

ON STRYCHNIA AS A POISON—ITS ANTIDOTE.

The following are condensed extracts from a paper on this subject, by Prof. Mitchell, M. D., of Jefferson Medical College, Philadelphia:—

But a few years ago, no antidote for the poisonous action of strychnia was known, the treatment being purely remedial, and in no sense chemical. The spasms or jerks were often attempted to be controlled by anti-spasmodics. The patients generally died, after a brief period of terrible suffering.

In later years, the use of this poison has very greatly increased, partly because of the smallness of the dose, and partly because of the easy methods of concealing its administration. The multiplication of cases, however, has led to a more perfect understanding of its action, and the means of controlling its fatal tendency. When it is known that a person has taken strychnia, and exhibits tetanic jerks or spasms, the physician should empty the stomach at once by repeated use of the pump, or by means of a prompt emetic, as of ten grains of sulphate of zinc or sulphate of copper, every ten minutes, until the organ is thoroughly evacuated, and he must not lose a moment in administering the antidote.

Tannic acid and iodine were, for a time, almost the only proper antidotes in use. Both have succeeded, and are therefore reliable. The acid may be given dissolved in water *ad libitum*; at least an ounce should be put in a quart of water, to be drunk freely and largely. The use of it forms an insoluble and inert tannate of strychnia.

The tincture of iodine has also proved decidedly antidotal. Give twenty drops, in mucilage of gum arabic or sugared water, at once, and in ten minutes after, thirty drops, and if need be, forty drops for the next dose. This administration controls the spasms, and the patient is safe.

Camphor has also been found to have an antidotal power. Dr. Claiborne, of Petersburg, Va., reports the case of a man aged thirty, who took two grains of strychnia. In forty minutes he was laboring under severe jerks or spasms, which continued nearly two hours, almost incessantly. Respiration and deglutition were nearly impracticable. Very large doses of camphor were exhibited, amounting altogether to 60 grains, in less than an hour. Recovery ensued.

Sulphate of morphia is another antidote, and, of course, opium would prove so. In the *Western Lancet*, Dr. Phillips gives the case of a lady who was poisoned by swallowing three grains of strychnia, in mistake for sulphate of morphia. On making the discovery, the lady was placed in a very warm bath, and made to swallow five grains of the morphia salt. The action of the poison was completely arrested, and she recovered.

Chloroform was resorted to by Dr. Jewett, of Boston, in a boy aged fifteen, who in mistake swallowed two grains of strychnia. Medical aid was not procured until half an hour after the accident, when the jerks were violent and deglutition almost impracticable. He was relieved by the inhalation of chloroform, for ten minutes, and partial anæsthesia, kept up for hours, saved him.

D. O'Reilly, of St. Louis, saved a patient fully poisoned by strychnia, by tablespoonful doses of tobacco. Hydro-chloric acid given in milk to a dog poisoned with strychnia, cured it.

The *Vermont Caledonian* stated that ninety grains of strychnia were swallowed by a man, in half a pint of strong gin, without his knowledge that the poison was present. As soon as the discovery was made, an emetic was resorted to, and recovery ensued.

In Sydney, N. S. W., a favorite sheep dog was poisoned with strychnia, and its owner, to put a period to its sufferings, administered a tablespoonful of arsenic mixed with water, when the dog was soon relieved of spasms, and in an hour afterwards had recovered. Thus has been enumerated nine articles, each of which is capable of counteracting the poisonous action of strychnia; these are gin, tannin, iodine, sulphate of morphia, chloroform, tobacco, hydro-chloric acid, camphor, and arsenic.

As to the query, "How much strychnia will kill an adult?" no fixed answer can be given. Very much depends on the fullness or emptiness of the stomach at the time of swallowing the dose; not a little likewise is due to the previous habits of the

patient, the morbid or healthful state of the system, &c. Two men, of the same age and vigor, took each an ounce of laudanum on the same day. Both had medical aid in two hours after the accident. The one died, while the other speedily recovered. The full stomach of the one and the empty stomach of the other, accounted for the difference. The one took the poison an hour before the usual dinner time, the other, an hour after he had dined.

The presence of a potent counter agent in the system is calculated to antagonize a dose of poison. The celebrated Fire King, who deceased a few years since at Hoboken, after taking a dose of liquid chloride of soda, would swallow poisonous hydrochloric acid, unharmed, in the presence of a crowd of wondering spectators. It is upon the same principle that alcoholic spirit taken until complete intoxication results, is a well known expedient to save life, after the bite of the most venomous serpent. While, therefore, one grain of any known poison might kill an adult in full health and with an empty stomach, another person of the same age might swallow, with comparative impunity, ten or twenty grains of the same poison, under other circumstances.

THE DENTAL CONVENTION.

The annual meeting of the American Dental Association was held in Philadelphia, continuing for several days during the last week of July. Several papers were read, and subjects of general interest discussed. The proceedings are reported in the last number of the *Dental Cosmos*: from which we condense the following, with some comments:—

DENTAL PHYSIOLOGY.—Dr. Atkinson read a paper on this subject, in which he stated that perverted habits would account for the prevalence of dental disease among the American people; a well-regulated course of life would secure good teeth and the enjoyment of health. This desirable result would be much promoted by the following rules:—never expectorate, but swallow saliva; eat regularly and discard lunches; never eat after weariness and fatigue, before first drinking; never eat to repletion; keep the teeth and the entire body clean; avoid taking that which is not food; exercise through the day, and take uninterrupted rest at night. Tooth-edgedness was a peculiar sensation connected with dental physiology. It appeared to be due to some nervous sensibility in the enamel of the teeth. Several points in this paper drew forth remarks from the members. Dr. Lyman related the case of a gentleman who was unable to eat anything sour, without using sugar to counteract the tooth-edgedness which it produced. Dr. Sill said he had suffered much from tooth-edge, when young. Upon eating an apple of the Woolman stripe, the sensation of the teeth was almost unbearable, until counteracted by eating a Pearmain, which he supposed contained a great proportion of sugar.

DENTAL PATHOLOGY AND SURGERY.—A report on this subject was presented by a committee, through Dr. Atkinson. The simplest form of pathological disturbance in the enamel of the teeth is a mechanical separation of its parts. The second change is chemical, and involves the idea of molecular disintegration, and it will go on, serially, as long as the affinity of the solvent for the molecules is greater than that which exists between them for each other. There is also a state of semi-solution and resolidification, which is truly pathological, and is displayed in cicatrices and the reproduction of cellular and osseous structures. The reproduction of bone is a new process. The forms of disease affecting human bones are venereal virus and mercurial influence. Metallic mercury is entirely inert; its compounds effect systematic impression. When bones are dissolved, and held within the walls of an abscess, recalcification may be obtained and a perfect cure established; but the new bone produced will be of lower organization than the original. Venereal virus first attacks the cancellated tissue of bones; when this condition is known to exist, the solution is discharged and iodine and glycerine are employed for dressing. In mild cases the wine of opium is a good application; but in malignant cases, requiring heroic treatment, a saturated solution of resublimed iodine in creosote should be employed. He described a case in which the upper maxillary and superior turbinated bones were gone, and the middle turbinated bones much

inflamed. He first removed the diseased structure, obtained a pocket for the retention of the plasma, and by application of the favorite solution of iodine in creosote, succeeded in effecting a remarkable cure. Dr. W. H. Allen could testify to such cases as those described by Dr. Atkinson, in which new bone had been formed. He had himself succeeded in partially reproducing the external plate of two denuded incisors, and had known of loose teeth having been rendered quite firm and serviceable by the treatment described. Dr. Hawes confirmed the statements of Dr. Atkinson, with respect to the reproduction of bone in decayed teeth; and Dr. Taft related a case of the four superior incisors having been attacked with a continuous abscess, which was cured by the application of tannin, glycerine, creosote and iodine. The decayed bone was reproduced in the course of three months.

IRREGULAR EXTRACTION OF TEETH.—The Convention passed the following resolution offered by Dr. Hawes:—"Resolved, That in our deliberate judgment the frequent and indiscriminate extraction of teeth, for trifling, temporary and other wholly unnecessary causes, which has so long and so extensively prevailed, should not only be held perfectly inexcusable, but should be severely censured; and that an intelligent and patient remedial treatment, for their restoration from disease and permanent preservation, should be the first and highest aim and effort of our profession, and should be most earnestly explained and recommended to the public. And further, that in our belief, the progress of dentistry, at the present day, has revealed resources, varied and ample, when timely used, for the preservation of almost every tooth, so that its decay and extraction shall only be simultaneous with that of the human frame itself."

In this resolution, adopted by the American Dental Association, we have the pledge of a new purpose. A dentist is chiefly held to be an extractor of decayed, and manufacturer and setter of artificial, teeth. We are now told that the science of dentistry has been so improved that almost every tooth may be preserved as long as the human frame endures. Such triumphs in dental science have not yet been dreamed of by the mass of mankind. A new race must grow up to await its blessings, for millions of persons in the United States are now furnished with sets of artificial teeth when they reach the age of about fifty years.

CAUSES INFLUENCING ABNORMAL DEVELOPMENT OF TEETH.—Dr. Sylvester read a paper on this subject, in which he drew comparisons between the teeth of the Aborigines and the present inhabitants of the country. He believed that decay in any tooth was the result of a violation of nature's laws; 1st, parental influence; 2d, gestatory influence; 3d, improper diet; 4th, impure air; 5th, want of exercise. Dr. Atkinson thought they were in deep water respecting this subject. Children should indeed receive proper nourishment, and particularly food containing the phosphates. Dr. Buckingham believed that defective teeth were more often the result of *over* than *under* feeding. The use of food containing phosphates insured the production of dense and durable teeth. Dr. Whitney thought the mixture of races was a fruitful source of irregularity in teeth. Dr. Watts believed that a deficiency of phosphates in mothers' milk was a cause of imperfect dental development. He had known a case of a mother who had freely used the phosphate of lime, according to his advice, and her children had finely-developed teeth. Dr. Ellis stated that it was a pernicious habit to breathe through the mouth. His opinion was based upon long and careful investigation.

TREATMENT OF DENTAL IRREGULARITIES.—Dr. N. W. Kingsley expressed his views on this subject. To give a general idea of his method of correcting irregular teeth, he supposed two cases; one in which an upper central incisor stood within the arch, and another in which the central upper incisors required turning upon their axis. In the former case he fastened a gold band outside of the arch, secured it to the back teeth, and placed a gum-elastic strip around the tooth, fastening it to the band. The contraction of this strip draws the tooth directly into place. In the second case he used the gold band and gum-elastic strips, but made a nick in the wire, in order to retain the elastic bands apart, when tied, and thus give a rotary movement to the tooth. Different opinions

upon this mode of treating irregular teeth were expressed by a number of members. Dr. Watts, condemned metallic bands and India-rubber appliances for such purposes. Flax was more desirable than rubber, as it contracts to a certain point, and then firmly retains the tooth in position, allowing it time to recuperate. Most of the members, however, were favorable to the use of India-rubber bands. Dr. Searle related the case of a Russian nobleman, whose upper (buck) teeth were very prominent, and caused him great uneasiness. After visiting several dentists of repute, to have the deformity corrected, he applied to Dr. Brewster, who undertook the task, stipulating that his instructions should be implicitly obeyed. He applied a pad upon the back of the patient's head with a ligature passing directly over the front teeth. In eight months the deformity was cured, and when the nobleman returned to Russia his friends did not know him, so great was the change and improvement in his countenance.

FILLING TEETH.—Upon motion, this subject was brought up for discussion. Dr. Rogers regarded gold as the sheet-anchor of the dentist; yet in some cases tin-foil was the best material for filling and preserving teeth. It was not desirable for front teeth and upon a grinding surface. Dr. J. A. Perkins gave Dr. Wood's plastic metallic filling the preference over the foil. Dr. Smith recently examined the teeth of a lady, in which were good tin-foil fillings of 34 years standing. Dr. Atkinson held this question to be of paramount importance. He did not believe gold was the best filling material under all circumstances.

CLEFT PALATE.—This subject was brought up for discussion, by motion, when Dr. Kingsley, of New York, exhibited and explained his artificial vellum. He stated that, by means of his invention, he had rendered the speech of patients, whose conversation it had been impossible to understand, so intelligible that any peculiarity would escape detection, except by the professional ear. Dr. Allen congratulated the profession on the results of Dr. Kingsley's efforts; he had attained to a higher point in this direction than had ever before been reached. A vote of thanks was given to Dr. Kingsley for the description of his method of treating cleft palate and for making a perfectly practical artificial vellum: also a gold prize medal.

LAUGHING GAS IN DENTAL SURGERY.—Upon motion, this subject was brought up for discussion, whereupon Dr. J. Allen stated that he did not advocate the use of any anæsthetic agent, but considered nitrous oxide or laughing gas the most desirable of any that had ever been employed. He had ceased to use ether and chloroform, on account of their danger, and considered laughing gas the most pleasant and reliable anæsthetic agent. It was somewhat expensive and difficult to keep, and this was an objection to its employment. Dr. Searle also preferred it. He applies it with a mouth-piece, and prevents the patient from opening his lips during inhalation. It is always uniform in its effect. Dr. White used it invariably, as made from the nitrate of ammonia. He fused the nitrate of ammonia in a glass retort, upon a sand bath, and passed the gas through a quantity of water sufficient to absorb any nitrate of ammonia which might pass over in vapor without being decomposed. The operation required care and intelligence. Dr. Atkinson said there was not a well-authenticated case of death from chloroform on record, yet he never administered it without apprehension.

MECHANICAL DENTISTRY: INDIA-RUBBER PLATES.—Dr. Perkins condemned the use of India-rubber for plates, and Dr. Allen thought its merits were far below gold. Dr. Hawes liked India-rubber, and never saw more than one or two patients who would not pronounce in its favor. Dr. Palmer stated that within three weeks he had substituted rubber for gold in his own case; but it excited a disagreeable heat in his mouth and rendered it insensible to cold. Dr. Holmes avoided the disagreeable heating effect of India-rubber, by drilling holes through it and filling them with gold wire. The profession is not a unit upon India-rubber.

ALVEOLAR ABSCESS.—Dr. Dwinelle stated that diseases of the antrum are amenable to treatment, when the cause of irritation is removed; its nature is not so well understood by the medical as by the dental

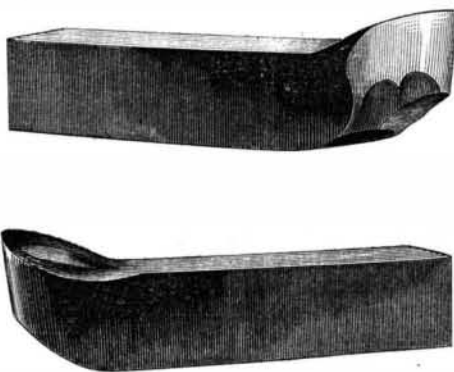
profession. In ordinary alveolar abscess, he dries out the pulp cavity, and fills it with creosote dropped from a cotton broach. Dr. Roberts, in one case of alveolar abscess, filled with gold around a pivot of platina, introduced into the root. The operation was performed about six years ago, and the results have been satisfactory.

DISEASES OF THE ANTRUM.—Dr. Atkinson stated that diseases of the antrum were caused by inflammation. It was not necessary to remove a good tooth to get access to the cavity. A perforation should be made between the fangs of the teeth, as between a second bicuspid and first molar. He uses dressings of salt water, glycerine, iodine, and tincture of arnica. Dr. Kingsley stated that his father had lost a large portion of the bony walls of the antrum, and there was an offensive discharge. He used tonics internally, syringing with nitrate of silver, and succeeded in effecting a cure.

Along with much that was useful, communicated in the papers read, and in the remarks made by the members of the Dental Convention, a great many indefinite and high-sounding, notional views were presented. The dental profession undoubtedly have a leaning to the humorous side of human nature. One of the craft in this vicinity has lately affixed an addition to his shingle, on which is the following declaration of principles and practice:—"Teeth extracted without pain by the application of nitrous oxide (laughing) gas."

A GOOD ROUGHING TOOL.

It is believed that the cutter illustrated herewith comprises the most desirable features of an efficient



roughing tool. For work of the kind mentioned, the instrument must be strong and of the proper shape, that will do the most duty without being dressed, tempered or ground too often. It must also cut freely, so that it will not take more power to drive it through the iron or brass than is necessary. This tool is now very generally used on all heavy work in the best shops, and is so far superior to the diamond-point that it is not to be compared with it for a moment; a trial will convince the most skeptical of the truth of this assertion. It is necessary to have right and left-hand tools for long shafts, so that the turner will not be obliged to run the carriage back to take another cut, and in this feature it is not so convenient as some diamond-point tools ground to cut either way. This tool is much better than the latter, however, in that the edge is inclined in the direction of the cut, and the wedge cleaves and does not bruise or force the metal off, as is the case with the round noses, stub-ended diamond-points, and nondescript cutters of all kinds without a name, that many turners are content to use. The strength of the edge and the chip it will carry, is apparent at a glance, and if the belt will drive the work, the whole cutting face may be engaged without digging in or breaking, provided it is properly dressed and tempered.

Such tools as these are continually used on the largest steamboat and marine engine shafts in the country; these have been turned all over, without one dressing and very little grinding. The tool works with less heat than a diamond-point, for reasons previously set forth, and it is believed by the best lathe-men we have in this city to comprise the chief requisites of a roughing tool.

The great wine cask in Heidelberg Castle has found a rival in one just completed at Dover, Eng. Eight couples danced on the top, and its cost was about \$1,000.

DISCOVERIES AND INVENTIONS ABROAD.

Imperial Ruby Dye.—A patent has been taken out by R. A. Brooman, London, for producing a new aniline color, which is described as follows:—The color (the normal tone of which is a cerise, or its derivative shade) is obtained by the combination of fuchsine and coralline, or any other yellow or orange color extracted from coal tar products. Process—The fuchsine and coralline are dissolved, together or separately, in methylated spirit, acetic acid, alcohol or other spirit. The coralline predominates in quantity over the fuchsine; thus, to obtain the normal tone of imperial ruby, the inventor takes, say, three parts of coralline to two parts of fuchsine. These proportions, may, however, be varied; any excess of coralline in the dyeing bath tends to produce a yellow cerise, while an excess of fuchsine, on the contrary, imparts a more violet shade; thus, by varying the proportion of one or other of the products, all the gradations of shades of cerise and its derivatives may be obtained.

Belgian Artificial Leather.—In Belgium artificial leather is made as follows:—A certain quantity of gum, as caoutchouc or gutta-percha, cut into small pieces, is softened by subjection to a strong heat; then 80 or 90 parts of scraps of hide or leather of any sort are added. Hair of any kind and shreds of woolen cloths may be added, and intimately mixed with the other substances, by an apparatus heated for that purpose. If the artificial leather is wanted hard, sulphur is introduced while the substances are mixing, in order to vulcanize the gum. The thick paste thus obtained is pressed into sheets, while warm, and afterward rolled to the required thickness.

Photo-lithographic Process.—M. Morvan has addressed a communication to the Paris Academy of Sciences, containing a description of a new lithographic process. He says:—"Upon a lithographic stone, previously coated in a dark place, with a varnish composed of albumen and bichromate of ammonia, I place the right side of the subject to be reproduced, whether the picture be upon glass, linen, or paper. Papier Saxe is naturally to be preferred. But any other sufficiently transparent substance suffices for this operation. This done, I expose the stone to the action of light, from 30 seconds to 2 or 3 minutes only, if in the sunshine; and from 10 to 15 minutes, at the most, if in the shade. At the end of this brief time, I remove the subject and wash the stone, at first in soap water, and next in pure water, and I immediately pass over it an inking roller. The design is already fixed, for the picture begins to reveal itself in black upon a white ground. Then I gum it and leave it some minutes to dry, and the operation is concluded; we can then pass it through the press and print from it."

"It will be understood that the light fixes the varnish and renders it insoluble wherever it strikes upon it; but that, on the other hand, all those parts of the stone shaded by the lines of the original design, remain soluble, consequently attackable by soda and by acid, in addition to what the substance of the soap contains; the action here produced upon the stone belongs at the same time to engraving and to lithography."

"As to the advantages of the process, they may be summed up as follows:—Simplicity and rapidity of operation; exactitude of reproduction; no need of negative clichés upon glass or paper: the positive model comes positive; absolute preservation of the model, intact and immaculate; permanency; at least equal to that of engraving upon stone; and, lastly, the great economy of the process."

Preventing Sea-sickness.—A patent has been taken out by J. Ashe, of Birkenhead, England, for preventing sea-sickness, by attaching a couch or a chair for supporting a person, to a ball and socket joint, fitted to a vertical standard, secured to the cabin floor. The standards used have each a branch or several branches at or near the top, which bend outward, and from each is suspended the spring chair, or couch, connected by the ball and socket joint. The person sitting in such a chair, or reclining on a couch thus suspended and arranged, will always remain in the same position, nearly; and the rolling and pitching motion of the vessel will not be felt. There is a ship's life berth boat exhibited by T. S. Brown, of Greenpoint, L. I., at the Fair of the American Institute, which is suspended, like Mr.