

for references to the peculiarity mentioned. In the English books there is only a single incidental reference to it, and in that case the author does not say that he has ever seen a specimen. In German books there are two references, one of them being the one already mentioned by the English authority. The French anatomists do not mention it at all; and only one American, Allen, makes any reference to it. Among the anatomists attending the Medical Congress only two or three had seen specimens.

Dr. Billings, in a circular he has sent out to anatomists and others, has requested that information on the subject be sent to the Army Medical Museum.

The ethnological importance of Dr. Lamb's discovery has not yet been determined. If the eighth rib is found to occur more frequently in one race than in others, as the Washington specimens seem to point to the negro, the students of comparative anatomy may yet draw interesting deductions from that fact.

Measurements of Crania.

Under the direction of Dr. Matthews and Mr. Tracey, of the Army Medical Museum, a series of measurements of skulls is being made. About one hundred skulls, representing different nationalities, were selected from the three thousand which constitute the museum's collection, and a series of sixty linear measurements are made upon these in addition to measurements of certain angles and the ascertainment of the capacity of each skull. These measurements are mostly made upon lines of former ones, in order to preserve a uniformity of data, although many of them are considered of little or no value. A few new measurements are made, which, it is believed, will prove important. The measurements, together with descriptions of the skulls, will be published as a part of the catalogue of the Army Medical Museum which is contemplated.

It is not expected that any important conclusions will be reached as a result of the work above described. No fact has been better established than that the size of the brain or the shape of the skull has nothing to do with the mental capacity of the person. The causes of difference of intelligence must be sought elsewhere. It is possible that the measurements, if carried far enough, may tend to the establishment of distinct types of crania, and aid in their classification.

The Army Medical Museum collection of crania is in many respects a very interesting one. The number of Eskimo skulls is the largest yet made, and the department is especially rich in other aboriginal American crania. A recent accession of Peruvian skulls contains some curious specimens, especially of deformities. These were generally caused by bandaging and the binding of boards to the head, and a great variety of shapes was produced. Nothing is known as to the significance of these deformities. Whether they were distinguishing marks of different ranks in society or of the special rank of the individual, or were simply a custom, is a mystery.

Adulteration of Condiments.

The microscopist of the Department of Agriculture, Prof. Thomas Taylor, has begun an examination of the condiments of commerce for the purpose of ascertaining which of them are adulterated, the methods and extent of the adulteration, and of discovering methods by which the consumer may detect impure articles.

The first article treated was pepper, and the method of the investigation is here briefly described. A section of a pepper-corn is placed under a microscope, and magnified one hundred and fifty diameters. Its appearance is carefully noted and photographed, and a drawing in colors is made, showing exactly how it looks. The pure powder of pepper-corns is then treated in the same way, and, from a comparison of the image of this with that of the section, the changes caused by grinding may be noted. The next step was to examine specimens of the pepper of commerce to ascertain if it presented the same appearance as the pure pepper already photographed and drawn. In a majority of cases it did not, the differences being so striking as to mark it as an entirely different article.

Professor Taylor has ascertained that the substance used in adulterating pepper is the seed or stone of the olive. These are obtained in large quantities from the olive-oil factories, and ground

up with the pepper-corns, the extent of the adulteration being in some cases as great as fifty per cent.

No method of popularly detecting adulteration of pepper has yet been found. In bulk the pure pepper is darker in color than that to which olive-seeds have been added; but the difference is so slight that no person, unless possessed of a sample to compare with, would be able to discover any difference.

A New Fibre from the Stalk of the Cotton-Plant.

A manufacturing firm in New York has sent to the Department of Agriculture specimens of a new fibre they are making from the stalk of the cotton-plant. The samples received strongly resemble hemp, and seem to be adapted to all the uses that hemp is put to. A few fibres of it twisted together in the hand show remarkable tensile strength, although no exact comparative tests with other fibres have yet been made. A collection of the fibres of hemp, flax, jute, ramie, etc., from all parts of the world is being made by the department, and a new instrument has been invented by which it is expected that the tensile strength of each will be ascertained with great accuracy.

If the cotton-plant turns out to furnish as valuable a fibre as now seems possible, an important new source of profit will be afforded the cotton-planter of the Southern States upon their crops.

HEALTH MATTERS.

Corrosive Sublimate as a Disinfectant.

AN exceedingly valuable contribution to the subject of disinfection has been made by Dr. W. B. Hills of Cambridge, Mass., in a paper presented by him to the Massachusetts Medical Society. His paper is entitled 'The Value of Corrosive Sublimate as a Practical Disinfectant.'

He criticises the work and report of the committee on disinfectants of the American Public Health Association, which, since its publication in 1885, has been the guide of most of the boards of health in the United States. He says of it, "An examination of the report of this committee fails, however, to bring to light the slightest particle of evidence upon which such a recommendation could have been based. The statements made relative to corrosive sublimate are very contradictory and confusing; the biological tests recorded are few in number and very unsatisfactory; and the report, as a whole, shows evidence of hasty preparation, and is not at all creditable to the committee."

He reviews that portion of the committee's report which treats of corrosive sublimate and its action, and puts the committee on its defence. He does not deal in generalities which cannot be met, but particularizes in such a manner, that, if wrong, his mistakes can and should be pointed out; while if, on the other hand, he is correct, his conclusion should be accepted, and those of the committee should be changed to be in accord therewith. The general result of his observations and experiments is summed up in the following paragraphs:—

"Corrosive sublimate, in a word, though a very efficient disinfectant as measured by its power to destroy germs, is limited in its applications. It can be used for the disinfection of furniture and other articles made of wood or porcelain, or even metal, if varnished, the floors and walls of rooms, such parts of ships as can be reached with solutions, the hands and the surface of the body, and clothing and bed-linen if not soiled with discharges; in other words, for the disinfection of surfaces which are not themselves injured by contact with it, or surfaces which do not contain material of such a character as to destroy its efficiency. Its use for these purposes is, however, very much restricted, because we have no means of disposing of it, except through lead pipes.

"Objections have been made to it because of its poisonous character. The danger of poisoning, however, is very slight. The solutions employed are very dilute, and its taste is sufficiently disagreeable to attract attention before an amount sufficient to do any injury has been taken. If the solutions are colored, the danger of mistakes is much lessened. The same objection may be made with equal reason against all substances which we now recognize as disinfectants. Care is necessary in the employment of all of them,

and those intrusted with their use should be informed of their properties, that all necessary precautions may be taken.

"There is, however, one process of disinfection with corrosive sublimate to which this objection may with some reason be made. I refer to its use for the disinfection of streets, for which purpose it has been employed by the Board of Health of Boston for the past two years or more. If its use for this purpose is continued, the time cannot be far distant when the beds of the streets will become saturated with various compounds of mercury. All of these, so far as we have any knowledge of them, are violent poisons. Is any danger to be apprehended from continually inhaling or swallowing, month after month, dust loaded with compounds of mercury? This is a question deserving serious consideration at the hands of the Board of Health. While not claiming that the process is positively a dangerous one, I believe it is one which involves some risks, and one which it is advisable, therefore, to discontinue."

DEPENDENT CHILDREN. — We commend to our readers a paper presented to the Prison Congress by Mr. C. H. Reeve of Plymouth, Ind., entitled 'Dependent Children.' He says, "The mass of dependent children is largely made up of foundlings, illegitimates, children abandoned by worthless parents, orphans of the very poor, with a few better born who become waifs from various causes. In the cases of nearly all of them except the last, there is more or less mental deficiency, or deformity in the brain substance, or the conformation or arrangement of brain ganglia. Statute law makes marriage a civil contract, — a matter of dollars and cents. No matter who comes for a marriage permit, — the strong or the weak-minded; the sound and healthy or the deformed and constitutionally diseased; the millionaire or the hereditary pauper; the moral and orderly, or the vicious and confirmed criminal; the progenitor of statesmen or of idiots; the sane, or the hereditary insane if favored with a lucid interval; the temperate or the besotted, — all are given a permit alike. The revenue is collected, the ceremony authorized, the record made, and this civil contract is fully completed by sanction of law. If a man wants to run a locomotive-engine, or practise medicine (elsewhere than in the United States), or plead in the courts, or stand in the sacred desk and talk theology, or teach a school, or run a pilot-boat, or even to secure a petty clerkship under government, he must submit to a rigid examination as to his fitness for the position and its duties, and be able to pass one. But one comes forward to get a permit to enter into a contract that places him under obligations, and demands of him duties, that are the most important, the most responsible, the most sacred, that can be assumed anywhere between the cradle and the grave, that vitally affect the bodies social and politic as well as corporal, now existing and hereafter to exist, directly and indirectly, not a word is said. All are licensed." In his paper he criticises the Church in the following language: "It regards marriage as a holy, sacramental covenant. By permission of law, its ministers ceremonially aid the parties in making this holy covenant, which at the same time involves the statutory civil contract. It makes little or no inquiry as to the candidates (one organization may as to belief in a creed). It looks only for a license, and the fee in prospect. Even in the shadow of the prison-wall and of the gallows, its ministers, in sacerdotal robes, have united criminals. Thus is it sanctioned by the Church!" He believes that human foresight and legal provisions can prevent these marriages.

BALDNESS. — We have from time to time given our readers the views held by the medical profession and the laity as to the causes of baldness. The view which has seemed to us as being the best supported by both facts and theory is that baldness is especially liable to follow the wearing of a tight-fitting hat, the band of which constricts the blood-vessels, and thus diminishes the blood-supply to the scalp. In the *Popular Science Monthly* is a communication from a writer who has spent a considerable time in India, which controverts this explanation of the cause of baldness. The Parsees are compelled to keep the head covered during the day by a high hat, which is so tight as to crease the scalp, and, the writer thinks, possibly the skull, and at night by a skull-cap. He has never seen or heard of one of them being bald.

TREATMENT OF YELLOW-FEVER. — Regarding the treatment of this disease, Dr. George M. Sternberg, U.S.A., in the *Therapeutic*

Gazette, Aug. 15, reports the favorable results obtained in a series of twelve cases treated on the alkaline plan. His recent researches in Havana have led him to think it very probable that in yellow-fever, as in cholera, the specific micro-organism causing the disease is located in the alimentary canal. While this is not proved, it is demonstrated, that, as a rule, no micro-organism capable of development in the culture-media usually employed by bacteriologists is present in the blood or tissues of those recently dead from yellow-fever. This view naturally suggests intestinal antisepsis as a mode of treatment. It is well known that in yellow-fever the urine and the vomited matters are highly acid. He has also found the intestinal contents to have usually a more or less decided acid re-action. A microbe, therefore, capable of multiplying in the stomach and intestine in this disease must be able to grow in an acid medium. But aside from this theoretical reason for prescribing alkalis, the highly acid condition of the secretions furnishes an indication for such a treatment, and the writer has long desired an opportunity to see a thorough trial of a decidedly alkaline treatment. These considerations induced him, during his recent visit to Havana, to propose a formula, which was adopted by Dr. Raphael Weiss, house physician at the Garcini Hospital, and he has just received from him a record of twelve cases treated by the director of the hospital, Dr. Francis Cabera, and himself. They all recovered, and he adds that every case so far treated at the Garcini by that method has recovered. While these twelve cases were being treated, and a little before, eight cases were treated in the same institution by other methods, and five of the eight died.

DIPHTHERIA CARRIED BY TURKEYS. — Some time ago we reported several cases of diphtheria which had been contracted from a turkey. The following case, which is taken from the *British Medical Journal*, is another contribution to this subject: "A fowl with diphtheria was brought to the house of a veterinary surgeon on April 24, and died on the 29th. The feeding and nursing of the bird devolved on a lad, aged fourteen, who was assisted by his brother, aged five. On the evening of May 11 the writer was called to see the little boy of five, who had been poorly for a day or two. He had enlarged cervical glands on the left side, which had come on rapidly. He was a delicate little fellow, with fair hair and anæmic aspect. The temperature was 103° F.; pulse, between 120 and 130. The fauces were more or less covered with diphtheritic membrane, the left tonsil more especially. Under the administration of biniodide of mercury and iron, the throat symptoms cleared up, and the child made a good recovery. On the day after this case was first seen, the boy who fed the fowl was very feverish, and had similar patches over his fauces, but not to the same extent as his brother. His throat was painted with boroglyceride. A sister, aged nine, had also a similar explosion on the fauces. Bark and acid and boroglyceride was the treatment. On the 18th the mother, who had nursed them, was attacked, and was similarly treated. They were all kept well up with beef-tea and stimulants."

CIGARETTE-SMOKING. — Dr. W. L. Dudley has been conducting some experiments with cigarettes in order to determine their effect upon smokers. His conclusions are, (1) that carbonic oxide is the most poisonous constituent of tobacco-smoke; (2) that more injury results from cigarette than cigar or pipe smoking, because, as a rule, the smoke of the former is inhaled; (3) that cigarette-smoking without inhaling is no more injurious than pipe or cigar smoking; (4) that the smoke of a cigar or pipe, if inhaled, is as injurious as cigarette-smoke inhaled; and (5) that the smoke from a Turkish pipe, if inhaled, is as injurious as that of a cigarette inhaled.

ELECTRICAL SCIENCE.

Electric Lighting in America.

THE following is an abstract of Prof. George Forbes's paper on the above subject, read at the recent meeting of the British Association. Professor Forbes has been in the United States, and has paid especial attention to the alternating-current system of electrical distribution. He first sketched the rapid advance of electric lighting in the United States as compared with its slow progress in England, — a result which he considered partly due to the acts of