

in this particular year 41 deaths from small-pox occurred in the district, not one of which was recorded outside the district supplied by the underground water.

Mr. Latham, in his address, dealt largely with zymotic diseases as affected by ground water, and showed that cholera ordinarily breaks out when there is the least ground water; a high air and ground temperature is also necessary for its development; and, as a rule, the low-lying districts are favorable to the production of these high temperatures. Small-pox is almost always preceded by a long period of dryness of the ground, as measured by the absence of percolation. Typhoid-fever is most prevalent after a dry period, and the first wetting of the ground or percolation from any cause takes place. The condition essential to the development of diphtheria is a damp state of the ground marked by extreme sensitiveness to percolation of rain. Scarlet-fever follows the state of the dryness of the ground which is essential for its development, and it occurs in the percolation period. The conditions that precede small-pox are those favorable for the development of scarlet-fever, and, like small-pox, the dampness of the ground for any considerable period in any particular locality may check its development or render it less virulent, and it is most rife in low-water years. Measles are least prevalent at the low-water periods, and mostly rife at and near high-water periods. Whooping-cough follows the percolation period in its incidence, increasing with percolation, and diminishing as the waters in the ground subside. Diarrhœa is generally more prevalent in a low-water year than in other years; that is, with a very much colder temperature in a low-water year there is a very much higher death-rate from this disease.

Mr. Latham finds that the general death-rate of a district is amenable to the state of the ground water, years of drought and low water being always the most unhealthy.

HEALTH MATTERS.

A Faster in the Seventeenth Century.

Now that Succi, the Italian fasting man, is attracting universal attention, it may be interesting to recall a case of total abstinence from food for forty days, which occurred more than two centuries ago. In the winter of 1684, according to *The Hospital*, a certain Isaac Henry Stiphont of Haarlem was confined in a lunatic-asylum. At this date he was forty years old, and, although born of an insane mother, had learned a handicraft, married, and conducted himself like other people, until, in the previous autumn, he quarrelled with his brother-in-law, and in a scuffle accidentally broke the man's leg, when the fear of falling into the hands of justice drove him mad. He had been in the asylum a few months, when he suddenly took it into his head that he was the Messiah, and resolved to fast forty days and forty nights. Accordingly, on Dec. 6 he began to abstain from all food, and continued to do so until Jan. 15, 1685. During all this time he took no sustenance whatever. Nothing passed his lips but an occasional sip of water for the purpose of cleansing his mouth. If a little broth or brandy was put into the water, he discovered the addition instantly, and thrust the cup away untasted. Every effort was made to persuade or compel him to take food. It was even sought to influence him by the pretended apparition of an angel, who brought to him the express command of God that he should eat. He does not appear to have doubted the reality of the visitation, but continued to declare that it was the will of his heavenly Father that he should fast forty days and forty nights. Stiphont had been a smoker before the commencement of his fast, and continued the daily use of tobacco during the whole time of his abstinence from food. The case had excited great interest, and when the fast was ended the doctors desired the man to take some medicine to stimulate the action of the stomach. He refused, and would only take fish and a special soup to be prepared by his wife. So singular an occurrence made a great noise at the time. Some people ascribed it to a miracle, others to the combined effect of madness and tobacco. A madman, it was said, could endure a temperature that froze his companions; so, if insanity made a man impervious to cold, why should it not render him insensible to hunger? The wild hordes of Canada were known, during times of scarcity, to

exist for weeks upon water and tobacco, so why should not Stiphont, the civilized, do the same by the help of his madness?

Deafness for High Notes.

We learn from the *Medical Record* of Nov. 29 that Mr. Edwin Cowles, editor of the *Cleveland Leader*, who died last March, had a peculiar form of deafness. He never heard the sound of a bird's note, and until he grew to manhood he always thought the music of the bird was a poetical fiction. "You may fill the room with canary birds," he once said, "and they may all sing at once, and I would never hear a note, but I would hear the fluttering of their wings. I never heard the hissing sound in the human voice: consequently, not knowing of the existence of that sound, I grew up to manhood without ever making it in my speech. A portion of the consonants I never hear, yet I can hear all the vowels. About a quarter of the sounds in the human voice I never hear, and I have to watch the motion of the lips and be governed by the sense of the remarks, in order to understand what is said to me. I have walked by the side of a policeman going home at night, and seen him blow his whistle, and I never could hear it, although it could be heard by others half a mile away. I never heard the upper notes of the piano, violin, or other musical instruments, although I would hear all the lower notes."

Summer Drinks.

The *Medical Record* of Calcutta contains some interesting remarks upon the beneficial effects to be derived from non-alcoholic drinks in the height of summer, says the *Lancet*. After remarking that the very bane of European existence in India lies in the habits of eating and drinking, physiological arguments are adduced to show that highly carbonized materials are very deleterious in hot climates. The custom of the Moguls, who for luxury have had no equal in Indian history, is referred to as offering a fitting example. Their drinks consisted of milk, sweetened waters, or sherbets prepared from sub acid fruits, such as lemons, tamarinds, pomegranates, etc., flavored with rose or Keora essences, date-juice, numerous vegetable tisanes, and some infusions of glutinous seeds flavored with sugar and essential oils. These were often cooled with ice collected in pits, where it was stored during the winter months. The Oriental races, it is asserted, suffer from few of the diseases which are common to the copious meat-eating, wine-drinking Europeans. For a hot day, a light vegetable diet is recommended, with a spare quantity of meat food and an abundance of cooling, non-alcoholic drinks. Ice is regarded as a necessity, and coffee, tea, and cocoa are to take the place of whiskey-and-soda. The use of aerated waters, prepared from pure and wholesome ingredients, and the admixture in them of the numerous fruit flavorings which abound in the tropics, are regarded with favor, as likely to offer a lucrative source of income to persons engaged in such trade, while also giving the European community a very acceptable form of summer drinks.

Antiseptics among the Ancient Greeks.

Professor Anagnostakis of Athens has published some interesting facts in reference to the employment of antiseptic measures among the ancient Greeks, as we learn from the *Druggists' Circular*. Hippocrates and Galen were aware that an unclean condition of wounds retarded healing. They were also well acquainted with the fact that by thorough hæmostasis, suture, and the employment of antiseptic measures, infection of wounds might be prevented. Hippocrates warned his disciples against the use of moist dressings, on account of the danger of suppuration, and forbade the employment of drugs before the wound was dry. Above all, says Galen, avoid dirt, as it prevents healing. The ancient Greeks boiled their water before applying it to wounds. Sponges were avoided, and charpie recommended in their stead, which was to be destroyed after use. One of the principal antiseptic substances then in use was wine, which was usually heated before using, and with which, according to Hippocrates, all wounds were to be washed. Dressings dipped in wine were also applied to the wound. Salt was in very general use, either in solution or in the form of seawater. The solutions were rendered aseptic by boiling. Sulphate of copper was relied upon as an antiseptic for foul wounds, and

was also put into use as a hæmostatic. Tar was highly praised for its antiseptic virtues, and was either applied in the form of a dressing or directly poured upon the wound. Besides these, many aromatics and bitters were in daily usage, among which were thyme, rosin, asphaltum, etc., used as dressings or in the form of plasters. Galen was acquainted with catgut, and advised the use of non-putrefying substances for sutures. Professor Anagostakis declares that all this was not empiricism, but an antiseptic method founded upon some knowledge of the principles governing the healing of wounds.

NOTES AND NEWS.

At the meeting of the American Naturalists, Dec. 31, 1890, at Boston, the topic will be "The Inheritance of Acquired Characteristics." It will be presented from several points of view by the following speakers: Professor H. F. Osborn, W. H. Brewer, W. K. Brooks, W. G. Farlow.

—From the first of January, Dr. Richard Andree, 27 Leopoldstrasse, Heidelberg, will be the editor of *Globus*, which was founded nearly thirty years ago by his father, recently deceased.

—A quaint custom, dating back to Anglo-Saxon times, known as payment of "wrath silver," was recently observed at Knightlow Hill, a tumulus between Rugby and Coventry, England. It consists of tribute payable by certain parishes in Warwickshire to the Duke of Buccleuch. The silver has to be deposited at daybreak in a hollow stone by representatives of the parishes, the penalty for default being forfeiture of a white bull with a red nose and ears. The representatives afterwards dined together at the duke's expense.

—In the *Meteorologische Zeitschrift* for October, M. Nils Ekholm gives an account of a method on trial at the Meteorological Office of Stockholm, which seems likely to throw some light upon what has hitherto been a difficult matter to deal with; namely, the determination of the path taken by storms. He calculates, from the telegraphic weather reports, tables of the density of the atmosphere, and constructs from the data synoptic charts of this element, and finds that they give a better clew to the movements and origin of cyclones than the usual method of a comparison of the isobars and isotherms alone. He finds, as stated in *Nature*, that storms move in the direction of the warmest and dampest air, parallel to the lines of equal density, leaving the rarer air to the right hand. A few empirical rules are quoted from about a hundred cases which have been investigated.

—Ginn & Co. announce to be ready Dec. 20, "Good-Night Poetry," by Mr. W. P. Garrison. The idea of this book is that "the thoughts and feelings that are in the mind as it bids the world good-night have the hours that follow for undisturbed working on the quality of the brain. For moral culture, these last minutes are decisive. We must gain them for what is true and good; and poetry is the voice they will hear most willingly."

—At the eighth congress of the American Ornithologists' Union, held at the United States National Museum, Washington, Nov. 18–20, the papers read were as follows: "The American Ornithologists' Union—A Seven Years' Retrospect," an address by the retiring president, by J. A. Allen; "Seed-Planting by Birds," by Walter B. Barrows; "Phalaropes at Swampscott, Mass.," by William A. Jeffries; "The Birds of Andros Island, Bahamas," by John I. Northrop; "Remarks on a Few Species of Andros Island Birds, collected by Dr. Northrop," by J. A. Allen; "An Experimental Trial of a New Method for the Study of Bird-Migration," by Harry Gordon White; "A Study of Bird-Waves in the Delaware Valley during the Spring Migration of 1890," by Witmer Stone; "Our Present Knowledge of the Neotropical Avifauna," by Frank M. Chapman; "The case of *Colaptes auratus* and *C. cafer*," by J. A. Allen; "Observations upon the Classification of the United States Accipitres, based upon a Study of their Osteology," by R. W. Shufeldt; "Some Observations on the Breeding of *Dendroica vigorsii* at Raleigh, N.C.," by C. S. Brimley; "The Trans-Appalachian Movement of Birds from the Interior to the South Atlantic States, viewed Chiefly from the Standpoint of Chester County, S.C.," by Leverett M. Loomis; "A Further Review of the Avian Fauna of Chester County, S.C.," by Leverett M. Loomis; "Some

Bird Skeletons from Guadalupe Island," by Frederic A. Lucas; "The Present Status of the Ivory-billed Woodpecker," by E. M. Hasbrouck; "Some Notes concerning the Evening Grosbeak," by Amos W. Butler; "Owls of Illinois," by W. S. Strode; "The Spring Migration of the Red Phalarope, *Crymophilus fulicarius*," by Harry Gordon White; "On the Tongue of Humming-Birds," by Frederic A. Lucas; "Instinct, Intuition, and Intelligence," by C. F. Amery; "The Habits of the American Golden Plover in Massachusetts," by George H. Mackay; "Correction to Revised Catalogue of the Birds of Kansas," by N. S. Goss; "Second Occurrence of the White-Faced Glossy Ibis, *Plegadis Guarauna*, in Kansas," by N. S. Goss; and "Remarks on the Primary Faunal Divisions of North America," by C. Hart Merriam.

—The *Scottish Geographical Magazine* for November is authority for the statement that a submerged city has been discovered between Grado and Pola in Istria, which very likely will prove to be the ruins of the town of Cissa, mentioned by Pliny and Decimus Secundinus as situated upon an island of the same name. The position of its site being doubtful, considerable interest has frequently been evoked by attempts to identify it, which, however, have hitherto failed. A diver who has examined the newly discovered remains reports that the walls of buildings and streets can be clearly traced, and that he followed a sea-wall for a hundred feet, and might have been able to proceed along it for a greater distance had not the apparatus which supplied him with air prevented his further progress, while the depth of water beyond the wall forbade any attempt to examine its frontage. No signs of doors or windows were observed; but these, he considered, were blocked up and hidden by *débris* and marine growths. Further investigations are to be carried out, which, it is hoped, will do much to clear up the mystery that has so long hung over Cissa, its position, and its fate.

—Mr. T. Tuhlin has recently published in the *Nova Acta* of the Royal Society of Sciences of Upsala a paper on the nocturnal temperature of the air at different heights up to twenty-four feet, from hourly observations taken during the winters of 1887 and 1888, in the grounds of the Upsala Observatory. The observations were made mostly while snow lay upon the ground, with thermometers both with and without screens, and were intended to form a sequel to the series made by Mr. H. E. Hamberg during the summer season. The first part of the paper, according to *Nature* of Nov. 20, contains a *résumé* of the experiments made since 1778. The following are some of the chief results arrived at in the second part of the paper. The decrease of temperature by radiation from unprotected thermometers over snow remained almost constant at heights above half a metre. During clear nights the temperature increased with height, from two or three hours before sunset until two hours after sunrise; and the lower the temperature, the greater was the increase. During cloudy or foggy nights the temperatures at different heights were nearly equal; but, if the clouds were high and thin, the increase of temperature with height was only slightly hindered. The surface of the snow was found to be colder than the surrounding air.

—The movement for better roads which is so prevalent in many States has resulted in Pennsylvania in the appointment of a road commission by the legislature and governor, to investigate the road laws and formulate a better system. With the same end in view, the committee on better roads, a committee of citizens of Philadelphia, offered, through the University of Pennsylvania, prizes amounting to \$700, for the best papers on road making and maintenance, embodying the engineering, economic, and legislative features of the problem. A large number of contributions were received and referred by Dr. William Pepper, provost of the university, to a board of adjudicators appointed by him, composed of Alexander J. Cassatt, C.E., chairman; William Sellers, M.E.; Joseph M. Wilson, C.E.; William H. Wahl, Ph.D.; Thomas M. Cleeman, C.E.; Hon. Wayne MacVeagh; and Professor Lewis M. Haupt, C.E., secretary. During the examination of the papers, and until the awards were made, their authors remained entirely unknown to the board, which, after due consideration, awarded the first prize, of \$400, to Henry Irwin, B.S., C.E., assistant engineer Canadian Pacific Railway, Montreal, Canada; the second