

HEALTH MATTERS.

THE BLOOD IN PHTHISIS AND CANCER. — Dr. G. Neubert has examined the blood in twenty-four cases of phthisis at various stages, says *The Lancet*, and found that in nine the number of corpuscles was normal, in three it was above, and in twelve more or less below, the average. On the whole, there was an average diminution of about eight per cent. The increase noted in three cases might perhaps be attributed to profuse night-sweats. The hæmoglobin showed a reduction to seventy-three per cent in the females, and eighty-five per cent in the males. There was no notable change in the number of leucocytes, but it was observed that multi-nucleated forms predominated. In five cases of cancer of the œsophagus, and four of cancer of the stomach, there was an invariable diminution in the number of red corpuscles, and also notably of hæmoglobin. It is inferred that the hæmoglobin, being the more "sensitive" element of red corpuscles, is more profoundly affected in cachexia than the stroma of the corpuscles. A distinction was made between the anæmic and marasmic types of cancer, the latter exhibiting an average reduction of thirteen per cent of corpuscles, while the hæmoglobin fell to eighty-seven per cent of the normal; the former showing a corpuscular reduction of thirty-five per cent, while the hæmoglobin was as much as seventy per cent.

THE "NORMAL" DIET. — According to Dr. G. Munro Smith, in the *Bristol Medico-Chirurgical Journal*, the daily destructive metabolism, which is the great criterion of work done, does not vary much among different occupations. Premising that he does not consider moderate over-eating injurious, he finds that very many men eat considerably more than the most liberal tables: it is not an uncommon thing for an average-sized man on very moderate work to eat twenty-five or twenty-seven ounces of chemically dry food a day. Women eat much less than men, after making allowances for differences in weight and work. Where a man eats nineteen ounces, a woman of the same weight and of active habits eats only fourteen or fifteen ounces. On a diet from which all meat is excluded, he has found that twelve to thirteen ounces *per diem* will comfortably feed a hard-working man. A moderate amount of stimulants appears to increase the average: moderately free drinking diminishes it. A diet consisting of one part of nitrogenous to seven or eight non-nitrogenous is a good combination: it is greatly exceeded on the nitrogenous side by the majority of men and women, especially the former. A diet of twelve to fourteen ounces of chemically dry food, digestible, with the ingredients in proper proportion, is sufficient to keep in good health an average-sized man on moderate work. The majority of people (in England) eat literally twice as much as this.

TOLERANCE OF OPERATIONS ON THE LIVER. — Professor Ponfick of Breslau has been for a number of years engaged in making experiments in regard to the relation between the liver and certain anomalies in the formation of blood. In the course of these investigations he has made some striking discoveries, which, although not directly connected with the object of his investigations, are yet of great importance. One of the most curious results of his experiments has been the discovery that the animal functions may be conducted without serious disturbance even after the loss of a very large portion of so important an organ as the liver, says *The Medical and Surgical Reporter* of Oct. 12, 1889. In some cases, operating with strict antisepsis, he succeeded in removing as much as three-fourths of the liver, either at several sittings or in one single operation; and the animals upon which he experimented did not lose their lives, nor seem to be seriously disturbed in their health. In hundreds of experiments, in which he removed sometimes one lobe and sometimes another, the animals remained, in a considerable number of cases, perfectly well for months, and even for as long as a year. Clinical experience has already taught us that the whole of the liver is not absolutely essential to health, because large portions of this organ have been practically destroyed — as in the case of echinococcus and profound fatty infiltration — without any disturbance of the general functions of the body. But this, as Ponfick says, is hardly to be compared with the sudden and immediate removal of large portions of an organ which is supposed to be so important to health. The

explanation of this curious fact seems to be that the liver has a wonderful power of reproduction. Ponfick found, that, within a few days after the removal of portions of the liver, the work of its reproduction began, and that it proceeded with great rapidity to completion. In certain cases he found that within a period of a few weeks as much was reproduced as had been removed; that is, twice as much as had been left behind. These investigations have an interest altogether outside of that which is absolutely scientific, because it cannot fail to influence the development of abdominal surgery, if it is understood that large portions of the liver may be removed without serious danger to life.

LEPROSY HERE AND ELSEWHERE. — Dr. Hansen, the Norwegian discoverer of the bacillus of leprosy, came over to this country a while ago to trace the history of leper immigrants who had settled in Wisconsin, Minnesota, and Dakota. Of 160 original leper immigrants, he was able to find only 13; a few more may be living, but nearly 147 are dead. Of all their descendants, so far as great-grandchildren, not one has become a leper. In this country the disease does not increase, nor does it appear to be hereditary. The failure to spread here is thought to be due to the improved conditions of living which the immigrants are able to secure on this side of the ocean. The *Sanitary Inspector*, in speaking of a leper lately found at Brentwood, Eng., says that many persons believe that leprosy has entirely disappeared from England, yet there has probably never been a year in which a score of lepers could not be produced, and that, though England used to have lepers enough, leprosy has become a very rare disease since English homes and English roads have been kept clean.

PHTHISIS IN HIGH ALTITUDES. — From a report in the *Lancet* by Dr. L. Schrötter on the distribution of phthisis in Switzerland, it would seem that the inhabitants even of high altitudes are by no means so free from phthisis as we are wont to suppose. The tables of deaths for the eleven years 1876–86 show that phthisis is endemic in every part of Switzerland, not a single district being free from it. On the whole, the deaths from this cause are fewer in the high than in the low lying districts, but it cannot be said that the mortality from this cause is inversely proportionate to the altitude. Wherever there is a large industrial population, the phthisis mortality is considerable. Industrial populations always suffer much more than agricultural populations where the altitude is the same.

NOTES AND NEWS.

THE San Francisco *Bulletin* says that the California beet-sugar experiment is a success. Last year 2,000 acres were planted, and yielded 13,500 tons of sugar-beets, from which were extracted 1,650 tons of sugar. This was done at the Watsonville factory, which ran forty-seven days. The beets brought an average of five dollars a ton, and the farmers feel satisfied that they can raise them at a profit. They have guaranteed to greatly increase the acreage this year, and the output will probably be more than doubled.

— The United States consul at Bahia describes a substance called turfa, lately discovered in Brazil, at a place called Maratium, about sixty miles south of Bahia. Turfa has been found to contain the main ingredient now extracted from it by distillation, viz., petroleum, or, as it is locally called, "brazolina" or "petroleo nazionale," besides paraffine, gasoline, and lubricating-oils resulting from the process. A company was formed, and the concession purchased. Machinery has been imported from England, and from four hundred to four hundred and fifty hands are employed at the mines. The company, it is stated, will manufacture fifty tons of candles per month; and if the enterprise should prove a success, it will probably interfere with the trade in kerosene, candles, and lubricating-oils which the United States now has with Brazil and with the countries south of Brazil.

— The thirty-seventh annual meeting of the American Society of Civil Engineers was held at the society's rooms in this city last week, beginning on the 15th. The society now has a total membership of 1,335. The Norman medal was awarded to Mr. Theodore Cooper, for a paper on American railroad-bridges; and the

Rowland prize, to Mr. James D. Schuyler, for a paper on the construction of the Sweetwater dam, near San Diego, Cal. An important report was submitted by the committee on impurities in domestic water-supply. In the opinion of the committee, the organization to inquire into the sources of impurities in drinking-water, and the methods of remedying them, should be a national one, and the work should properly be taken up by the American Society. The committee recommended that all printed information on this subject should gradually be collected and catalogued, and that the society should own and maintain a complete collection of such literature. The report was accepted. On the 16th about four hundred members of the society and invited guests paid a visit to the government torpedo station at Willet's Point, the Brooklyn navy yard, and other points of interest. The officers of the society for the ensuing year are as follows: president, William P. Shinn; vice-presidents, A. Fteley, Mendes Cohen; secretary and librarian, John Bogart; treasurer, George S. Greene, jun.; directors, Charles B. Brush, Theodore Voorhees, Robert Van Buren, William Ludlow, William G. Curtis.

— The American Society for Psychical Research, after existing for five years, with its headquarters in Boston, and publishing some six hundred pages of "Proceedings," at last, for pecuniary reasons, terminated its corporate existence on Jan. 14. The English society of the same name is heir to its documentary possessions, and is to keep Dr. Richard Hodgson, late secretary of the American society, as its own secretary in America. A majority of the associates of the American society have joined the English society, forming the nucleus of an American branch. Professors S. P. Langley of Washington, H. P. Bowditch of Boston, and W. James of Cambridge, are appointed vice-presidents of the Society for Psychical Research in America; but, apart from their advisory functions, there is no "organization" here, — a circumstance which will doubtless contribute to economy and efficiency of work. It is to be hoped that a solid moral and pecuniary support to the society may be extended from this country. The annual assessment of American associates is three dollars. They receive for this the published "Proceedings," which appear quarterly, and the monthly "Journal," printed for circulation in the society only. Those who wish may become full "members" of the English society, with voting and other privileges, by the annual payment of ten dollars. Meetings of the branch will be held periodically for the readings of papers and discussion. Those who desire to join the society or to obtain information should address the secretary, R. Hodgson, No. 5 Boylston Place, Boston.

— In accordance with the intention of its honored founder, the trustees of the Missouri Botanical Garden, St. Louis, propose to provide adequate theoretical and practical instruction for young men desirous of becoming gardeners. It is not intended at present that many persons shall be trained at the same time, nor that the instruction so planned shall duplicate the excellent courses in agriculture now offered by the numerous State colleges of the country, but that it shall be quite distinct, and limited to what is thought to be necessary for training practical gardeners. Scholarships, not exceeding six in number, will be awarded by the director of the garden, prior to the first of April next. Applications for scholarships, to receive consideration, must be in the hands of the director not later than the first day of March. During the first year of their scholarship, garden pupils will work at the practical duties of the garden nine or ten hours daily, according to the season, the same as regular employees of the garden, and will also be expected to read the notes and articles referring to the subject of their work, in one or more good journals. In the second year, in addition to five hours' daily work of the same sort, they will be given instruction and will be required to do thorough reading in vegetable-gardening, flower-gardening, small-fruit culture, and orchard-culture, besides keeping the run of the current papers. In the third year, in addition to five hours of daily labor, they will be instructed and given reading in forestry, elementary botany, landscape-gardening, and the rudiments of surveying and draining, and will be required to take charge of clipping or indexing some department of the current gardening papers for the benefit of all. In the fourth year, besides the customary work, they will study the botany of

weeds, garden vegetables, and fruits, in addition to assisting in the necessary indexing or clipping of papers, etc., and will be taught simple book-keeping, and the legal forms for leases, deeds, etc. The course for the fifth year, in addition to the customary work, will include the study of vegetable physiology, economic entomology, and fungi, especially those which cause diseases of cultivated plants; and each pupil will be expected to keep a simple set of accounts pertaining to some department of the garden. In the sixth year, in addition to the manual work, pupils will study the botany of garden and green-house plants, of ferns, and of trees in their winter condition, besides the theoretical part of special gardening, connected with some branch of the work that they are charged with in the garden. From time to time, changes in this course will be made, as they shall appear to be desirable, and the effort will be made to give the best theoretical instruction possible in the various subjects prescribed; but it is not intended to make botanists or other scientific specialists of garden pupils, but, on the contrary, practical gardeners. Applications for scholarships, and any inquiries regarding them, are to be addressed to William Trelease, director of the Missouri Botanical Garden, St. Louis, Mo.

— The Mexican Government, according to the *Engineering and Mining Journal*, has issued a decree fixing June 30, 1890, as the date for the definite withdrawal from circulation of worn coin and of the coins known as reales, medios, cuartillas, and tlacos. Holders of such coins may before such date exchange them at their nominal value for decimal currency at the National Bank in the City of Mexico, or at its agencies throughout the republic. The mints will recoin the old money into decimal pieces. After the date fixed for the exchange of the old coinage at its nominal value, it may still be exchanged at the mints; which, however, will only redeem it according to its weight and fineness, and not according to the value stamped on it. From and after July 1, 1890, all commercial transactions must be effected on a decimal basis, infractions of this rule being punished by a fine of twenty-five dollars for the first offence and fifty dollars for every subsequent offence. Notaries, in drawing up contracts, are forbidden to mention the coins of the old system, even for the sake of greater clearness, on penalty of a fine of from fifty dollars to one hundred dollars. Any one who, after June 30, shall attempt to pass a coin of the ancient system will incur the same penalties as those awarded for passing illegal coinage.

— The Mexican Government, says the *Economiste Français*, has recently undertaken an inquiry into the internal condition of the country. The following are some of the results obtained by the inquiry: The population of Mexico has increased during the period comprised between the years 1880 and 1888 by 1,487,701 persons; that is to say, 185,962 annually, or an average increase of 2 per cent. The revenue, which amounted in 1880 to \$21,936,165, reached the figure of \$32,126,508 in 1888, — an increase of \$10,190,343. Landed property in Mexico was valued in 1880 at \$366,055,052, and at \$473,519,871 in 1888. At the end of 1880 there were 15 railway lines in working, with a length of 655 miles. At the end of the year 1888 the lines numbered 47, with a total length of 5,063 miles. In 1880 there were 10,501 miles of telegraph line. In 1888, the telegraph system, including the coast cables, comprised 27,704 miles. The number of telegrams despatched by the Federal Government lines, which amounted in 1880 to 381,607, exceeded 671,000 in 1888. Postal business showed a great increase: the number of letters and newspapers carried in 1880 amounted to 5,788,182, and in 1888 to 27,390,288. From the establishment of the mint, up to the year 1888, the amount of gold coined represented a value of \$112,671,000; of silver, \$2,194,111,828; and of copper, \$5,940,338; making a total of \$3,312,723,266. During the economic year 1886–87, the value of the imports into the Republic was \$52,252,275; and of the exports, \$49,191,930. As regards public instruction, the progress is very marked: the number of schools, which in 1880 was only 8,535, rose in 1888 to 10,726, while the number of scholars increased during the same period from 435,935 to 543,977. Finally, lighthouses have been established in the ports of Vera Cruz, Coazacoalcos, Alvarado, Frontera, Celestun, Sisal, Tampico, Campêche, and Progreso in the Gulf of Mexico, and at Guaymas and Mazatlan on the Pacific.