. Though dealing mainly with methods, much valuable information is given concerning muscle food, brain food, hygiene, domestic economy, and the proper management of the home.

Where did Oxygen Come From?

It has often troubled philosophers to tell whether there is oxygen on the sun or not, but the late Mr. Proctor was of opinion that there is. Perhaps he was right; but on the strictly evolutionary basis, if Dr. T. L. Phipson is to be believed, he is wrong. Investigating the matter from the biological point of view, he observed that micro-organisms "manufactured oxygen," although they were not supplied with it. He also grew plants in an atmosphere of pure carbonic acid gas or a mixture of that and nitrogen, or in pure nitrogen alone with a root feed containing CO_2, he found that oxygen was gradually "manufactured." There is nothing very startling in that; in fact, it is entirely according to the Chemical Hoyle and biological precedent; but Dr. Phipson takes us back to the primitive ages of the globe, when there was no free oxygen upon it—because, he explains, there are now in the earth's crust matters which are oxidizable, and would have been oxidized during these far-back ages if there had been free oxygen to do it. So we arrive at the conclusion that there was at one time an oxygenless atmosphere. Where did the oxygen come from? Dr. Phipson replies that the oxygen of the atmosphere is the product of vegetable life, and "into the primitive atmosphere of nitrogen plants have poured oxygen, year after year, for countless myriads of ages, until it has attained the composition which it has at the present day."

Transparent Leather.

According to the *Magasin Pittoresque*, transparent leather may be manufactured as follows:

After the hair has been removed from the hide, the latter, tightly stretched upon a frame, is rubbed with the following mixture:

Glycerine (26° B.)	1,000 parts
Salicylic acid	2 "
Picric acid	2 "
Boric acid	25 "

Before the hide is absolutely dry, it is placed in a room which the rays of the sun do not penetrate, and is saturated with a solution of bichromate of potash. When the hide is very dry, there is applied to its surface an alcoholic solution of tortoise shell, and a transparent aspect is thus obtained.

This leather is exceedingly flexible. It is used for the manufacture of toilet articles, but there is nothing to prevent it from being used for foot gear, and, perhaps with fancy stockings, shoes made of it would not prove unpleasing to the sight. They would at least have the advantage of originality.

Correspondence.

Cure for Snake Bite.

To the Editor of the Scientific American:

From time to time I see in the papers recipes for curing the bites of poisonous snakes, recommended by medical and other people. In California, where I come from, we have occasion at times to treat animals for the bite of the deadly rattlesnake. I have seen two kinds of herbs used, one is called in Spanish "la golondrina" (the swallow), growing in the most arid plains; the other is the rattlesnake weed. Both are very effective, but it is not every one who can tell them, even when at hand. What I know from my own experience to be an infallible cure is the gall of the snake itself. One drop of it on the wound will effect a cure, even when inflammation is far advanced. I have seen a dog treated whose head had already swollen to twice its natural size, and it cured him almost instantaneously. The gall may be preserved in alcohol, or even dried, requiring in the latter case only to be moistened; even saliva alone between two stones will do. (I have seen a case of this kind.) If preserved in alcohol, of course, the whole bag of the gall is put into the liquid entire. If true of the rattlesnake, and, as I said before, I know it is infallible from my own experience, it is probably true of all other poisonous snakes, and might it not be true in the case of the rabies, that the gall of the animal would cure the bite?

When at college, in London, the teacher in French, who had been a Spahis in Algiers, assured me that the Arabs cured the sting of the scorpion by mashing the scorpion and applying it as a poultice on the wound. This I have never seen tried, however.

Mexico, Sept. 8, 1893. E. F. DE CELIS.

Increasing the Temperature of Steam.

Some short time ago, it was suggested by Lord Rayleigh that the efficiency of the steam engine might conceivably be increased by adding some salt to the water in the boiler, which should have the effect of raising the boiling point of the solution. The idea sought to be conveyed was that the initial temperature of the working fluid might be thereby increased; thus providing for a larger range and a greater fall of temperature between the boiler and the condenser.

Certain critics objected to this proposition that to raise the boiling point of an aqueous solution does not necessarily imply a corresponding elevation of the temperature of the evolved vapor, which is simply that of water, and must accordingly possess only the temperature corresponding to the pressure. A number of experiments to determine the temperature of the steam arising from a boiling salt solution have been made from time to time; but the results have been of a conflicting character. The difficulty of arriving at trustworthy results in this class of experiments consists in the circumstance that, while the walls of the steam chamber must be at a temperature higher than that of boiling water, and yet below the temperature of the solution, a sufficient quantity of steam must be evolved to insure that these walls shall not exercise any appreciable cooling effect upon it. These *desiderata* are claimed to be all satisfied by an arrangement devised by Professor Sakurai, of the College of Science of the Imperial Japanese University, by the aid of which it has been determined that the temperature of the steam escaping from boiling aqueous solutions of such salts as calcium chloride, sodium nitrate, and potassium nitrate is exactly the same as that of the solution itself. This is a corroboration of Lord Rayleigh; but, whether the fact is of any material service to mechanical engineers remains to be seen.

The New Morgan Liner El Cid.

The new freight steamship of the Morgan line El Cid has just completed her maiden voyage between New Orleans and New York, breaking all maiden records, her time being 4 days 2 hours and 15 minutes from bar to bar. Her average speed was 16¾ knots per hour, and her greatest run in one day 450 miles, which is certainly very creditable for an American-built coastwise steamer. El Cid was built by the Newport News Shipbuilding Company, of Newport News, Va. She is 406 feet long, beam 48 feet, and registers 4,500 tons. Triple expansion engines drive the 18 foot four-bladed propeller, the shaft measuring 16 inches in diameter. The boilers are three double-ended Scotch boilers, 26 feet 6 inches in length by 13 feet 10 inches in diameter. The vessel is lighted by 112 incandescent lamps. The pilot house is fitted up in a luxurious manner.

THE Weed boiler, which was described in our issue of Sept. 23, is made in such small sizes—⅛, ½, and 1 horse power—as to render it admirably suited for a great deal of amateur work. That it is so employed to a large extent is probably a leading consideration of its makers, Messrs. A. J. Weed & Co., of 106 and 108 Liberty Street, New York, in making safety and durability the first consideration in its construction.