a series made for three days on a man and a boy, by Professor A. Mayer, in Holland.[1] In these from 97.7 to 98.4 per cent of the fat of the butter, and from 96.1 to 96.3 per cent of the fat of the oleomargarine, were digested. The average difference was 1.6 per cent in favor of the butter. This proportion is so inconsiderable that in healthy persons it is of little or no importance. The slight difference in the chemical nature of the two fats would naturally lead to the same conclusion, as there is always a larger proportion of soluble glycerides in butter than in oleomargarine.

Dr. R. D. Clark made a series of artificial digestion experiments for the New York State Dairy Commission,[2] comparing oleomargarine with butter and other fats, including beef and mutton suet, and lard, cottonseed, sesame, and cod-liver oils. It was found from these tests that cod-liver oil exhibited the most perfect state of emulsion, after which came genuine butter, then "oleo" and lard oil, there being frequently no appreciative difference between them. The other animal fats and vegetable oils followed.

For healthy persons the difference between the genuine and artificial butter in digestibility was found to be nearly inappreciable. Cod-liver oil, which is the most readily digested of all the fats, cannot always be tolerated by invalids.

The difference between the digestibility of a piece of cold roast meat and oleomargarine would seem to be in favor of the latter, as the greater part of the more solid fats have been taken out of the latter in the process of manufacture; so that it more readily melts in the mouth and stomach, and from its fine state of division is readily emulsified.

Cooking.

Cooking, as far as animal food is concerned, has the effect of making it more pleasing to the taste, but is unnecessary; whereas with certain vegetables, especially those composed principally of starch, as grain and potatoes, it is required to fit them for use. The proper preparation of food is one that has not received the attention it demands. A badly cooked meal is more apt to disorganize the system than to prove nutritious and beneficial. The general teaching of cookery in our schools, both public and private, to girls would undoubtedly result in much improvement in this regard.

There is in boiling and frying foods a very simple problem in physics, which most people ignore; viz., that of latent heat. When a piece of meat, a vegetable, or other article of food, which is at the ordinary temperature, 60° to 75° F., is placed in boiling water or fat, the temperature of the solution is lowered proportionately to the mass and temperature of the article introduced; and it is not until the mass has absorbed more heat from the fire that the solution again comes to the boil. If care is taken, either by introducing the food in small quantities at a time into the boiling solution, so that very little lowering of the temperature takes place, or by a preliminary heating of the food before adding it to the solution, and in every case allowing the solution to boil before introducing any fresh material, the soddenness of improperly boiled or fried foods will be avoided.

Food-Products and their Chief Adulterants.

The great majority of substances used for food adulterants or substitutes consist of cheap and harmless substances, which are not injurious to health, as the following list of those most commonly met with in the principal food-products will show. This list has been compiled from the reports of the State boards of health, the returns of the British Inland Revenue Department, the reports of the British Local Government Board, and those of the Paris Municipal Laboratory.

[1] Landwirthsch. Versuchsstationen, 29, p. 215.

[2] Second Annual Report of the New York State Dairy Commissioner.

Table VI. — Food-Products and their Chief Adulterants.

FOOD-PRODUCT.	ADULTERANTS.
Milk	Water, removal of cream, addition of oleo-oil or lard to skimmed milk.
Butter	Water, salt, foreign fats, artificial coloring-matter.
Cheese	Lard, oleo-oil, cottonseed-oil.
Olive-oil[1]	Cottonseed and other vegetable oils.
Beer	Artificial glucose, malt and hop substitutes, sodium bicarbonate, salt, antiseptics.
Sirup	Artificial glucose.
Honey	Artificial glucose, cane-sugar.
Confectionery	Artificial glucose, starch, artificial essences, poisonous pigments, terra alba, gypsum.
Wines, liquors	Water, spirits, artificial coloring-matter, fictitious imitations, aromatic ethers, burnt sugar, antiseptics.
Vinegar	Water, other mineral or organic acid.
Flour, bread	Other meals, alum.
Baker's chemicals[1]	Starch, alum.
Spices[1]	Flour, starches of various kinds, turmeric.
Cocoa and chocolate	Sugar, starch, flour.
Coffee[1]	Chiccory, peas, beans, rye, corn, wheat, coloring-matter.
Tea	Exhausted tea-leaves, foreign leaves, tannin, indigo, Prussian blue, turmeric, gypsum, soapstone, sand.
Canned goods[1]	Metallic poisons.
Pickles	Salts of copper.

[1] For list of adulterated brands see Report of the Commissioner of Internal Revenue, 1889, pp. 181–184.

EDGAR RICHARDS.

NOTES AND NEWS.

EARLY this month there will be at the New York Academy of Medicine a joint discussion upon the pneumonias of this winter, by representatives of New York, Boston, and Philadelphia. Provost Pepper of the University of Pennsylvania has been appointed to represent Philadelphia. It is hoped that the discussion will lead to some positive conclusions as to the most effective method of dealing with *La Grippe*.

—At the meeting, on April 7, of the New York Academy of Sciences, Mr. George F. Kunz presented a paper on a remarkable find of meteorites in Kiowa County, Kan.

—The American Academy of Political and Social Science, organized in Philadelphia in December last, has met with unexpected success. It has already over three hundred members, though its working organization is scarcely two months old. Its membership list embraces many of the leading thinkers and workers in the economic and social field in this country and Canada. The first volume of its proceedings will appear early in June.

—At a meeting of the board of trustees of the University of Pennsylvania, held April 1, 1890, Dr. Hobart Amory Hare was elected clinical professor of the diseases of children, to succeed Dr. Louis Starr, resigned. Dr. Hare is a graduate of the University of Pennsylvania, 1884. He is a descendant of the distinguished Dr. Robert Hare, one of the early professors of the university. He has done much important original work, is a teacher of remarkable excellence, and, since his graduation in 1884, has won eight prizes for various essays, etc.

—The third national industrial exhibition of Japan opened at Tokio on April 1, and will continue until July 31. The directors of the exhibition have given special facilities for foreigners visiting their country, having made arrangements with railroad and steamboat lines for transportation all over the empire at a considerable reduction from the usual rates. These arrangements have been made by Mr. Iwamura Michitoshi, vice-president of the exhibition. Special tickets have been issued, entitling the bearer, on his arrival in Japan, to a passport which will enable him to travel through the empire. The exhibition includes a display of Japanese products and manufactures, art works, curios, etc.

—The St. Petersburg Academy of Sciences has issued the report for 1889, which was read at the annual meeting on Jan. 12. The report contains, according to *Nature*, a valuable analysis of the scientific work done by the members during the year. In mathematics, Professor Tchebysheff's applications of simple fractions to the investigation of the approximate value of the

square root, and M. Ishmenetsky's work on the integration of symmetrical differential equations, are especially worthy of note. In astronomy are to be noticed O. A. Backlund's researches on the influence of temperature upon refraction. In physics, M. Khwolson made an attempt at a mathematical investigation of the extremely complicated laws of dispersion of light in milk-colored glasses. The exploration of earth magnetism has made marked progress, both as regards the theory of diurnal variations and the measurement of magnetical elements in Caucasia and Siberia. Besides theoretical work in meteorology, the Central Physical Observatory has extended its system of weather-forecasts. Much interesting work has been accomplished in geology, Baron Toll having brought out the first volume of the geological part of the work of the expedition to the New Siberia Islands. In the botanical department the chief event was the publication of two parts of Professor Maximowicz's description of the plants brought from Central Asia by Prjevalsky, as well as the flora of western China, as represented in the valuable collections brought by M. Potanin. Highly interesting work was done in zoölogy by Professor Famintzyn.

— When the sun sets in the sea, a curious appearance, as of a bluish-green flame, is sometimes observed. This has been thought to be due to the light passing through the crests of waves. But Professor Sohncke, as we learn from *Nature*, considers this view disproved by such an observation as that recently made by Professor Lange at a watering-place on the Baltic. Shortly before sunset, the disk was divided in two by a thin strip of cloud; and, just as the upper part disappeared under the cloud, the blue flame was observed. Thus the cause appears to be in the air, not in the sea. It is a case of atmospheric refraction. And as a planet, seen near the horizon with a good telescope, appears drawn out into a spectrum, with the more refracted blue-violet end higher than the red, so the last visible part of the sun furnishes the blue-violet end of a spectrum. But it would be interesting, Herr Sohncke remarks, to determine more precisely the conditions of this not very frequent phenomenon. Perhaps it requires merely great transparency of air, as only in this case would the last ray be able to give a spectrum sufficiently intense in its blue region.

—Recently Lord Reay, the governor of Bombay, laid the foundation-stone at Poona of a bacteriological laboratory which is to be annexed to the College of Science in that town. Dr. Cooke, the principal of the college, to whose efforts the establishment of the laboratory is due, stated that it was originally intended that the study of the diseases of the lower animals in Poona should be directed to check the losses from anthrax in cattle by the introduction into India of protective inoculation. With this object, we learn from *Nature*, two Bengal students at the Cirencester Agricultural College underwent a course of study in M. Pasteur's laboratory in Paris. One of these gentlemen devoted his attention entirely to sericulture; the other studied M. Pasteur's system of vaccination against anthrax. He returned to India, and has since conducted some experiments on cattle in Calcutta. Subsequently Mr. Cooper, of the veterinary service, was deputed to M. Pasteur's institute for instruction in the system of inoculation against anthrax. While in Paris, Mr. Cooper submitted a report, and explained that for the work in question a special laboratory would be required. At the same time he advocated the adoption of artificial gas for the culture-stoves and glass-blowing, and for the purpose of obtaining the high temperature required for sterilizing vessels, instruments, etc. Subsequent inquiry showed that anthrax is not the only contagious disease of a fatal nature with which the Indian cattle-owner has to contend. He has also to take into account rinderpest, tuberculosis, pleuro-pneumonia, and, in a minor degree, foot-and-mouth disease. It was therefore evident that if an institution was established for the preparation of an anthrax vaccine, its value would be greatly enhanced if diseases other than anthrax could receive attention. The main objects of the Poona Laboratory, therefore, are (*a*) the preparation of anthrax vaccine for despatch to districts where anthrax prevails; (*b*) The conduct of experiments in rinderpest with a view to the discovery of the pathogenic micro-organism of the malady, its cultivation in broth and other media, and attenuation, so as to provide a vaccine that shall give immunity to animals in rinderpest-infected districts; (*c*) experimental research into the epizootic diseases generally of the ox and the horse; (*d*) the instruction of trained native veterinarians in a proper method of performing vaccination and of the precautions necessary to avoid risk of septic infection.

—A paper on forestry in India and the colonies was read recently by Dr. W. Schlich before the Royal Colonial Institute. He said, as given in *Nature*, that for seven hundred years a gradual destruction of forests of India had gone on. Under British rule, the process had been hastened by the extension of cultivated and pasture land, and by the laying-down of railways. After a time difficulty was experienced in meeting demands for timber, and in the early part of the century a timber agency was established on the west coast, while in 1873 a teak plantation on a large scale was made at Nilambur. Through the energy of a few officials, the matter was kept before the public; and in 1882, the Forests Department of Madras was entirely re-organized. Several acts were passed to provide for the management of the forests under the protection of the state, and a competent staff of officers was provided, to be re-enforced from time to time by those educated at Cooper's Hill College. Under the charge of the department were some 55,000,000 acres of forest-lands, and the figures relating to the cost of the work done were very satisfactory. Dr. Schlich then gave an account of the action of the Australian colonies with regard to the regulation of wooded lands by the state, contending that in no case had sufficient steps been taken to insure a lasting and continuous supply of timber.

—A preliminary report of the committee on anatomical nomenclature was accepted Dec. 28, 1889, by the Association of American Anatomists, without dissent. In this report the committee recommended (1) that the adjectives "dorsal" and "ventral" be employed in place of "posterior" and "anterior" as commonly used in human anatomy, and in place of "upper" and "lower" as sometimes used in comparative anatomy; (2) that the cornua of the spinal cord, and the spinal nerve roots, be designated as "dorsal" and "ventral" rather than as "posterior" and "anterior;" (3) that the costiferous vertebræ be called "thoracic" rather than "dorsal;" (4) that the *hippocampus minor* be called "calcar;" the *hippocampus major*, "hippocampus;" the *pons Varolii*, "pons;" the *insula Reilii*, "insula;" *pia mater* and *dura mater*, respectively "pia" and "dura." The committee, consisting of Joseph Leidy (chairman), Harrison Allen, Frank Baker, Thomas B. Stowell, Burt G. Wilder, and Thomas Dwight, desire frank and full expressions of opinion from scientific and medical journals, and from any who are interested in the subject. At the 1889 meeting of the American Association for the Advancement of Science, a report of that association's committee on anatomical nomenclature, with special reference to the brain, was made, to the effect that during the year some of the members of the committee have given to the subject intrusted to them as much time as their regular duties would permit. They agree upon one point; viz., the advantages, other things being equal, of mononyms (single-word terms) over polyonyms (terms consisting of two or more words). Before making specific recommendations or presenting a final report, the committee thought it advisable that they and other anatomists should have an opportunity of discussing at leisure the simplified nomenclature employed in certain treatises published during the winter. The treatises referred to in the above report are Leidy's "Human Anatomy," and the following articles in Wood's "Reference Handbook of the Medical Sciences," Vol. VIII.: by E. C. Spitzka, "Spinal Cord" and "Histology of the Brain;" W. Browning, "Vessels of the Brain;" S. H. Gage and B. G. Wilder, "Anatomical Terminology;" B. G. Wilder, "Anatomy of the Brain," "Malformations of the Brain," and "Methods of Dissection, etc." The members of the committee are Burt G. Wilder (chairman), Harrison Allen, Frank Baker, Henry F. Osborn, and T. B. Stowell.