may be widely distributed in the milk-supply of any town. It has been said that the tuberculosis of cattle is not the same disease as the tuberculosis of man, and that the absence of any proof of the human variety having ever been dependent upon ingestion or inoculation of the virus of the bovine variety tends to strengthen such a belief. To this it may be replied, that the bacilli of bovine tuberculosis are identical — according to all bacteriological methods at present known — with those found in tubercular formations in the organs of man, and that, although the disease presents anatomical differences in man and cattle, these differences may be explained as being due to differences of soil in the human and bovine tissues, the bacilli ingrafting themselves in those tissues which present conditions most favorable to their growth and development; second, absence of proof may only mean want of observation or recorded data, and cannot be held to imply that at no future time will satisfactory evidence of the dependence of the human disease upon a bovine source be brought to light.

"Having regard to all those considerations, surely the time has arrived when a radical change in the present methods of milk-production and milk-consumption is urgently needed. In the first place, it should be rendered illegal for cows known to be suffering from tuberculosis to be kept in stock by dairymen and farmers for milking purposes; and, second, in no household should unboiled milk be consumed, more especially by children. No other animal food is consumed by civilized nations in an uncooked state; and by the light of our recently acquired knowledge it would appear that there is as much, or more, danger connected with the practice of drinking unboiled milk as of eating raw flesh.

"Exposure to the heat of boiling water for five minutes destroys the life and action of the tubercular virus (Klein); and the same is true of the other specific disease-poisons. By such simple means, then, is it possible to guard against an ever-present source of danger, as well as to obtain protection from those possibilities of the introduction into our bodies of the viruses of enteric-fever, scarlet-fever, and the like, which the experience of past epidemics has taught us to be latent possibilities in milk, with powers of development at the most unexpected periods. If medical practitioners generally recognized the importance of these views, and were careful to enforce them upon those intrusted with the care of delicate children of scrofulous diathesis, or with hereditary tendencies to tubercle, a commencement would be made in the right direction, which would gradually extend itself through all classes of society."

ACTION OF BOILING WATER ON TYPHOID BACILLI. — Wilchur of St. Petersburg has found that when a volume of boiling water equal to that of a gelatine culture of typhoid bacilli is used on the culture, the bacilli are only partly destroyed; and that when the volume of water is double that of the culture, all the bacilli are killed. Experiments on the dejecta of typhoid patients showed that when four times the volume of water was added to the dejecta, the bacilli were invariably destroyed.

DEATHS FROM POISON. — There were in Great Britain, in 1886, 511 deaths from poison, including cases of chronic poisoning by lead. Of these, 327 were accidental, 178 suicidal, and only 6 homicidal. Lead heads the list of agents giving rise to accidental poisoning (95 cases); then follow opium and its derivatives (82 cases); carbolic acid (20 cases); belladonna is responsible for 9 cases; alcohol for 7; aconite, chlorodyne, and hydrochloric acid, each for 6; prussic acid, ammonia, and strychnine, each for 5. Carbolic acid was selected by 42 suicides; opium, laudanum, or morphine, by 41; oxalic acid, by 28; prussic acid, by 25; vermin-killer, by 18; hydrochloric acid, by 15; strychnine, by 14; sulphuric acid and arsenic have lost their popularity, the former having been used only by six and the latter by five persons.

DEATH IN BLIZZARDS DUE TO ASPHYXIA. — Markham writes to the *Journal of the American Medical Association* of Feb. 18, 1888, stating that there is an amount of evidence and a combination of circumstances sufficient to show that the greater number of the several hundreds who lost their lives in the recent great blizzard of the North-west perished from asphyxia, and not by freezing. Many of the bodies, when found, were in the position of grasping or clutching at their necks or throats. Indoor witnesses describe the atmosphere as having an appearance of density and darkness, similar to that stated by divers as existing when submerged with their armor in deep water. Many that escaped describe their peril as being from loss of breath or suffocation.

CROTON WATER. — At a recent meeting of the Medical Society of the County of New York, Dr. John C. Peters read a paper on 'The Water-Supply from the Croton Lake System,' in which he stated that the sewage created by 25,000 people, the largest condensed-milk factory in the world, 10,000 cows, 1,200 horses, 1,500 hogs, and 40 factories, was all being run into that body of water from which the city of New York draws its water-supply. While in former years the Thames water used by London contained five times as much bacteria as Croton water, recent investigations showed that in one cubic centimetre New York water contained 526 bacteria, against 44 contained by London water. While, of course, the greater part of these were the common, harmless bacteria, still there was a large proportion capable of producing disease; and he expressed the opinion that a great deal of the scarlet-fever, diphtheria, and other infectious diseases which prevailed in New York, might be traceable to germs derived from the water-supply.

HAIR-WASHES. — We learn from the *American Analyst* that recent analyses have shown, that of the preparations for bleaching the hair to "the delicate golden shade so much admired by the court circles of Europe, and the best society of the United States," to quote from a label on one of the bottles, all depend for their action upon the decolorizing and corrosive influence of nascent oxygen or nascent chlorine. The bases used in the various nostrums for this purpose are peroxide of hydrogen, aqua regia, and bronzer's acid. Peroxide of hydrogen is the mildest and most innocuous of the trio named. It is a colorless liquid which destroys the natural color of the hair, and which, if used long enough, turns it an unnatural grayish-white. It is rather expensive, and is therefore used much less than the two other acids. It produces sores upon the scalp, and gives rise to skin-complaints that resemble tetter, salt-rheum, and scald-head. The two acids are equally vile. They attack and eat the hair and skin alike. The former they partly bleach, and partly burn to a handsome gold color; the latter they stain to about the same hue as does a light application of iodine. Besides the dermatologic troubles named, they cause maladies hardly distinguishable from eczema and erythema. One curious disease that they cause is an inflammation of the cells of the hair follicles. The cellular walls break down, and lymph, and often blood, is extravasated in appreciable quantities. All three bases produce falling-out of the hair and premature baldness.

BOOK-REVIEWS.

The Social Influence of Christianity. By DAVID J. HILL. Boston, Silver, Burdett, & Co. 12°. $1.25.

THIS volume consists of a series of lectures delivered at the Newton Theological Institution, and designed partly to show what Christianity has done for society in the past, but more particularly to indicate its attitude toward the problems of the present. The treatment of such themes in lectures is attended with serious drawbacks, as it tempts the speaker to be what is called eloquent rather than thoughtful or clear; and this tendency is plainly visible in Dr. Hill's work.

The second chapter, on what Christianity has done for society, is a perfect dithyramb; and though it may have been well liked where it was originally delivered, yet when read in a quiet hour its turgid style and exaggerated statements produce an effect quite different from what the author intended. He seems to think that the higher civilization, which is well known to be of Greek origin, is really the product of Christianity. This part of his work, indeed, is vitiated throughout by the fallacy known to logicians as *post hoc, ergo propter hoc*, a very serious fault in the treatment of social questions.

In considering the social and political problems of the present day, Dr. Hill takes the same ground that other Christian teachers do, and we cannot see that he advances any thing new. In regard to the distribution of wealth, he admits that Christianity has no means of solving the problem; and the only suggestion he has to

make is that employers should treat their workmen well, and give freely in charity. It would have been far better to take the ground that the distribution of wealth is not a religious question, and that religious teachers, as such, have nothing to do with it. On the subjects of marriage and family life, and on the duties of parents to their children, the author has many good remarks; and here, as well as in the chapters on wealth, he shows himself unalterably opposed to the communistic doctrines now so widely prevalent. The chapter on 'Christianity and the Problems of Education' contains an earnest and in some respects able plea for moral and religious teaching in both public and private schools.

Dr. Hill's book seems to us the work of an earnest Christian man, deeply interested in the social problems of the time, but unfortunately lacking in the analytical and critical power which the thorough treatment of those problems requires.

NOTES AND NEWS.

THE long-neglected graphic study of the Mexican tribes has within the last twenty years received a new impulse by several native and foreign scientists who published their results through their own publishers. The governments of the single States are also becoming aware of the fact that something should be done for researches on the tribes within their borders. Thus, General Mariano Jimenez, governor of Michoacan, is providing now for the publication, at public expense, of the *Anales del Museo Michoacano* at Morelia, the capital, having previously shown his love for science by founding the new Museo Michoacano, and providing for its maintenance. The editorship of the *Anales* is in the hands of the director of the museum, Dr. Nicolas Leon, well known already through his republication of ancient books on Indians and their languages. The first three numbers (all published in 1888) which have come to hand contain thirty-two pages each, and the following treatises: 'Arithmetic among the Tarascos (Tarascan Numerals);' 'Etymology of Tarascan Geographical Names;' 'The Tarascan Grammar of Father Lagunas (in the Original Text);' 'On the National Name "Tarasco;"' 'The Tarascan Calendar (after a Manuscript in the Congressional Library, Washington);' 'Codex Plancarte, on Tarascan Antiquities of the Fifteenth and Sixteenth Centuries.' The *Anales* may be ordered through George A. Leavitt & Co., 787–789 Broadway, New York City.

— A book of a singular value for ethnography is Lieut. H. T. Allen's 'Report of an Expedition to the Copper, Tananá, and Kóykuk Rivers in Alaska, 1885,' an octavo government publication of one hundred and seventy-two pages, and many maps and illustrations from photographs. The exploring force consisted of three men, and had to proceed up the Copper River, and descend the Tanana River valley. Its explorations covered a space of approximately two hundred and forty thousand square miles and seventeen degrees of latitude, the area of which was almost entirely unknown up to the present time. The narrative of the exploring party is of picturesque and varied interest, and in every way is highly instructive for future travellers through these lonesome tracts. The observations made on the characters of the savages show that the former often partake of the burlesque. Among the tribes met with, we mention the Midnooskies, Mahlemuts, Atnatánas, Tananatánas, Ingaliks or Kaíyu-Khotánas, Unakho-tánas, Mnakho-tánas, Nabesna-tánas, etc. The tribes ending in *-tána* ('men') are all of the Tinné stock, while those in *-miut* are Innuit or Eskimo. The appendix contains zoölogical, geological, mineralogical, and meteorological observations of value.

— *Nature* attributes to the Vienna correspondent of the *Times* the announcement, that, in pursuance of a resolution passed at a recent meeting, the Vienna geologists will invite the International Geologists' Congress, which will assemble in London in September, to hold its next meeting in Vienna.

— At a recent meeting of the Victoria Royal Society, according to *Nature*, the president (Professor Kerrot) announced that the first meeting of the Australian Association for the Advancement of Science would be held at Sydney, beginning Sept. 4, the second at Melbourne, the third at Adelaide. The proposal that Victoria should join in the movement was favorably received, but at that meeting no action was taken in the matter.

— The Statistical Abstract for 1887, just issued, gives the following interesting figures in regard to the schools of the United States. In 1871–72 there were in this country 12,828,847 children of school-age, of whom 7,479,656 were enrolled in the public schools. These pupils were taught by 81,509 male, and 124,180 female teachers, to whom aggregate salaries of $37,503,309 were paid. The total expenditure for the schools that year was $70,891,374. In 1884–85 the school population had increased to 17,764,658, and the number of pupils enrolled in the public schools to 11,464,661. The number of male teachers was 109,632, and of female 199,422, to whom salaries amounting to $73,932,068 were paid. The total expenditures upon the schools for the latter year were $111,521,542.

— A very successful meeting of the Massachusetts Assembly of the Agassiz Association was held at Boston, May 29, 30, and 31. The sessions were held in the lecture-room of the Boston Society of Natural History, by the courteous invitation of that organization; and there, after a preliminary meeting of the delegates at the Parker House, the convention assembled at 8 o'clock Tuesday evening for a business meeting. The business consisted almost entirely in the election of officers, and, with scarcely an exception, the old board were re-elected. At 9 o'clock Wednesday morning President Farrar, of the assembly, opened the exercises by an address of welcome, to which the president of the Agassiz Association responded. Reports of work were next given by delegates from the twenty-one chapters represented, and from the Boston Assembly. These reports were of the most interesting character, and showed not only the deepest earnestness on the part of the chapters, but also gave evidence of much faithful work already accomplished by them. The convention was next addressed by Prof. Edward S. Morse, director of the Peabody Academy of Science at Salem, Mass. Professor Morse stated forcibly the advantages of a thorough scientific training, and cordially commended the association for the good work it has accomplished, pointing out various lines in which it may hereafter work to increased advantage. Prof. Alpheus Hyatt, curator of the Boston Society of Natural History, followed in a most helpful address, in which, after heartily seconding Professor Morse's suggestions, he emphasized still more strongly the possibilities of usefulness that are in the association, and showed the great desirability of securing as soon as possible such an endowment as may place the work of the Agassiz Association upon a permanent basis. He then gave a clear account of the Agassiz Museum, which the delegates were soon to visit, explaining the principles which rule in the arrangement of its contents, and illustrating by diagrams and carefully selected specimens, the distribution of the collections in the different rooms. Dr. Lincoln closed the morning by an exceedingly instructive and interesting address on the minerals of Boston and vicinity. In the afternoon and evening, parties of delegates, under the guidance of committees from the Boston chapters, visited various places of interest. About one hundred were present during the convention, many pleasant acquaintances were formed, and all felt that a long step had been taken toward advancing the assembly toward that position of stability to which it aspires. Perfect harmony prevailed, and the delegates separated with the firm determination to work for the association more diligently than ever; and this determination was expressed not carelessly, but with actual enthusiasm. In addition to those mentioned above, Prof. W. O. Crosby gave a most suggestive and helpful address.

— The fifth annual convention of the Association of Official Agricultural Chemists will be held at the United States Department of Agriculture on Thursday, Friday, and Saturday, Aug. 9, 10, and 11. All who are interested in the analysis of fertilizers, cattle-foods, dairy products, alcoholic beverages, and sugar are invited to attend.

— The State Board of Health of Michigan has just published its fourteenth annual report, for the fiscal year ending September, 1886. It contains very many valuable papers, to most of which we have already referred in *Science*. Among the most important are