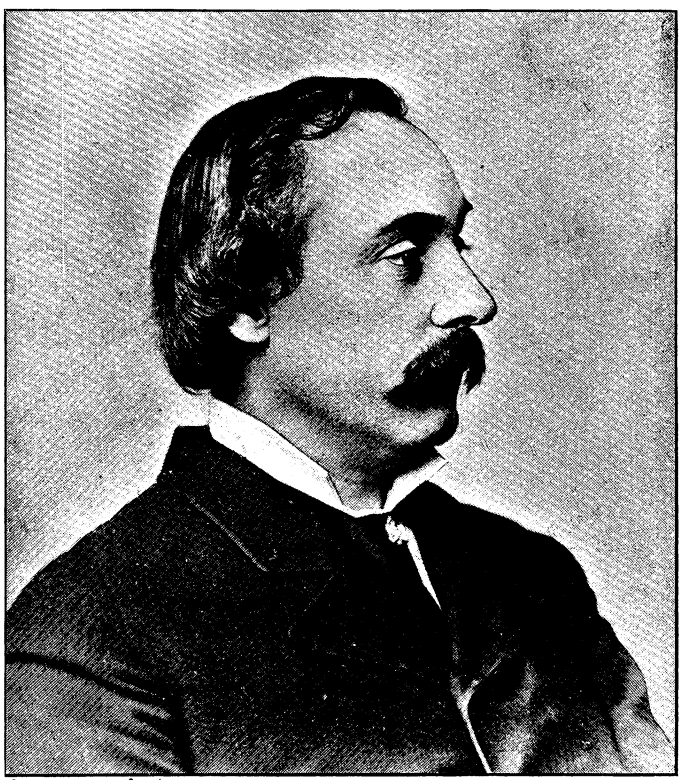


FERDINAND I. S. GORGAS, M. A., M. O., D. D. S.

ITEMS OF INTEREST.

VOL. X. PHILADELPHIA, APRIL, 1888. No. 4.

Thots from the Profession.

VINDICATING HISTORY.

DR. A. BERRY, CINCINNATI.

In the ITEMS for the last month was an extract from the *Western Dental Journal*—"Dr. G. A. McMillen, Alton, Ill., in the Mo. Den. Association," in which the author said the Baltimore College of Dental Surgery was founded in 1839, "beginning with four professors, who gave instructions in mechanical work merely."

It is unfortunate that some person was not present sufficiently acquainted with history to refute this nonsense, and prevent its publication.

Wonderful flight of imagination! Tell it not in Gath. The Askelonites would laugh at him who said four professors in a dental college, distinguished for their learning and writings on scientific subjects connected with their profession, overlooked entirely the duties required by their chairs, and gave no scientific or practical instruction, nor devoted any attention to the diseases or care of the natural teeth, but spent the whole session in only teaching the students to make artificial teeth-dentures. Read the names, and the variety of their professionship:

H. Willis Baxley, M.D., Prof. of Special Anatomy and Physiology.
Thos. E. Bond, " " " " Pathology and Therapeutics.
H. H. Hayden, " " " Dental Physiology and Pathology.
C. A. Harris, " " " Practical Dentistry.

So much for the investigation.

Now for the facts. What did the college propose to teach?

Dr. Harris in his introductory lecture before the class of the Baltimore College of Dental Surgery, at the opening of its first session, says: "Of the qualifications necessary to be possessed by a dental practitioner, and the time required for their acquisition, few seem to be aware. But it is to be hoped that the day is not remote when it will be required of those to whom this department of surgery shall be entrusted, to be educated men, and well instructed in its theoretical

and practical principles. Elevate the standard of the qualifications of the dental surgeon to a level with those of the medical practitioner, and the results of his practice will always be beneficial, which at present are frequently the reverse. Require of the practitioner of dental surgery to be educated in the collateral sciences of anatomy and physiology, surgery, pathology and therapeutics, and the sphere of his usefulness and respectability will be increased."

Let us see if the teaching in the college was adequate to these requirements.

Dr. Harris, in a letter to Dr. Eleazar Parmly, of December 3, 1840, says: "Knowing the lively interest you take in everything that tends to the advancement of our favorite science, I embrace the present opportunity to inform you that our College of Dental Surgery is in successful operation. My colleague, Dr Hayden, commenced on osteology, which he recommended to the class as constituting a subject that should first engage their attention. But with the abilities of Dr. H. you are already acquainted; so that of them it is unnecessary for me to speak. As a theorist and a practitioner in our profession, you are aware he ranks among the very first.

"Prof. Bond sustains the chair of pathology and therapeutics in a very able manner. As a teacher, I very much question whether he has any superior. In his first lecture he began by defining life, considered physically, to be the assemblage of effects produced by a given organization: health to consist in order and regularity in the development of these effects: disease, disorder, or irregularity, in the accomplishment of one or more of them. Physiology had regard to the succession of acts which collectively constituted life. Hygiene, to the means by which health may be preserved; and pathology to diseases and their cure.

"Prof. Baxley's first lecture was on the elementary principles of animal organization, and was highly interesting, but of this I have not time to give you even an outline. As a teacher of anatomy Dr. B. has acquired a justly deserved high reputation, and we were fortunate in obtaining the services of so distinguished a man."

Dr. Bond in his valedictory address to the graduates of the Baltimore College of Dental Surgery, at its first commencement, March 9, 1841, says: "You have been taught that Dental Surgery is not a mere art separate from, and independent of, general medicine; but that it is an important branch of the science of cure. Your knowledge has been based on extensive and accurate anatomical investigation. You have seen and traced out the exquisitely beautiful machinery by which the organism is everywhere knit together. You have learned the secrets of nervous communication, and studied the simple, yet admirable, arrangement

by which nutrition is drawn by each part from the common receptacle of strength. You have also carefully examined the phenomena of health and disease, as they are manifested in the dental arch, its connections and relations. Your attention has been particularly directed to the effect of irritation on the general health, and you have seen how readily organs apparently unconnected and independent may be involved in mutual disease. You have been taught to regard the human body as a complete whole, united in all its parts, and pervaded everywhere by strong and active sympathies; and your principles of practice have been carefully formed on a sound knowledge of general medicine."

Thus are the four professors of the Baltimore College of Dental Surgery, vindicated from the silly and extensively published charge, that during their first session they "gave instructions in the mechanical work merely."

We thank Dr. Berry for thus correcting this mischievous statement. As Dr. B. says in his letter to us:

Dear Doctor:—Though no particular business of mine to look after the hyenas in our profession, I thought it well enough to give some attention to this one, as his acts are so outrageous and so mildly reported without condemnation.

The dental gas-bags lately take pleasure in informing the world that 25 or 30 years ago that nothing was known of dental science, and the societies often show folly in reporting and publishing their nonsense. As a journalist, of course, it is your wish to give your readers the current news as to doings of societies, etc.

A. BERRY.

Removing Temporary Teeth.—In January ITEMS this sentence occurs in an article by Dr. Morrison. "The deciduous teeth should be allowed to remain till pushed out by nature." This expression is too broad and cannot be applied to every case. I have seen some of the worst irregularities evidently caused by allowing the deciduous teeth to remain too long. I have now several cases where the cuspids are pushed out of line, and others where all the front teeth are displaced and both the temporary and permanent teeth are in the mouth at once. Therefore, I would put it thus: The deciduous teeth should be allowed to remain till the indications warrant their removal.

Brooklyn, N. Y. EDWARD T. MASON.

Getting room by extracting.—You do not get room by extracting. If I wanted small arches, I would extract. I would not extract either the first or the third molars, or any other tooth. Expand! Expand! is my motto, we must have contact. I stand with and by Dr. J. B. Davenport of Paris. J. S. MARSH.

Chicago.

GALVANOPLASTIC TOOTH CROWNS.

DR. C. E. DIEHL, PITTSBURGH.

The galvanoplastic art introduces into the dental laboratory an entirely new method for the manufacture of gold tooth crowns, which shall be in every detail fac-similes of the natural organs. A gold tooth crown, as made by the swagging process, is nothing more than a metallic ferrule, with one end closed, resembling a lead-pencil top. Cusps struck up in dies and soldered to the ferrule do not give it a tooth-like appearance.

There seems to prevail, unfortunately, a wrong impression as to which are the most important features of a tooth.

The greatest efforts have been directed heretofore toward making the cutting or masticating surface resemble the natural tooth, at the expense of the more prominent features.

The cutting and masticating surfaces contribute little, if any toward making a tooth look real. We notice, in the teeth of elderly persons, the cusps and cutting edges are much—in many cases altogether—worn away; yet the teeth present a perfectly natural appearance.

We have paid too much attention to the soles of the feet, neglecting the more important features—the face of the tooth, the neck, the curves from neck to cusps, and lateral lines.

To imitate these lateral lines by the swagging process seems practically impossible. Because, the circumference of a tooth is smallest at its neck; consequently, if a swagging tool were inserted into the crown, and the gold made to conform thereto, the tool could not be withdrawn.

To overcome such a difficulty and many others, we have recourse to the Hydroplastic Art: The art of depositing metal through the agency of dynamic electricity and suitable metal solutions.

In the manufacture of a gold tooth crown by the galvanoplastic method, care and some experience are necessary. Each operator must learn what his battery and solutions are doing; whether there is too little gold or too little cyanide of potassium in the bath; and whether the current of electricity is too strong or not strong enough.

By carefully observing the actions of the bath, the operator will soon learn to interpret the signs which they indicate.

The first step, as in other methods, is to get a perfect measurement of the root to be crowned. Next, to select a well shaped natural tooth or porcelain crown, that will nearly fill the space which the finished gold crown is to occupy.

A mold is made of the natural tooth or porcelain crown in plaster of paris; a two-piece mold will answer in nearly all cases. A casting

gate is then cut, the mold fitted carefully together and a tooth pattern cast of a suitable fusible metal.

The tooth pattern is then fitted into the space furnished by the bite for length, and to the measurement of the root. This is easily done.

The fusible metal tooth pattern is quite soft; an ordinary rubber scraper is the only tool necessary. Finish with a series of graded grit powders.

Bore a small hole into the top of the tooth pattern; do not let the drill pierce the cutting or masticating surface.

The hole is for the insertion of a brass or copper wire two or three inches long. The wire will answer for a handle. We are now prepared to put the tooth pattern into the various baths, providing the pattern is perfectly clean and free from any oil or grease. Too much care cannot be paid to cleanliness in all galvanoplastic operations.

The first bath is one of copper, made of a simple salt of copper, the sulphate for example, or a double salt of copper—the cyanide of potassium and copper. The formule will be given farther on.

Fill a glass jar, holding about one pint, with the copper solution. Lay two copper rods across the top of the jar; attach to one by a copper wire, the positive pole of a galvanic battery, and to the other rod the wire proceeding from the negative pole—generally zinc. The little rods thus become, one positive the other negative.

The tooth pattern which is to receive the galvanoplastic deposit is suspended in the copper bath by the wire handle previously inserted, from the negative rod, and is known as the cathode.

From the positive rod is suspended a plate of metal, such as the bath contains in solution, which at present is copper. This plate is known as the anode. It will be noticed that in a few moments the whole surface of the tooth pattern (cathode) will be coated with a fine film of copper, the thickness of which is entirely under the control of the operator. It is best, however, to allow the deposit to accumulate to the thickness of ordinary writing paper.

The copper-covered tooth pattern is now taken out of the copper bath, rinsed in clear warm water and transferred to a jar containing about one pint of gold solution. The little rods perform the same office as before, except the copper plate anode is dispensed with, and one of gold or platina substituted.

If the battery and solution are in harmony, metallic gold will be deposited on the copper-faced tooth pattern in a few moments. The process is continued till the required thickness of gold is attained.

It usually takes about twelve hours treatment to complete the deposition of gold. The time, however, is of little consequence, as the process goes on without much attention.

When the deposit is of sufficient thickness, the work is taken from the bath, washed, buffed and burnished. The wire handle is now withdrawn, the crown carefully picked up with tweezers and passed rapidly to and fro in a vessel of boiling water. The fusible metal will melt and run out, leaving within the grasp of the tweezers a beautiful gold crown. If the crown is a little large at the neck, it should be replaced in the gold bath, with the outside of the crown protected from a further deposit by "stopping off varnish;" gold will then deposit on the inside, thereby reducing the diameter at its neck.

A galvanic battery may be made of almost any kind of elements. Smee, Darmiel, Bunsen, Grove, Grenet or Le Clanche.

COPPER SOLUTIONS.

No. 1.—Stir a quantity of carbonate of copper in water, add cyanide of potassium till the liquid becomes colorless.

No. 2.—Water 12½ parts, and cyanide of potassium, carbonate of soda, acetate of copper and bisulphite of soda, each ¼ part. Mix the acetate of copper in one-fifth of the water, add the water drop by drop at first. This salt is difficult to mix in the presence of a quantity of water. When the acetate of copper is dissolved, add the carbonate of soda. Add one-fifth more water and the bisulphite of soda. The liquid now becomes a dirty yellow. Add the remaining three-fifths of water and the cyanide of potassium. The result should be a colorless liquid. If after the cyanide is all dissolved and the liquid is not entirely colorless, the cyanide was not pure. To remedy the evil, add a little more cyanide. If we desire a perfectly limpid bath, the solution must be filtered.

No. 3.—Sulphate of copper, 1 pound; and water, 20 oz.

This bath must always be kept saturated, new supplies of the copper salt must be added. This is best accomplished by suspending a muslin bag containing the salt, in the solution. The addition of sulphuric, acetic or citric acid increases the conductivity and specific gravity of the solution, at the same time improving it materially.

GOLD SOLUTIONS.

No. 1.—Chloride of gold, 1 part; and cyanide of potassium, 3 parts, distilled.

No. 2.—Phosphate of sodium.....6 parts.
Bisulphate of sodium.....1 part.
Cyanide of potassium and
Metallic gold, each.....$\frac{1}{10}$ part.
Distilled or rain water.....100 parts.

The metallic gold is first reduced to a chloride.

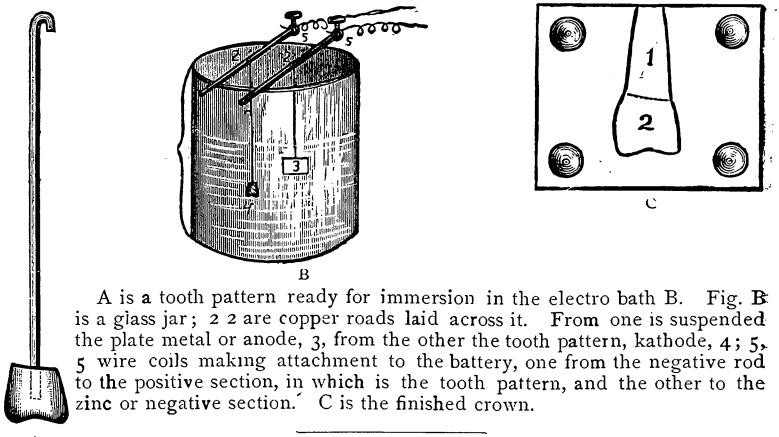
STOPPING OFF VARNISH.

Yellow wax	7 parts.
Resin (fine yellow)	10 parts.
Sealing wax	4 parts.
Peroxide of iron	2 parts.

Chloro Gutta-percha.—Varnish of gutta-percha and chloroform will also do for "stopping off."

The surface of the anode should always correspond in size with the cathode.

To make this all plain we add the following cut:



A is a tooth pattern ready for immersion in the electro bath B. Fig. B is a glass jar; 2 2 are copper roads laid across it. From one is suspended the plate metal or anode, 3, from the other the tooth pattern, kathode, 4; 5, 5 wire coils making attachment to the battery, one from the negative rod to the positive section, in which is the tooth pattern, and the other to the zinc or negative section. C is the finished crown.

A NAUGHTY BIOGRAPHY.

The following is Dr. Watt's autography, published with his portrait in his Journal of Dental Science. We wish we had seen it, to accompany our portrait of him as given in February ITEMS.

Dr. Franklin, Levi Coffin, and other great, good men having left autobiographies, it has been urged by foolish friends and silly foes that we ought-to-biographize our corporosity. As we have no opinions, but always act on advice, here goes:

George Watt, whose "ugly mug" disfigures the present number, was born of honest, and therefore poor parents, on the day of his birth. He began to breathe in a feeble, indifferent way soon after, and probably tried to make some noise in the world. He could walk when a small boy, and learned to talk before he was ten years old, which is not remarkable, in view of the fact that both his parents had excellent conversational powers. The rumor that he was born talking is slanderous. For a few years the older he got the larger he grew, but finally he quit growing and tried to quit getting older; but failed. He is still living, but will die on the day of his death, unless the event occurs in the night, which is not improbable. His rule of conduct is very rigid—he works when he must, eats and sleeps when he can, and is particular

to not talk quite all the time. He has always been a hard drinker, drinking sometimes at the spring, but mostly at the pump. He has never smoked, except when curing bacon, nor chewed—fat beef, nor tobacco. He holds that it is right to eat and drink, but not to be merry. A smile throws him into spasms, but he is never happier than when scolding, unless when being scolded. He used to attend society meetings, but always frowned and said nothing—at any rate, what he said amounted to "only that and nothing more," "or words to that effect."—SPOKESHAVE. He has been called small of his age, and even he now regards this slander as true, for, though larger than when a small boy, he is older, too. He has no friends, and never had. How could he? Yet he has a wife, children and grandchildren who would love him to death in a day, if love were the least bit killing in its nature. He may have foes. If so, they keep on his blind side and he has not noticed them. He was "born tired," and is not yet rested; but he does not let this discourage him, for he has learned that "there remaineth a rest," and his elder brother has secured him *one* share of stock in it. This tiredness tells why he has done nothing. Doing nothing is very fatiguing, but doesn't wrench a fellow like doing something, and the wages are a trifle better. He founded the Independent Order of Do-nothings, but failed to keep up his dues, and was dropt from the rolls. The man who does nothing for nothing, and finds himself, is a benefactor—that is, a well-doer, which means he must be well if he can do it. The subject of this sketch was "not built that way;" for, though he has done nothing industriously, he has never been able to find himself; but his friends have often found him where they didn't wish to, and hence took immediate steps to lose him again, and, succeeding, they taunted him as a lost sinner. He has led a straight-forward life, mainly for want of energy to go crooked, or into forbidden ways. Though not a sailor, he has had many ships. They are known as hard-ships. He lives under his own vine, which is a source of Concord (grapes) in his family, but he has no fig-tree, but doesn't care a fig if he hasn't. He can't afford to let such things disturb his peace of mind, for he has but a small piece. He would get a larger piece, made to order, if some one would lend him the money; for even the blessed peacemakers demand cash in advance of him. And, then, he fears he is still wicked; and there is no peace to the wicked. In all autobiographies there are apparent contradictions. In this they are very apparent; but what of that? Discord is the cream of music. Some one acquainted with our subject might tell of a few more things he didn't do; but a single paragraph, as in the above, ought to contain as much as any one should say of himself. The compositor will find "no breaks," without "fat." So let it be.

THE CERVICAL BORDER.

DR. J. D. MOODY, MENDOTA.

Read before the Central Illinois Dental Society.

The cervical border is without doubt the most vulnerable point in all cavities. One reason for this is the inaccessibility of that position, for we find that in proximal fillings on the mesial surface, where the adjoining tooth has been lost, the cervical border is usually as good as any part of the tooth. This inaccessibility of position renders possible two grave dangers,—not finishing the cervical borders perfectly, and chipping or crushing the edge. Both of these faults are more common than is generally supposed. You will all doubtless remember that a cross section of a bicuspid tooth, at the line of the gum has proximately a figure of 8 appearance. To trim properly a filling in that little depression, requires both patience and great delicacy of touch.

At my own work I believe more failures have occurred at the cervo-buccal or the cervo-lingual corner than at the cervical wall proper. This I believe to be caused by the manner in which I had been accustomed to prepare the cavities, *i. e.*, depending too much on a groove at these corners for the retention of the filling. Only lately I had occasion to repair two gold fillings in bicuspids, one of which had been in the tooth a number of years, and the other only about fifteen months. Both were defective at the cervo-buccal corner, though the fillings were intact the whole length of the cervical border. In neither of these was the failure caused by a cracking or chipping of the thin enamel edge, but rather to the imperfect adaptation of the gold to these points. Toward the cervical border the blow is direct, while toward the corners it is apt to be a sliding motion *down* the side of the cavity, instead of *against* the side. Unless we have free access there will, inevitably, be a defective point in the filling at these corners. To have a perfect filling the edges of the cavity under the gold must be solid. Any impairment of the integrity of these borders renders failure certain. Over-malleting on cohesive gold is a fruitful source of trouble, and especially so at these points. A tap on a tooth at right angles to its axis will cause pain, while a much harder blow in the direction of the axis will scarcely be felt. Hence it is easier to over-mallet at the cervical border than at most any other point. The filling must form a cushion to break the force of the blow, yet when in place must be comparatively solid and perfectly adapted to the walls of the cavity. For this reason, wherever it can be used, soft gold, or tin and gold, is preferable.

Lay a cushion of cohesive gold at the cervical wall, tap it with the mallet, and instantly that portion of the cushion is converted into a harsh and solid metal. Every blow afterward is but pounding this

unyielding mass with a crushing force against friable material. This varies in degree in accordance with the density of tooth structure, and the success or failure of the filling varies in like manner.

Evidently then the thing to do is to use a material incapable of being rendered harsh, or to interpose at these vulnerable points a cushion of softer material to break the force of the blow.

Hand pressure will largely overcome this difficulty; but this slow, old fashioned method can never again be the rule. The mallet is invaluable and it has come to stay; but a judicious use of hand pressure at cervical margins will render good returns. A slow hand pressure, using foot pluggers and cohesive gold, at this point will generally produce better results than when the mallet is used from the beginning of the filling. After the first blow, rendering the pellet of gold harsh, the impact of the plugger is transmitted through the thin layer of metal to the tooth substance with but little loss of force, thus endangering the integrity of the wall of the cavity. A layer of softer metal, such as tin, will not transmit this force so readily. When the cavity is partially full the force of the blow is partly taken up by the mass of the metal, so that if a cushion of softer metal is first inserted the filling can be completed with cohesive g old in safety.

Cohesive gold has also came to stay; we can not do without it. But as with every other good thing, injudicious use by its advocates results in abuse of the power placed in their hands. I am convinced that a discriminating use of non-cohesive gold will result in a better success than can be had without it. Non-cohesive gold at the cervical border and sides of a cavity, and cohesive gold built on it will bring the best results. But—"aye! there's the rub." At the best it is hard to do perfectly; many cannot do it at all. It is difficult to unite cohesive and perfectly non-cohesive gold. It is difficult to retain a layer of non-cohesive at the lateral walls and to build cohesive against it. It is difficult to make gold lay close to a flat wall without pits or grooves.—*Dental Review.*

Coiled Steel Belts.—Having, like many other dentists, experienced no end of trouble and annoyance from the breaking of belts, I procured some coiled steel wire belts to run my lathes, and after four years experience I must say they have given me great satisfaction. I have never had a break, and to all appearance they will last a life-time. I have recommended them to several friends. The question always asked is, "Beacock, why don't you let the dentists know it?" Now, then, get a coiled wire steel belt to run your lathe, and be happy.

Brockville, Canada. D. V. BEACOCK.

PHOSPHORIC ACID.

In the *Gazetta Medica Italiana* for October 29, 1887, Dr. Antonio Grossich reports a number of cases in which most remarkable results followed the external use of phosphoric acid. He was first led to employ it from a consideration of the results obtained by Kolischer in the treatment of local tuberculosis by interstitial injections of a solution of calcium phosphate. He tried local applications of the same solution in the treatment of ulcers of the leg, and found it to give satisfactory results. But, as there were no tubercles in these cases, the action of the remedy ought to be explained otherwise than by a calcification of the tubercles, and the author concluded that the phosphoric acid must be the active agent. Acting on this belief, he began to treat all his cases of obstinate ulcer of the leg by local applications of a ten per cent. solution of strong phosphoric acid in distilled water, the compresses being renewed three or four times a day. The results obtained were so satisfactory that he was encouraged to try the same substance in various tubercular affections.

In the case of two young girls suffering from multiple ulcers of the neck following tubercular adenitis, the application of a solution of phosphoric acid of ten per cent. strength brought about a cure in five weeks. The injection of the solution, in another case, into an enlarged gland of the neck effected a reduction of the swelling and induration within twenty-four hours. Suppuration of the gland followed later, but was limited to a small part of it.

Perhaps the most striking results were obtained in a case of caries of the wrist. The disease had lasted a year, and the hand was greatly swollen from the carpus to the metacarpo-phalangeal articulations, and there were two sinuses, one on the dorsum and the other in the palm, communicating with each other. Pressure on the hand caused the exit of blood mingled with pus and caseous matter. Exploration with the probe showed a large extent of carious bone and a general undermining of the soft tissues. The hand would ordinarily have been condemned by any one to amputation. Trial was first made of interstitial injections by means of a hypodermic syringe, but little improvement followed; and then recourse was had to daily irrigation, through the sinuses, with the phosphoric acid solution, compresses wet with it being applied in the interval. Some benefit was observed from this treatment, and it then occurred to the author to immerse the hand in the solution. Two such baths were given daily, each of two hours' duration. At the end of seven weeks the sinuses were closed, the swelling was reduced more than one-half, and there was free motion at both the carpal and metacarpo-phalangeal articulations. A tubercular abscess

of the walls of the chest, treated by free incision and stuffing of the cavity with lint wet with the phosphoric acid solution, was completely and permanently cured in less than four weeks. Finally, in a case of chronic eczema marginale, in a girl of 22 years of age, applications of the same solution had, at the time of writing, two weeks later, caused such marked improvement that the author felt confident of effecting a perfect cure within a short time.

Dr. Grossich reported a number of other cases in which he obtained equally good results. He is naturally somewhat enthusiastic in his praise of this remedy in the treatment of local tubercular processes, and he believes that phosphoric acid has a future which would never before have been imagined. Lentin, some time ago recommended the use of a ten to twelve per cent solution of phosphoric acid in the treatment of caries, believing that this process was due to a deficient amount of the acid in the osseous tissues. The cases in which he tried these applications were benefitted somewhat, but he obtained no such brilliant results as those reported by Grossich.—*Med. Record.*

ABNORMALITIES.

DR. T. DWIGHT INGERSOLL.

An account of Shwe-Maong, who was about thirty years of age, and the head of a Burmese family living at Ava, was first published by Crawford in 1829.

"His whole body was covered with silky hairs, which attained a length of nearly five inches on the shoulders and spine. . . . . Shwe-Maong retained his milk teeth till he was twenty years old (when he attained the age of puberty), and they were replaced by nine teeth only—five in the upper and four in the lower jaw. Eight of these were incisors, the ninth (in the upper jaw) being a cuspid."

In this case it may be imagined that the mother imparted an unusual amount of vitality to her child, which was retained by him till his first teeth were all erupted, when he seemed to lose organic energy, so that adult life did not occur for several years after the usual time. The idea of correlation is so much complicated with other organic phenomena that its application in this case is almost valueless; nor is it of any worth when applied to Julia Pastrana, in whom Mr. Darwin was much interested as a study in natural history. This woman was a "Spanish dancer or opera-singer who had a thick masculine beard and a hairy forehead, while her teeth were so redundant that her mouth projected, and her face had a gorilla-like appearance."

This woman had a redundancy of teeth instead of a deficiency, showing an entire want of correlation. The forces that were in action for the formation of teeth must have been in a state of undue excite-

ment, as well as those for the production of hair, causing an aberrancy of organic energy, and the over-stepping of normal limitations.

A few years ago the feet of a giant were given a young woman in Ohio, and a pair of like size were set under a colored man in Indiana. There are other life-phenomena of common occurrence which may be attributed to differences in physiological action at different periods. The sixth-year molars, when badly decayed soon after eruption, indicate a physiological condition which was too weak to produce for the morals anything more durable than that given to the deciduous teeth. Other classes of teeth are often prematurely decayed, while the others in the same mouth remain apparently unaffected. On this principle we may, perhaps, account for a difference in color between the hair of the head and the beard. There is also a difference in time of growth between the hair on the head and that which grows on other parts of the body. A boy with black hair may, in time, get a red beard. I know a gentleman who has light, yellowish hair, with a dark, reddish brown beard. It is a noticeable fact that the beard often becomes gray sooner than the hair on the crown of the head, and with the aged there seems to be renewed energy manifesting itself in a new growth of course, white hair in the ears and nostrils; the eyebrows get "wild" with straggling, long hairs, turning up toward the forehead, or bending down before the eye; and some portions of the body previously smooth become variably shaggy with hair near the close of life.

Organic energy is sometimes weak and sometimes strong. It has a constant warfare to maintain against some of the forces of the physical world, to which it seems to succumb when a child is born with an organization partly animal and partly human. Phenomena of this character sometimes pass over two or more generations before reappearance, but reversion is sure to follow, as is the case with other monstrosities that are immediately transmitted, because the law for the preservation of species dominates the tendency to atavism.

As the physical world first came into existence, it would seem that it considers the organic world an intruder, which must be destroyed.

One of the phases of evolution is seen in attempting to destroy monstrosities, and everything that it cannot nobly build up and improve. Monsters are generally brought to an untimely grave, and organic energy triumphs at last by reverting to the original type, and declaring that "species shall never die." Life-forces manifest sometimes more potency in some parts of an organism than in others, while other beings are deprived entirely of one or more organs.

The organic has had a combination of powerful forces to resist, and whole species of animals and plants have become extinct.

The peculiarities herein mentioned, and hundreds of others, show that nature descends sometimes to a lower and baser level, where nondescript beings are brought apparently into existence as a means of recreation. Freak work of this character acts unfavorably, not physiologically merely, but psychologically dampening higher aspirations to a more perfect organization, and to a life of nobler modes of thought. Beings are sometimes afflicted with one or more abnormal organs which are inherited by their descendants, and remain as permanent imperfections. This is in accordance with unconscious heredity; and it is believed that heredity, the evil results of civilization, and *some* of the many *alleged* causes of decay have been the means of the present deteriorated condition of human teeth. What means can be used for the prevention of dental abnormalities is an unsolved problem. It may be suggested that part of the evil might be suppressed perhaps by judicious legislation for the prevention of marriage by diseased persons, and by those nearly related by blood. As natural selection has failed to improve the masticating organs, it might, in time, effect an improvement on the principle of the "survival of the fittest;" but such a scheme would require coercion, and that would not be tolerated by the people. The profession, however, may effect some good by giving wise instruction to their patients, performing scientific operations on the teeth, and imparting information to the public through the press.—*Cosmos.*

Intelligent Patients.—Dr. T. D. Shumway, of Plymouth, Mass., says: I think the success of our profession depends on the intelligence of our patients. I would rather have one intelligent patient than a dozen who are ignorant. The worst people to work for are those who do not know anything about dentistry; and we should be careful not to do anything to lull our patients to sleep with the idea that the law has thrown its protecting arms around the dental profession in such a manner, that none can get into the practice of dentristry except those who are qualified, and that therefore they need not look out for themselves to see that their dentist is up with the times. That is one of the dangers that we are in now. The number of people in foreign countries who employ a dentist is comparatively small; they are mostly of the nobility and the gentry, while here everybody is a sovereign and everybody feels the necessity of dentistry. That demand for the dentist is growing more and more every year, and it grows more and more important that we should keep abreast of the times. If we are alive to this fact and act in view of it, we will build up a status of dentistry that some day will put all the other professions to shame.—*Cosmos.*

PULPLESS AND ABSCESSED TEETH.

DR. W. H. DWINELLE, IN N. Y. SOCIETY.—I have been in the habit of treating pulpless teeth and abscessed teeth ever since I came into the profession. My methods are simple, and I am willing to compare my success with anybody. I have two principles by which I am governed in treating teeth of this kind: The first is to get a vent; the second, drainage. These two principles have governed me throughout my professional life. After I have established them and have washed the pulp cavities and disinfected them, I am then content to simply inject through the pulp cavity and the foramen of the tooth and through the gums, a solution of carbolic acid or creasote. If I can establish drainage, I can, in ninety-nine cases in a hundred effect a cure. I endeavor to aid nature in her efforts to dispose of foreign matter and if I have established this in the right degree, cure is sure to follow. I believe in the efficacy of carbolic acid and creasote. I do not use creasote as much as I did formerly, because carbolic acid seems to be, in my hands, a most excellent substitute for it. I endeavor to keep the foramen in a normal state, or as near to that as possible. If I can get a small broach through it I am satisfied.

Many years ago, during my earlier career as a dentist, an incident occurred when all my efforts were tending to this. The idea struck me to use a hydrostatic process. Like Archimedes of old, I was ready to cry "Eureka." I adopted that system, and, after adopting it, I kept my canals free from debris. Into some canals I could not get a broach, because, as well known to us all, they sometimes diverge at almost right angles. I filled my broach with creasote or carbolic acid, stopt the canal with rubber, and there let it stay for a short time, and then with a blunt instrument I would press on it, and suddenly give it an impulse, and I was almost sure in every instance to find that the creasote had been injected to the extremity of the root, and to the gum through the abscess, as indicated by the white color. I have seldom been obliged to use these means twice to effect a cure, even in bad abscesses. I believe in creasote, and I believe in carbolic acid. I think they are, together and singly, among the best agents we have for stimulating the tissues, inducing granulation and effecting cure.

A few years ago I was in Cincinnati, in the office of Dr. Hunter. He had a large foramen to close, and it was not practicable, in his estimation, to close it in the ordinary way. It opened like a funnel, with the largest diameter at its extremity. Of course you cannot fill a tooth of that kind in the ordinary way. What did he do? He drilled a hole opposite the apex of the root and introduced a screw as a plug and then filled on the plug closing the root in that way.

Hydrostatic pressure I consider invaluable, and I had never heard of it before discovering it myself. Others may have discovered it before or since, but I never had even heard of it till that time.—*Odontographic Journal.*

PYORRHEA ALVEOLARIS.

DR. C. W. MERRY, STILLWATER, MINN.

Up to the last few years little attention has been given to this prevalent and destructive disease, and till recently scarcely any literature on the subject has been produced.

While many methods have been presented for its cure, few theories have been advanced for its cause.

Probably most cases may be traced to the accumulations of tartar, uncleanliness, and constitutional derangements; occasionally, however, no cause can be discovered.

This article is not to advance any new theory of cure, but to cite its successful treatment.

On January 15, 1887, Mrs. S., about 40 years of age, consulted me in regard to the looseness of her teeth. It was a marked case of pyorrhea alveolaris.

The gums had receded extensively, and were much inflamed, with a considerable quantity of pus oozing from around the margins.

After thoroughly removing the accumulation of tartar, which extended nearly to the apex of the roots of some of the teeth, the pockets were syringed with a solution of bichloride of mercury.

The parts having been wiped dry with spunk, ropes of cotton dipt in carbolate of potash (Robinson's remedy) were packed between, around the teeth and into the pockets.

Owing to the excessive soreness thus produced, one tooth at a time, and only three or four at a sitting, were treated.

Some of the teeth being very loose, they were firmly bound in position by small flexible gold wires, thus preventing the irritation of the gums which would naturally follow their use in masticating, also allowing the gums to heal tightly around them by first intention.

All of the teeth having been treated in this manner, the patient was dismissed for a week, and cautioned to keep the teeth scrupulously clean, using a soft brush to avoid irritation while undergoing the reparative process.

In a week there was much improvement, the inflammation having subsided except around three teeth, where I found a slight quantity of pus. These being treated as before, the patient was dismissed for another week, at the end of which not a trace of inflammation or pus

could be found, the gum being entirely healed and the teeth much tighter.

The gold ligatures were replaced, and a mouth wash, containing five grains of thymol to the ounce of alcohol, was used three or four times a day.

I saw the case again in three weeks; the gums were then in a healthy condition and the teeth quite firm in their sockets.

The ligatures were removed, the mouth wash discontinued, and after advising great care in cleanliness, and instructing the patient to visit a dentist every three months, that all calcareous deposits might be removed, the case was dismissed as cured.

After three months I again saw the case, and did not see a symptom of a return of the disease.

I obtained the Robinson remedy that I used in the case described from the Welch Dental Company, but have had equal success with some of my own make.

I directed the mouth wash to be used diluted in the proportion of about one part of the wash to two parts of water.—*Archives.*

CAPPING PULPS.

DR. GEO. H. CUSHING, CHICAGO.

When there has been inflammation, or even irritation of the pulp, it is probable that in many cases some permanent injury is effected by the construction of the nerves and vessels passing through the minute foramina and canals, which though seemingly cured at the time of the operation, yet develop, sometimes after years, sometimes in a few months—a condition which results in the death of the organ. We can not know what conditions are present in the pulp except as outward symptoms indicate, and though a pulp may remain quiet and seemingly healthy for several years, yet its death may occur at any moment.

It may properly be said that the capping of an exposed pulp is always an experiment—frequently justifiable and giving strong grounds for hope in its success—but still an experiment.

But the methods pursued must of course have a decided influence on the results. The most judicious and skilfully performed operations *may* fail, but those that are careless and slip-shod are quite *sure* to.

The following may briefly describe the methods to be pursued:

Isolate the tooth by the rubber dam, and open the cavity so as to favor a good view of its entire interior.

Remove the debris and softened dentine without impinging on the pulp and without producing pain, if possible, and this is possible more frequently than many are aware.

Now saturate the cavity with pure wood creasote, allowing it to remain a few moments to become absorbed, when the cavity should be very carefully dried, and a drop of Fletcher's carbolized resin be placed over the point of exposure and left for two or three minutes; the excess should be dried off with bibulous paper and then the whole surface of the cavity, which is to be covered with the capping material, should be varnished with copal dissolved in ether. When this has hardened, which will be in a few minutes, the capping, either of oxychloride or oxyphosphate of zinc, should be *flowed* over the point of exposure to the depth or thickness desired. The capping material should never be *forced* into place, for injury is almost certain to follow any compression of the pulp. When the capping is sufficiently hardened, the filling, either temporary or permanent, may be proceeded with.

These instructions pre-suppose, of course, that the pulp is in a healthy condition.

Diseased pulps should be treated for whatever condition presents itself, just as other tissues or organs are treated under like diseased conditions. The idea that all exposed pulps should be treated alike, or with the same remedies, is preposterous.—*Dental Review.*

Implantation.—At the last meeting of the Odontological Society of Pa., Dr. E. C. Kirk performed Dr. W. J. Younger's operation of implantation on three patients. The first case was that of a young man for whom a right superior first bicuspid was implanted. The missing tooth had been extracted about two years. The second case was that of a young lady for whom a left superior lateral incisor was implanted. The missing tooth in this case had been out for nearly three years. The third case was that of a young man whose left superior first bicuspid had been removed three years ago. In each case Dr. Kirk used a fifty per cent solution of cocaine hydrochlorate, two or three drops of which were used hypodermically over the site of the socket. The effect was to so benumb the parts that in two cases the operation was performed painlessly, and in the third, where there was not sufficient time given for the cocaine to act, there was slight pain. Dr. Kirk deviated somewhat from the method of operating as pursued by Dr. Younger in discarding the trephine and using a spear-pointed drill, to make the perforation for the socket, which was enlarged and formed by large, coarse, slightly-tapering fissure-burs. The time occupied in performing the operations was from ten to twenty-five minutes. He also showed a cuspid implanted October 29, which had become perfectly firm, and was giving great satisfaction to the patient. Thus, this new feature of dental practice is undergoing its test. Will it be a permanent success?—*Cosmos.*

BLIND ABSCESS.

DR. W. H. ATKINSON, IN N. Y. SOCIETY.—A blind abscess should be treated like blind people. Give them eyes; give them vent. Open them up to the disinfecting influences of the air and what else you please. Hew down into it and clear out the passages, and don't you forget it. Let all your mugwumpian ideas of filling go by the board. Be sure you are right and go straight to effect your purpose.

What is disinfecting? What are antiseptics? We have heard a great deal about them. All the substances named are simply agents that hold oxygen with a loose grip, so they can carry it into the territory where the greater vacancy exists and leave it on the ground. That is the sesame of the whole thing—this idea of holding the oxygen loosely and carrying it to the place in which it will do most good.

One thing that seems to haunt the minds of most of the speakers has not been clearly set forth—how to fill a root that is curved, the foramen of which is larger than the main canal. Our friend Dwinelle puts a hook up there, finds were the end of the root is, and takes a measure. I say measure so that you shall not go through the end, and then with a stiff wire bur, made a little shorter than the tooth, carry the material to place.

One thing more, and that is, do not be afraid of mischief coming about from microbes and those kind of things. Green apples give the boys the bellyache, and those disturbing elements, the microbes, they say, gives us the toothache. How much do we know about microbes? Do we know anything of their life history? Do we know anything of the results that will follow if we let them alone? Are they always poison, or do they sometimes do good? They say there must be microbes to make pus possible. Pus is dead blood. When the serum is killed it is not capable of being built into tissue. Suppose you have filled a tooth, and there comes a blind abscess, what have you got to do? Just cut right into the seat of the mischief; and let me say, gentlemen, if I never see you again, you had better cut fifty times when you do not need to, than to forget to cut once when you do. When a pulp is dead you can cut through gum, alveolar wall and all, and be sure you are not doing mischief.—*Odontographic Journal.*

While having a tooth operated on in a neighboring city, the dentist seized every opportunity to take a "puff" from a cigar which was placed conveniently at hand. Is it of necessity to add the patient was thoroughly disgusted? And this occurred in a city from which is promulgated the most advanced ideas in dentistry. Truly, there is always missionary work close at home.—*Exchange.*

USES OF CHLORO-PERCHA.

There are many pat uses to which chloro-percha can be put, which I am satisfied the profession do not recognize, to wit: For securing arsenical applications in or on shallow surfaces; for instantly sealing accidental punctures of the rubber dams *in situ*, a small piece of punk dipt in chloro-percha and laid on the defect; for covering plastic fillings during the hardening process, and many other uses which suggest themselves to a bright, practical mind. Glycerin also has many useful qualities for coating cavities and approaches to root-canals which are to be filled with chloro-percha (the latter will not stick on a surface previously covered with glycerin). For covering all glass stoppers to prevent sticking, for coating (with only a trace) instruments used in working the plastics used on burnishers and stone in place of oil, etc.—*G. A. Bowman, in Dental Review.*

A History of Hereditary Traits in man and animals would reach far into prehistoric time. The Jews, also the Romans, recognized the fact that children inherit the physical, the mental characteristics of their parents. In early times characteristics of strength and greatness of stature were perhaps more widespread than they are now. Biblical mention was made of giants, and among the Romans were characteristic families known as "the *Nazones*, or big-nosed; the *Labiones*, or thick-lipped; the *Capitones*, or big-headed; the *Bucones*, or swollen-cheeked." These were regarded as abnormalities.

The Spartans practiced a system of artificial "selection" which was intended to prevent the transmission of weakness and disease, and favor the "survival of the fittest." It is supposed that conscientious scruples did not keep them from the enactment of laws for the prevention of marriage of diseased persons, and those nearly related by blood, nor forbid the weeding out of infant "tares from the wheat," to prevent degeneracy of Spartan stock. Marriages, physically suitable, as well as abnormal systematic states and conditions, mental excitement, and perhaps dreams, have doubtless given to the world a great variety of abnormalities and monstrosities.—*Dr. T. D. Ingersoll.*

For after pains in extracting wisdom teeth, I use deep injections of chloroform, a second application being unnecessary, as the pain ceases after the lapse of a few moments. The subject demands more consideration from the profession than hitherto given it, and I would be pleased to hear the verdict of any one on this treatment who may test it, either for after pains from the extraction of wisdom teeth or any others.

L. C. ANDERSON.

Lake Charles, Louisiana.

AMENDED SPELING AND ETYMOLOGY.

[The foloing was ritn by Prof. Skeat, the author of the best Etymologic Dicshonery now in the market, wun universaly referd to and qoted. It aperz in the *Christian World* of London az ordinary correspondens.]

The usual favorit cry about our modern speling being "etymolojical," is plānly a delusion. No wun who haz realy studid Tudor-English, Middl-English, Anglo-Saxon, and the Anglo-French, māntānz such a posishun eny longer. Thōz who wish to defend our prezent sistem ov speling can do so logicaly *on wun ground only*, viz., that grāt inconveniens wil be cauzd by the chānj. This iz the sōl question realy befōr us—Wil the inconveniens be grāter than the gān? And the dificulty realy rezīdz in the fact that it is imposibl to no the anser til the chanj has bin universaly made. Most arguments are of litl servis, becoz tha ar fonded on imaginary results which ma, or ma not, be tru.

If we ever get a tru speling reform, it wil cum from America; and, if wuns accomplisht thar, it will not be dificult to adopt the results here. However, my prezent object is merely to sho that the argument from etymolojy had far beter be givn up. Thoz who ūz this argument wēkn thar case by ignorant statements, which crumbl when handld. Meny, for exampl, ar unaware of the fact, that a larj number ov werdz hav suferd "speling reform" already. In *assets*, for exampl, the *ts* iz the fonetic wa ov expresing the old French *z:* and such spelings az *abridge*, *anneal*, *apprize*, &c., ma be good English, but tha ar bad French. Stil les do tha sujest Latin, *brevis*, *niger*, or *prehendere*. My advīs to thoz who ūz the "etymolojical" argument is that tha shud first lern fonology and the history of languaj, that tha ma at lēst hav sum idea az to what tha ar talking about. WALTER W. SKEAT.

Irregularities.—At the last American Dental Association, Dr. W. S. Barrett presented the case of a miss of fourteen, whose anterior teeth projected and were much shortened as if from thumb-sucking; which, however, was not the cause, the difficulty in all probability arising from the premature extraction of teeth. There were but two molars in the upper jaw, and the problem was to draw the six anterior teeth back by meams of six posterior ones without danger of moving the latter. It was accomplished by carefully banding the bicuspids and molar on each side, as if for gold crowns, and then attaching these bands together by soldering to them a side plate which carried guides and a screw for drawing back a thin plate or strap, which passed across the faces of the anterior teeth, the whole apparatus being made of gold. The banding of the plate presented so immovable an anchorage that tipping of the teeth was impossible.

Dr. Lawrence Turnbull, of Philadelphia, is about to issue a new and revised edition of his popular Manual of Anæsthetics.

GERMAN DENTISTRY.

American dentistry is held in good repute in Germany, and American dentists used to call themselves approved in America or have a sign with their name and American Dentist in large type below. Quackery has taken refuge under such assumed titles. A dentist of Germany comes over to America, and studies in one of our colleges (but many don't) and gets a diploma; or he only works in an office, and in a short time he returns to his country and puts up a sign American Dentist, and soon he has a renumerative practice. Some never have gone to America, but have bought a Delevan or Buchanan Diploma, for which some have paid as high as $300 to $800. Here in Milwaukee they have been offered for $10. While in Germany a few years ago I noticed a sign, *American Dentist*, in one of the large cities; so thinking it no offence to see one of my co-laborers I went up to see him. As I had not spoken a word of English in two months, I thought a good chat in my native tongue would do me good. Going up two flights of stairs and entering, I presented my card and addressed him in English. He looked at me, and the expression of his face said, "what kind of gibberish are you giving me." By his outer appearance and abdominal proportions, I soon saw this was a German with an assumed American title. In my travels through Germany in all the large cities, the same approved or American Dentist prevails, especially in Berlin. There are many American Dental signs, but only a few American Dentists; the signs are five times as numerous as the American Dentists. The two greatest traits of Germans are, avarice and jealousy. Knowing that true American Dentists are far in advance of German Dentists, the people patronize the American more than the German Dentist, which creates jealousy toward their foreign competitors.

Through the German Dentist, (which most likely arose from jealousy) they have tried every possible means to check the custom of adding *American Dentist* to their names, and now the authorities require every dentist not in possession of a German Diploma to use their real title, such as Doctor of Dental Surgery, after having proved the actual possession of such a Diploma to the satisfaction of the authorities.

Without such proof not one in future will be allowed to practice dentistry.

Milwaukee, Wis. WM. H. SCHLAEGER.

He who aspires to the character of a man of learning, has taken on himself the performance of no common task. The ocean of literature is without limit. How then will he be able to perform a voyage, even to a moderate distance, if he waists his time in dalliance on the shore? Our only hope is in exertion.—*Ringleburgius, 1350.*

TONICS VERSUS STIMULANTS.

My experience has been such that I have long wished to give it to the profession, as a hint to all workers, who are as yet free from the habit of using stimulants. Two of my schoolmates about my own age became, one a lawyer and surrogate in our county, the other a professor in the Rochester Theological Seminary. Both lost their lives at fifty from an excessive use of tobacco. Tonics, as all know who have given attention to the subject, are harmless. By their use, when my energies flag, I have been able to learn to read fourteen languages, as a pastime, outside of my profession, since I was forty years of age, without the aid of a teacher. My recreation consisted in a change of language, and all the refreshing sleep I can get. I have a sufficient amount of physical exercise to mix with my other tonics. My ability so far to read more difficult languages has improved as I have more years and experience.

Elbridge, N. Y. BENJ. F. WRIGHT.

A Cheap Matrix.—Recently I have been successful with a matrix which I think will be of value to dentists who do not make gold crowns, and for patients who cannot pay for them, but who are willing to pay a moderate fee for saving badly decayed and broken molars. It is made from the composition silver strips that come for polishing between the teeth. One of the proper width is selected and cut a little longer than the circumference of the tooth to be treated. It is bent around it with the fingers and the ends punched together with a pair of pliers, drawing it tight. It is then removed and placed on a mandril. My mandril is a round steel 7 in. long, $\frac{5}{8}$ in. diameter at the large end, and $\frac{1}{8}$ in. at the small end.

The ends of the band are folded over similar to the way a stovepipe seam is made. If the fold is not strong enough to hold, dip a piece of No. 60 tinfoil in soldering fluid, lay it on the seam, and hold it in the flame of an alcohol lamp. It will be soldered. Adjust the band on the tooth. If it fits, have the patient close his mouth to see that the articulation is all right. Now if the tooth is all prepared fill with amalgam. When full take a wad of cotton and press the filling with it—using your thumb. It will make the filling very compact, and bring the surplus mercury to the surface. Do not remove the band, but instruct the patient to call the next day or week and have it taken off. What I claim for this matrix is, it can be left on the tooth till the filling is hard. It is not expensive or hard to make. It is unequaled in filling large cavities with thin, frail walls by grinding down the walls and building the filling up over the edge, making the whole grinding surface of the tooth amalgam.

Peoria, Ill. W. SLOAN.

REGULATING TEETH.

All dentists, at times, are prone to ride hobbies, and in so doing lose sight of some practical things that they had well nigh forgotten. For some years we have been using the Coffin split-plate for expanding arches, or some other device than a jackscrew. Recently, however, we had a case where the bicuspids of the superior teeth closed within the arch on both sides. The teeth were not long-crowned and the split plate did not stay in the mouth very well. The boy was not persistent in keeping the plate in his mouth, and very little progress was made. After wasting some time we concluded to make a new plate, with a jackscrew extending across the roof of the mouth, and see if it would not do more effective work. The plate was made and cut in halves. In a week's time the arch was spread so that the bicuspids were in line, and we are at this time merely holding them in position. The moral of this little article is, use your resources to attain success. —Editorial in *Dental Review.*

Lead or Amalgam Instead of Gold.—We know that teeth that have in ancient days been filled with lead have been well preserved; and that lead foil was particularly recommended for filling teeth more than sixty years ago. Perhaps it was not for this reason that its use was advocated, but we know that lead and its products are exceedingly sedative in their influence on sensitive teeth. Tin comes next to it, with the same qualities, at least in degree. We know that amalgam will often be successful where gold would fail. I can recall many cases in my practice where I have filled large molars again and again with gold only to find each time that the dentine would dissolve about the margins of the fillings, and ultimately I would be obliged to remove and refill with amalgam; the decay would then be entirely arrested, and the operations have been successful to this day. My theory was that the amalgam threw out a species of oxidation from its surface coming in contact with the fluids of the mouth, so that a sort of galvanic process was set up, which in time resulted in fossilizing the tooth-substance. In some cases where I have left a portion of the soft, partly decomposed dentine in the cavity, years afterward, when I removed the filling, I have found that dentine not only fossilized and recalcified, but became hard and crepitous like glass.—*Dr. Dwinelle, New York.*

Pyorrhea Alveolaris.—Dr. A. W. Harlan says: For genuine discomfort and general disgust with himself a real case of badly loosened teeth, with pus oozing into the mouth and a foul smell proceeding therefrom, is to a refined and highly organized person about as bad as any other local malady you can think of. These cases are seen almost

every day in various stages, and we must do something to help the sufferers. Too little attention is paid to such cases to be of much benefit to the patient. Dentists, as a rule, are not sufficiently bold in operating and they are weak therapeutically. The instruments for operating are generally too clumsy and they are unskilfully handled, too much is attempted at one sitting. It is far better that two or three teeth should be freed from seminal deposits and the bone excised or scraped and the medicines brought in contact with the surfaces operated on rather than fail to accomplish anything by operating on a dozen teeth in the same length of time if there is necessity for it; success will not follow any operation unless conscientiously performed. The caustics and escharotics and powerful astringents are not indicated in the pockets, but when used they should be applied to the edges or outside on the surfaces of the gums. Perfect cleanliness of instruments, removal of all debris from the mouth and around or between the teeth, the use of washes sufficiently constituted so as to cause a free flow of saliva into the mouth, the regular medication of the diseased surfaces, not too frequent to destroy newly forming tissue, proper diet, exercise and open bowels are all essentials in the treatment of pyorrhea alveolaris or so-called Rigg's disease.—*Dental Register.*

Receiving Patients.—A cold "good morning," "take a chair," "what can I do for you," as so often heard in a cold, heartless, business tone of voice and manner, does more to drive patients from us than anything else we can possibly imagine. While, on the other hand, a kind look, a pleasant smile, a friendly greeting, a tender solicitude, such as we would extend to a weeping child (for we are children when sick or suffering with pain), and a kind assurance that we will be as careful and gentle as possible in our treatment, and then all through the operation remember to use words of sympathy as well as looks of kindness; they will exert an influence that cannot cease to exist.

Such kindness, sympathy, understanding of human suffering and gentle solicitude, universally recommend themselves to the considerate judgment of those who, from necessity, must suffer the trying ordeal of the dentist's chair. And even if there were no higher stand-point of observation than merely that of financial and business success, no better rule of action could possibly be adopted.

The dentist can impress his kindness and skill so firmly on the mind and appreciation of his patient, as to oftentimes expel fear and nervousness; and in other instances induce the endurance of pain that would be otherwise impossible.

The extent and good influence of kindness in our work cannot be measured, and it is within the reach of every man who chooses to adopt it as a part of his profession.

The man in any profession who is honest and diligent, and who possesses an average commodity of intelligence, will soon acquire sufficient skill to do good, substantial work, and render serviceable assistance to his fellow-men; but unless he also possesses those finer elements of human character which respond in kindness and sympathy to the suffering and sorrow of his fellows about him, he is unfitted for the actual practice of his profession, and can never rise above mediocrity. —*Dr. W. H Williamson, of Bismark, Dak., in the Dental Review.*

Clinics.—Dr. Abbott says in the N. Y. First Dis. Society: It seemed to me, and I presume to many others, very modest in Dr. Atkinson to give this society credit for establishing the first public clinic in practical dentistry. It will be remembered by the older members of the profession that some twenty-four or twenty-five years ago the gentleman himself inaugurated a kind of public clinic at his office by giving a general invitation to all who desired to come and see him perform dental operations. This, as far as I know, was the first break in the closed-office style of conducting a dental practice. To Dr. Atkinson is due the credit of this open communion, this free interchange of practical ideas, and the establishment of the public clinic of this society. I might also mention the fact that at the first session of the New York College of Dentistry a systematic clinic was established, to which not only the students of the college were present, but many dentists of the city and country around, who were invited, as a general invitation was extended to all. So the record stands something as follows: Dr. Wm. H. Atkinson, of this city, was the first to give clinics before his fellow-practitioners at his office twenty-five years ago; the New York College of Dentistry was the first institution of the kind to establish and maintain a clinical staff of instructors twenty-one years ago, and the First District Dental Society of this city the first society to establish a clinic in connection with its monthly meetings. The "new departures" by the college and by this society were the fruits of the seed sown by Dr. Atkinson several years previously.—*Cosmos.*

Good Steel. G.W. Tinsley says the quality of steel can be detected by its grain. Take a magnifying glass, and on looking through, good steel will be found fine grained and homogeneous, while poor steel has coarse grain, showing large crystals, with spaces between, like those in burnt steel.

Dr. P. G. C. Hunt. Has any one observed any difference between the action of tin alone and of the tin and gold on a tooth structure in the cavity? If there is anything better than pure tin for filling cavities in soft teeth I want to know it. Or if there is really a chemical union when both are used together, I should like to see it.

"MY OLD WOMAN'S TEETH."

DR. C. C. EVANS, Indianapolis, says: An eldery gentleman, well-dressed, and apparently intelligent, entered my office one day, followed by a young lady of possibly eighteeen or twenty summers, whose flaxen hair, blue eyes, and very full cheeks, proclaimed her Teutonic origin. As soon as I was at leisure, I asked the gentleman what I could do for them, whereupon he says in his broken English, "Vell Doctor, I hafe here in mein bocket a set teed, vich pelong to mein virst vife, dis is mein second vife (pointing to the smiling, blushing damsel by his side) —mein virst vife she die aboud a year ago und I bury her mit a old rupper set vat she had. Now you see, dese are de very best golt, und gost me feefty dollar in Ney Yorik. Now mein second vife, she got her teed pulled oud, and I vant to know, if you make her a rupper set for dose und vat you gif me to bood?" His "second vife" took it all good naturedly and seemed to think it was all right. But I think if he ever goes to heaven and his first wife is there, she will meet him at the gate with the "old rupper set" in her hand and protest against his admittance.

Another case was an Irishwoman, who, after I had extracted two badly decayed teeth, insisted on me taking out another one for the same money, saying (when I told her the rest of her teeth were all sound,) "well, they might decay and ache after awhile anyway," and was really indignant when I would not consent to do it.

It is astonshing what disgusting, nauseating things a pair of pretty red lips will often hide. I had a really pretty and refined young lady patient, not long since, that produced from her mouth a set of teeth that actually nearly knocked me over, so horrible was the odor and disgusting the sight. It was a temporary set, made several years ago, and as the gums had receded she had filled in the vacancy with cotton, which evidently had not been changed for "many moons."—*Ohio Dental Science.*

Saving Exposed Pulps.—In the Chicago Dental Society, Dr. Graves describes his operation as follows: The case of capping an exposed pulp has nothing peculiar or difficult. I will describe a case where the exposure is large and the pulp inflamed, having ached and given trouble for the last four or six months.

It had no previous treatment. After adjusting the dam, I applied a solution of carbolic acid 40 per cent, alcohol 60 per cent, and removed the softened dentine as fast as it could be done without pain. This solution caused pain, as it is liable to, in a cavity with or without an exposed pulp. But the pain subsided on applying a pellet of cotton dipt in water and warmed in a spirit lamp flame. After removing

all decay and leaving the cavity open for three-quarters of an hour, I removed the pus and serum from the surface of the pulp and capt with oxyphosphate of zinc without pain, and filled with it.

The cavity reopened that was capt fifteen years ago, I. consider a remarkable case. When first seen, the patient applied to me in the morning to have the tooth extracted. The tooth had given trouble for a year or more, and had kept him from sleep the previous night. I refused to extract, but offered to do what I could for the offending tooth.

After removing all foreign substance I applied creasote and oil of cloves, equal parts, and operated on the tooth about three hours after. I found two exposures of pulp, one large and the other small. Over the large exposure I fitted a piece of quill, and covered it with oxychloride. Over the small exposure I put only oxychloride of zinc. After fifteen years I find that both exposures have been effectually closed with secondary dentine, so that gold could be put over the former exposures with safety.—*Dental Review.*

Former Illiberality in the Profession.—Dr. Dwinelle, of New York, one of the oldest practitioners of the profession, says: When I first essayed to enter the profession I was snubbed at every point. I could not get information from any one unless I paid a price altogether beyond my means. I stopped at a city in the northern part of this State, not a thousand miles from Albany, and went in search of information. I had a limited amount of means in my pocket, and was willing to expend it for that purpose, though I ought not to have been willing to expend a cent. I was kept in the reception room, and when I made a suggestion that I would like to go into the operating-room or laboratory and see what was going on there I was met with the statement that it would require from five hundred to a thousand dollars to gain the desired admittance. I was treated in the most illiberal manner, and, poor as I was, I left the house with a degree of righteous indignation that I think was worthy of a saint; and when I got outside I looked up, and though I did not pronounce a curse on that house, I did promise myself that I would see the day when those two dentists would sit at my feet and learn wisdom. Years afterward, when I had attained some reputation and was located in this city, I was gratified to receive a letter from these gentlemen soliciting the privilege of coming to my office and seeing my method of operating with crystal gold and cohesive foil, which was new to them. I immediately responded, cordially inviting them to come. They did so, and I entertained them for the most of two days, to their great satisfaction, and when they were leaving they proposed to pay me for my time and instruction. I repelled this proposition almost with indignation, as being

contrary to the true spirit of professional courtesy, and reminded them that it would be both illiberal and degrading to make a traffic of what should be free to us all. They departed, seemingly under a deep sense of obligation to me, and I could not resist the conviction that they were impressed with the difference in the treatment they had received and that which they had extended to me years before.—*Cosmos.*

A Dog-Man.—A few years ago Andrian Jeftichjew and his son Fedor were on exhibition in London and Paris. They were called "dog-men, the father's face being so covered with hair as to present a striking resemblance to a Skye terrier. * * * In color this is of a dirty yellow; it is about three inches in length all over his face, and feels like the hair of a Newfoundland dog. The very eyelids are covered with this long hair, while flowing locks came out of his nostrils and ears."

The father was at this time about fifty-five years of age, and the child about three. Andrian has had but six teeth—two incisors in the upper and four incisors in the lower jaw. Andrian's case is particularly interesting, as a redundancy of hair is accompanied with a deficiency of teeth, and Prof. Proctor has called attention to the supposed fact that "a constant relation exists between hair and the teeth." Such a correlation between hair and the teeth cannot be accepted as a law which will certainly prevent the development of a full set of teeth where there is an excess of hair, for sometimes a hairy coat is seen with a redundant set of teeth. The correlation implies merely that any cause that stimulates an excessive growth of hair may interfere with the normal development of the teeth. It is said that both hair and teeth arise from the same or a similar source, and, if it be true, we may therefore infer that the supply of material and degree of life-force were not sufficient to cover the body with hair and fill the mouth with teeth.—*Dr. T. D. Ingersoll.*

DR. WELCH:

There was a little incident occurred in my office several days ago which, to me was very funny. A lady called for the purpose of having an impression taken for a full upper denture. She was accompanied by a friend. After being seated in the chair and prepared for the ordeal, her friend stood beside her and said: "Now, Lucy, you must laugh and look pleasant while the dentist takes the impression so the teeth will look natural." F. N. CHAMBERLAIN.

Canal Fulton, O.

"No man who chews tobacco can expect to rate high in the estimation of others." To eshew it or be content with a second class rate of esteem.

Discrimination in the Use of Filling-materials is one that does not now agitate the professional mind as it did in the days of the "New-Departure" controversy. In the selection of the proper materials judgment must be called into active employment in almost every case. Only few cavities can be prepared and filled by rule, all make a demand on the intelligent judgment of the operator. Sir Joshua Reynolds said well in regard to painting, that "genius begins where rules end," and this truism might be applied with equal force to dental operations. It is the genius of discrimination that makes the successful dentist, for, beyond all men, he cannot work by the rule of thumb.

Gold should be employed in all teeth which will bear it. That is the simple rule. But, in the application of the rule, there will be found all kinds of difficulties in the way of proper discrimination between the teeth which should and those which should *not* be filled with gold. Year by year the noble metal is gaining on the plastic materials; for, by means of improved preparations of gold, improved instruments and better methods, we are enabled to fill and preserve teeth which could only be saved by the plastics, even as late as the days of the "New Departure," At that time cohesive gold was used almost exclusively and indiscriminately by all gold operators, with the result that they had very many failures; and it was these failures that gave the "New Departure" movement its being and its phenomenal activity.—*A. H. Thompson, Topeka.*

Filling with Tin and Gold.—Dr. A. W. Harlan says: I have used a great deal of the tin and gold combination in filling cavities entirely and partially. For ropes, I cut the sheets into two pieces, and in rolling endeavor to have a fine streak of gold exposed and the remainder tin. In finishing a filling with gold, I depend on forcing the gold into the mass of tin and gold with deeply serated instruments with wooden handles. In a proximal cavity in a bicuspid with live pulp, one rope will fill one-third of the cavity. I am not particular about condensing the tin and gold when placing it in the cavity. I put a piece in one corner, another in the other and one between the two. It is wonderful how well they remain where you put them. If using a matrix I feel a security, against a recurrence of decay, in using tin and gold that I do not with cohesive gold. It does not seem to require the same amount of force as gold to impact it against the walls. Tin and gold in blackening does not seem to penetrate the dentine nor discolor the surface. It is non-shrinkable. It doesn't rock in the cavity. It does not require such a loss of tissue in the preparation of the cavity as for gold. It allows of making retaining groves in such part of the tooth as to least endanger the pulp. Tin and gold keeps the ordinary

dentist up to his mark. He must know how to use it, or the fillings will disintegrate. There are many people who cannot afford to pay for gold or some teeth that are not strong enough to stand the gold. Another advantage is that tin and gold may be put in under moisture or without the use of the dam.—*Dental Register.*

Preventing Plaster adhering to the Case.—I notice in your February number a suggestion is made to "use liquid silex over the tinfoil with which a model is coated, to prevent the plaster adhering to the case."

My experience is that liquid silex is about the worst article possible to promote the adhesion of plaster to a place.

To overcome this difficulty, I find tinfoil No. 5 secured to the model with gum composed of equal parts of gum acacia and gum tragacanth, good; smooth the foil down nicely with the gum brush. On removing the investment the palatine surface of the case will be found nice and smooth. Should it be necessary to remove the tinfoil, it may be done by pouring a small amount of mercury on the plate, brushing this well over the surface with cotton-wool, when it is well amalgamated; pumice and a brush wheel on the lathe will do the rest.

Another way to remove the tin is to put the case in a pickle of nitric acid 1 part, water two parts, this will soon remove all the tin, I prefer the latter method. I also notice the use of manilla paper to prevent the base-plate sticking to the model.

A much neater and handier method is to rub French chalk well into the model while yet damp, with cotton-wool; this will prove a sure preventive to either gutta-percha or wax sticking, and there will be no paper to soak off the base plate.

London, Eng. W. MITCHELL, D. D. S.

Diamonds in Teeth.—In a recent number of the ITEMS is a communication in regard to the insertion of diamonds in teeth. It may not be generally known among dentists that diamonds are sometimes set in teeth, but it is a fact nevertheless. In ordinary cases the diamond must be small and rather shallow, that its gold setting (which always must accompany it) may be properly secured with the gold foil and not project much. But the brilliancy is always lessened by the opacity of the surrounding gold. Diamonds in teeth rarely serve a useful purpose. Sometimes they relieve the disagreeable effect of large gold fillings; but the object more often aimed at, is novelty and the idea of expense involved. We have fancy patients, and these make it necessary to have fancy dentists. And even if the fancies of some people are extravagant, they are sure to find some one to accommodate them. G. F. COOKINGHAM.

Troy, N. Y.

Cement for Bridge Work.—Dr. W. Mitchell, of London, says: The best cements I have found to use in this work are Richmond's Crown Cement, and Welch's Oxyphosphate both kinds producing good results, owing to their smoothness in mixing, and a tendency not to set too rapidly. The cement should be mixt so it will just drop from the spatula, a little experience will soon teach the amount requisite to fill the cap and leave the least possible surplus which will find its way out round the neck of the tooth as the cap is driven home, this is best accomplished by the method suggested for setting the band, the rest of the operation suggests itself.

Amalgam.—Dr. J. W. Clowes says: As a salvator of the teeth, amalgam holds no second place, and the record of its usefulness is without reproach. By this affirmance of its value let us show not only our approval, but our settled conviction of its comeliness as well as goodness. Let us go further and declare it better, more natural, and less obtrusive than the golden idol to which we have looked so long, and from which we have suffered so much. The people are more progressive regarding these things than the profession, and I confess to have often advanced my lines of practice and achievement through their suggestions and encouragement.

For Hemorrhage after Extraction.—Dr. Fisk says the oil of erigeron he recommended in January ITEMS should be given in doses of 10 *drops* every half hour, till the hemorrhage stops, instead of 10 drams, as there prescribed.

I presume Dr. Fisk wrote drops very plainly—we all write plainly, you know—but we read it drams; so did the printer; so did the proof-reader. Won't Dr. Fisk and all others writing for the press be still a little more careful in their chirography, especially when they write the names of things?

Dr. WELCH:—Inclosed find my dollar for this year's subscription to the ITEMS OF INTEREST. I have taken the ITEMS from its beginning, and I think it is one of the best journals we have. It is what the dentist wants—plain, concise, practical—just the knowledge he wants. I thank you for getting up such a good journal for half what it is worth.

Beatrice, Neb. I. W. FUNCK.

A Monstrosity.—Dr. Owens, a physician of Somerset, Kentucky, reported on the 20th of February, 1886, the delivery of a monstrosity by Mrs. Heath which "weighed eight pounds, and had a head, mouth, and body the exact counterpart of a frog. The lower limbs were natural, but the hands were webbed and like those of a bull-frog."

A Physician and the Toothache.—Dr. Peete relates the following incident in the *Archives*: "This man came to me," he said, "with a severe pain in one of his lower jaw teeth, which was somewhat decayed. I told him, *of course*, the nerve of the tooth must be destroyed, the first thing. I took a vial containing, perhaps, an ounce and a half of nitric acid, and ordered the patient to keep perfectly quiet, while I poured a drop of the acid into the cavity.

"I had confidence in my steadiness of hand, and knew that I could pour out a single drop without any difficulty. Just as I had the neck of the bottle close enough to the tooth, the man made a sudden movement, and at least an ounce of acid was spilled in his mouth. But I seldom lose presence of mind, and promptly seized a handful of carbonate of potash and crammed it into his mouth. No material damage was done, and the tooth has never ached since."

The Effect of Air on Foils; either cold or warm, effects gold while operating. I find that my gold works much better in warm rooms, say temperature about 70° where there is no draft from windows; it then works smoothly, and cohesion is much better, without waste of gold. If cold air, or draft from windows, come in contact with gold while operating, the gold will work harsh, and brittle, and has a tendency to crumble. I also find small particles on the rubber dam. I have places to visit monthly, and I sometimes have a cold room to operate in, and in this manner I have made my tests. I use different golds, but mostly pellet, and have observed it, both in foil and pellet. Have others observed this?

Wytheville, Va. W. P. NYE.

The Most Convenient Matrix is one made of copper. Even where the cavity extends under the gums, take a piece of soft copper which you can make very soft by annealing, cut and adapt to your tooth, then remove and solder, either with soft solder or silver solder, then put on your dam and dry your tooth; mix phosphate or use chloroform and gutta-percha on the edge of your band or matrix toward the gums, if you have not the band as tight as you wish, use a wedge between the band and tooth. Dip the wedge in the gutta-percha solution to make it stick. When you have everything dry, you can burnish out your band so as to contour as much as you like. I use copper as patterns for all crowns as it is soft and easily adapted to the root or tooth, then I cut the gold by my pattern and solder it.

Chicago. J. S. MARSH.

Words are things; and a small drop of ink, falling like dew on a thought, produces that which makes thousands, perhaps millions, think.—*Byron.*

Cocaine in Surgery.—Four months since, I injected, slowly, twenty minims of the solution of cocaine in close proximity to the thumb-nail of my left hand. The result was insensibility extending to the first joint. The non-sensitiveness continued for about an hour during which I subjected my thumb to severe treatment, without experiencing pain; partial numbness existed for nearly two days, but I am gradually losing my thumb-nail. By this experience I am convinced that cocaine is a valuable drug, in minor surgical operations, for the prevention of unnecessary pain.—*A. W. Furber, in British Journal of Dental Science.*

In books we find the dead living, and forsee things to come. These are the masters who instruct us without rods and ferules, without hard words and anger. If you approach them, they are not asleep; if investigating you interrogate them, they conceal nothing; if you mistake them, they never grumble; if you are ignorant, they cannot laugh at you.—*Richard De Bury, 1300.*

If you are in doubt of anything, don't be ashamed to ask; or if you have committed an error, don't be ashamed to be corrected. A little before you go to sleep read something that is exquisite, and worth remembering, and contemplate on it till you fall asleep; and when you awake in the morning, call yourself to an account for it.—*Erasmus.*

Gold Soldering.—I have found the ordinary mouth blow-pipe attached to the foot-bellows, and, using the ordinary soldering lamp, gives the best flame I have ever used, on account of the slight amount of wind necessary. I can melt any solder in a shorter time, and with no danger of cracking teeth, than with any other flame I have used.

Plainfield, N. J. F. E. HENDRICKSON, D.D.S.

Gold and Tin Fillings.—Never use gold and tin mixt; use tin to commence proximate fillings where they extend under the gums, linings and margins of cavities in soft teeth. Gold and tin combined will not cohere, and will not wear better than tin alone. Be *honest* and tell your patients that you use that which will best preserve their teeth. Do not try to hide the tin by covering it with gold.

Chicago. J. S. MARSH.

Gold is the only metal that we use in filling teeth that can be left with an attenuated edge, and if we put amalgam into a cavity that has been prepared for gold, as we usually prepare such cavities, the result will be crevicing at the margin, and further decay. Therefore, with amalgam we should have no attenuated edges, but good, sharp, well-defined borders.—*C. P. Pruyn.*

For Our Patients.

WAS HE A FAILURE OR A SUCCESS?

A uth in serch ov	"knowledge,"
With utherz went to	kcowledge.
Our uth became so	"busy"
Hiz hed gru qikly	dusy;
For foolishly he	"wholly"
Persud hiz studiz	wsolly
In deep things. So no	"liquor,"
And not a singl	sniquor
Waz thot ov. E'n hiz	"sewing"
He did insted ov	rewing;
And never spent hiz	"money"
For enything that's	foney.
Hiz sōl became az	"gneiss,"
Until wun da a	gmeiss,
Atractiv, and so	"puisne,"
She made him qīt a	luisne.
Hiz luv became so	"great"
Hiz prety litl	meat
Qīt feterd him. He	"said,"
Sweet angl, let us	waid.
She sed az sweetly,—	"Your"
Luvsicnes I wil	cyour:
Ur hart must never	'ache'
Agen—poor thing—for my	sache;
And so, az u ma	'guess'
My anser iz a	yuess.

T. B. W.

HOW TO SAVE UR TEETH.

(Ritn in simplifīd speling.)

1st. Ov cōrs, tha must be kept clēn. "Clenliness iz next to godlines." That iz, a sens ov being clēn iz elevating; and clēn teeth sugjests and inspirz clenlines in uther repects:—a clēn fās, a clēn body, a clēn mīnd, and a clēn hart. Try it, and se if it duz not save ur teeth, ur muny, and ur moralz. Uze a tooth brush having brislz rather stif but not closly set, nor very short, so that tha wil pas between the teeth az wel az over them. After clēning the teeth croswīz, brush them lengthwīz, so az to clenz the interstisez. Weting the brush in water is jeneraly sufishent; tho for sum mouthz a tooth powder made ov wun part castēl sōp and six parts presipitated chauk iz ūsful, both to clenz the teeth and to nūtralīz acidity. A thin, plīabl tooth pic shud be carefuly uzd after ēch mēl. Or, bī a litl box of thin ruber bandz,—tha ar so chēp that after uzing wun it can be thrōn awa,—stretch wun between the teeth, and se saw it a few tīmz.

2nd. U must avoid misūsing ur teeth. Craking nuts with them, chūing hard candy, and uther hard substansez, brake of minūt pēsez ov the enamel which predispozez them to dēcā.

3rd. U shud avoid very strong asidz. Asidz sofn and disintegrate the substansez ov the teeth, and suger left on and between them, soon produsez asidity. If ther ar eny smol craks on the serfisez ov the teeth, or eny plasez ov dēcā, such asid iz shure to find them, and suger and uther fermenting substansez left in them soon becum asid, so that the dēcā rapidly incrēsez. Therfore, if suger or strong asidz ar ūzd, the mouth shud be rinst, and sumtīmz even the teeth shud be clēnd. This iz a trubl, and jeneraly not nesesary, for uzualy the secreshunz ov the mouth ar sufishent to nutralīz them; but thēz fluidz ar not sufishent if ther ar cavites ov dēcā in the teeth, or if the teeth ar set qīt closely together.

4th. Hav ur teeth examind and put in good condishun freqently y a competent dentist. Slīt cavitez or patchez ov dēcā cum on the eeth before we ar awär ov it. If tha ar atended to promptly tha ar ēzili removd, sum ov them ma need no filing, and the operashun iz comparitivly inexpensiv and pānles. If u persue this cōrse u wil seldum looz a tooth, the werk ov the dentist wil not be dreded, and, az for toothak, it wil be unnōn. With nīn tenths ov our pashents, the teeth hav bin so long neglected that the werk iz nesesarily tedius, pānful and expensiv. Avoid al thre by promptnes.

5th. Be inteligent in the selecshun ov ur dentist. It iz not alwaz the hīest prīst dentist that iz the best, and it iz sertinly not the wun he advertīzez to do "chēp" werk. If u ar not aqānted with the qalificashuns ov the dentists in ur visinity, enqīr ov sum ov ur most intelijent sitizanz for wun to be relīd on for good werk and intelijent advīs: jeneraly such a dentist wil be kīnd, cäreful, and thuro in hiz werk, rēzenabl in hiz charjez, and a good instructer. Tho his prīsez ma be hīer than sum utherz, hiz werk wil be chēper by rēzn ov its qality.

6th. Do not neglect ur teeth after tha hav bin profeshunaly atended to. The dentist ma hav dun his werk perfectly, but if u neglect or misūz them, he should not be held acountabl. And do not supōz becoz tha ar put in good condishun, tha wil alwaz remān so, evn with the best ov care. Tha wer perfect wuns and yet tha dēcād; tho now restōrd to a helthy condishun, tha ma dēcā again. Return to him every six months, and he can garantē ther wil be litl to do, and that u wil loz no teeth whīl under his care.

7th. If u hav children, remember u shud be az careful ov thar teeth az ov ur ōn. Unles the temporary teeth ar rētānd and properly trēted til thar sucseserz ar erupting, the permanent teeth ma be crowded and irregular. U shud be speshaly careful not to neglect the

first permanent molerz. Tha cum when the child iz about six yērz ov aj; and if tha ar not aloud to be bāthed in the verulent pus from temporary decāing teeth, and if tha ar properly trēted, ther iz no rēzn why tha shud not last az long az uther permanent teeth.

If thēz simpl rūlz wer folōd, dentists wud hav much les to do, pashents wud hav les complānts ov horibl sufering and larj dentist's bilz, and pēpl jeneraly wud be helthier and hapier.

Baby Teeth.—Dr. A. W. Harlan, in *Ohio Dental Society:* A masticating apparatus for a growing child is just as necessary as for a man, and it is unfortunate that we cannot do much for them because of a lack of knowledge by parents as to the necessity for their retention. If parents would take in hand the care of these teeth, the general health of the child would be greatly improved. It is fortunate if they do not fall into the hands of a man who considers his time too valuable to be wasted in cultivating the management of the child. I have been especially careful to retain the *temporary cuspids* and *second molars* till they are "exuviated," as Dr. Patrick says. There is not as great danger to the regularity of the permanent set when the temporary first molar is lost as the second molar and cuspid. In spite of the theory that, if all the temporary teeth were removed, there would be no greater liability to irregularity of the permanent teeth, forces may be, and are, at work that tip forward the permanent first molar and close that space. If we can retain the temporary first molar till the ninth year, and the second till the tenth or eleventh year, depending on the locality, we will assure to a great extent the regularity of the permanent teeth. How can we accomplish this? By the exercise of a great deal of patience and the judicious filling of the teeth. Each tooth must be judged when it presents itself and be treated accordingly. When there are proximate decays and the pulps dead, the phosphates do not commend themselves for filling. You will get better results from the gutta-perchas than from amalgams, or cements, or tin and gold, or tin alone. Red gutta-percha is more easily replaced, and does not wear away as rapidly as Hill's Stopping, or other gutta-perchas having mineral constituents. I often bridge the space between two molars with putta-percha, and have good results. If you leave the space food lodges there, and in picking it out fillings are dislodged; so I prefer to bridge it. I have never bridged with amalgam. I bridge over only in certain cases; not all cases, mind you, and only in living teeth. The roots of pulpless teeth are absorbed or dissolved in a different way from living teeth. If they do not come away when it is time for the irruption of the permanent teeth, I extract them if I know them to be pulpless.—*Dental Record.*

Editorial.

SENSATION IN ARTIFICIAL TEETH.

A patient complains that, on taking strong acid into the mouth, her teeth are "set on edge," though they are all artificial. She says also, she feels the sense of pressure when food is pressed between them. How can this be accounted for?

There are four ways of receiving sensation: From without, from within, by association, and by reflex action.

"Teeth on edge," and the sense of pressure by hard food wedged between them, are with natural teeth, common sensations—so common that these sensations are always referred to these causes. This forms a habit of the mind so uniform, and of such long continuance, that consciousness *associates* these common sensations with the facts of acid being in contact with the teeth, or of hard substances being between them, though the teeth be artificial.

Imagination has much to do with this sensation, but how shall we discern between an "imagination" and a "fact." We say a *fact* is that of which the mind can take cognizance. Then is not the image of sensation a fact,—an image of which the mind takes cognizance? We create images and contemplate them with pleasure or disgust, with profit or injury, and sometimes give them out to others to consider and perhaps convert them into facts; we also receive impressions from without, and call these *facts*, though they are only the impressions of what seem to be facts. Images of the mind may be the wildest and the most inconsistent and unsubstantial vagaries, or they may be the wisest and the most beautiful and useful mental facts; so the impressions from without may be esteemed, unreliable or truthful, valuable or frivolous, according to the impressions received through one of our seven senses. The sensations from *without*, and the imaginations from *within*, are what we make them, and therefore the greatest care should be taken to make both with accuracy and truthfulness.

"Teeth on edge," may be produced by the mere sight of acid, and the sense of pressure between our teeth may be received by seeing a hard substance crowded between the teeth of another person. In fact, sensation is of the mind, not of the muscles and of the bones, or even of the nerves. And if the mind can receive the sensation of "teeth on edge" through the eye, why should it be thought incredulous that it should receive it through the tongue? Through long habit the tongue has *associated* the presence in the mouth of strong acid with the production of the sensation called "teeth on edge," and now the nerves of taste in the tongue conveys to the mind the same sensation

that the teeth had been accustomed to convey. If the stub of an arm touches fire, the sensation in the mind is that the fingers that used to be at the arm's extremity are burned; and frequently the man who has lost his hand complains that his hand aches, or that his hand is grasping an object, or that it is being squeezed. This is produced by the sensation on the stump or purely by an image on the mind. The extremities of the nerves ramifying the teeth are gone, of course, but if they were there, these would be only one source the mind has of receiving the sensation we call "teeth on edge." The sensation of acid on the tongue by *association* conveys the same impression to the mind, and it is so similar that we say it *is* "teeth on edge."

We speak of *reflex action*; this is only the carrying to the mind by one set of nerves what is usually carried to it by another set. We say we have pain in the neck, or the head, or the face, when really the trouble is in a tooth; and sometimes a tooth aches when the trouble is in the ear. So we find ourselves ascribing to an organ a sensation which does not belong to it, simply by not understanding the phenomena of reflex action.

Some are quite incredulous of these things, because they have had no experience in them, and they have had no expeeience, perhaps, because of the obtuseness of their organization. They are not built of those tender and sensitive chords that so easily and delicately vibrate.

WE HAVE ALWAYS TIME FOR THE MOST IMPORTANT.

In the hurry and bustle of life, with our thousand and one cares and wishes and wants, and even our needs, there must be much sifting and selecting, discretion and deliberation, calmness and patience,—if we would not exhaust life to little purpose. But there will be plenty of time for the most important, if what is brought before us is acted on wisely.

The trouble with some is, they spread over too much ground; they attempt too much to do any thing well, and therefore continually complain that they have no time even for the most important. They are so busy with many pursuits and are so absorbed with many interests, they cannot do any one thing thoroughly.

Others never have time for anything. They are *very* busy doing nothing, or in the details of mere trifles. They dance around in a half bushel as though it was the world, and are so hurried and worried one would suppose the world would cease to move, if not for them; and yet you cannot see anything they have accomplished that is important. They are so concerned with the unimportant, so confused with petty details, and so fretted with what should pass unobserved, that they miss the most important, and lose golden opportunities.

They rush about here and there with tremendous care for trifles, as though these were prime necessities, and are in anxiety over indefinite possibilities far away, as though demanding immediate attention. All this, though they are incapable of seeing what would make them rich and happy which lies at their very feet. "Fuss and flurry" describes their chronic condition. Of course, such people have no time for the most important.

There are persons so busy about other people's business they have no time for their own, and therefore, to do what should be their pleasure produces continual trouble and perplexity. They are so busy with what they have no business with, that they fail to make anything distinctly their own, and therefore lack distinctive interest in what should absorb their whole energies. Though complaining of being overburdened, they pile on their backs the burdens of others, till they fall by the way, without making even those they would benefit any better.

How different with men of solidity, strength and discretion. These view with calmness the heterogenious interest surrounding them, and which press on their attention, and they choose and use with intelligence the most important, thus make everything work together for their good. Their actions are the result of deliberation, their plans show matured thought, and the fulfilment of their purpose are assured from the beginning. They so eliminate trifles, and subordinate the less important, as to have plenty of time for the most important. These are the men who enjoy life, though always busy, and who are our successful and useful men.

The amount these cool headed, steady nerved, discrete men accomplish, and their precision, accuracy and tact, is wonderful. With no haste or worry, no strain or confusion, they endure without exhaustion and compass their purposes with even accumulating strength. With many and varied cares, they take comfort and are at peace; with labors that are almost herculian they are at rest. The secret is, they are not the servants, but the masters of their work. Without turmoil or excesses, they pass on at their legitimate business, their mind clear, their passions controlled, and every faculty mastered, while behind all is an iron will directing life and compelling success. Instead of allowing circumstances to throw them hither and thither as a football, *they* control circumstances and have plenty of time for the most important.

Do not therefore oblige your heels to do what your brain should make unnecessary to be done; and back of all that is undertaken, let there be thought, deliberation and discretion.

JOURNALISTIC COURTESY.

We are sorry to find friend Watt in the March number of his *Ohio Journal of Dental Science* giving space to an anonymous writer who flagrantly misrepresents our position on Journalistic Courtesy. Dr. Watts allows this man to say: "The editor of ITEMS OF INTEREST, in its February issue, insists that he gives proper credit in quoting from a discussion, if he appends the speaker's name and omits that of the journal publishing the report. He is all wrong and must have something the matter with his vision that he can't see it. If you employ and pay some one to attend a meeting and make a special report for the JOURNAL, that report is an original article in your journal, and if quoted by another, you should have credit for it just as for any other matter original in the journal."

Now, Bro. Watt, you must have read the article here referred to in the ITEMS; if not, should you not have read it before admitting to your columns an article which misrepresents it? The position we there assume is that "we do not give credit to the journal from which we take short items of conversational debate, though we give credit to the debater." If anything more than a mere item is quoted we give credit also to the journal from which we take it.

STUDY YOUR STYLE AS A WRITER.

Most of us are too loose, hurried, and careless in our compositions. We might, perhaps, make tolerable writers if we took sufficient pains. But almost everything of value has to be paid for according to its value; and the most valuable accomplishments cannot be bought with money; they come by a system of refining, elevating, spiritualizing that is brought about only by severe thinking, rigid discipline, and long continued culture.

It pays to make a patient, intelligent, thorough study of the language we use. Every word should be chosen with care, every sentence modeled with precision, and all we say so knit together as to make our thoughts stand out distinctly, gracefully, winningly. This training cannot be accomplished in a day, nor a month, nor a year; it must be the study and the labor of life.

A good style of composition is much more easily attained by some than by others. Many of us are blundering plodders at best; but there is tolerable success for almost any of us, especially if our chief effort is to express important thoughts, and not merely to connect a tingling jingle of fine words.

The style of some writers is properly precise, and even faultlessly polite, yet passionless, cold, powerless. It lifts weighty thoughts into

expression with such difficulty as to impart a sense of burden to its utterances. But by the wielding of others, language becomes so filled with warm life and delicate expression and association that every sentence palpitates and thrills with harmony and beauty.

Irrelevant Subjects.—We do use a little space in the ITEMS with "this everlasting nuisance of spelling," and some other subjects that are not dental. We assume that others like ourselves, prefer a little variety in food, in work, and even in pleasure—at least enough to make the spice of life. We take but little space with irrelevant subjects; so that, if any do not like it, it is easily passed over. "This everlasting nuisance of spelling" is an appropriate phrase. It shows somebody is being disturbed. Well, it is near morning, and therefore time to be disturbed. Popular spelling is certainly an "everlasting nuisance—an unmitigated foolishness—that ought to arouse from lethargy every lover of education.

We see men loom up in the profession giants, and we suppose their wonderful intelligence and their stupendous genius innate, and therefore quite beyond our attainment. If we knew more of their private life and their secret habits, we should ascribe their gifts more to extraordinary industry and close, constant study. Therefore, before setting yourself down a blockhead, follow for a few years the steps by which others have risen; though the steps be rugged and long. What man has done man may do.

Implantation.—At the Chicago Dental Society, Dr. Louis Ottofy presented for inspection eight cases of implantation of from one to eleven months standing, and reported on implanted cases, as follows: Total number implanted, 17; successful, 13; failed, 4. The eight cases on exhibition proved of much interest.

No Time For Study.—Some complain they have no time for self-improvement. By persevering experiments they will be astonished to see how much time can be spared from the busiest life for that which will elevate, refine and improve. And they will be equally surprised to learn how much benefit can be gotten from only a little time each day thoroughly devoted to study. Then, too, when they once awake to the wonders of knowledge, they will not only be supremely enamored by its aquisition, but they will find greater pleasure in their ordinary work, and be stimulated to improve it. Thus knowledge, or the love of acquiring it, elevates us, and betters our condition in every department of life.

Ferdinand I. S. Gorgas, M. A.; M. O.; D. D. S., whose portrait we give in this number, was born in Winchester, Va., July 27, 1835. He graduated in Dickinson College, Carlisle, Penna. in 1853; graduated at the Baltimore College of Dental Surgery 1855; became a member of the Faculty of this College in 1858, and filled every chair except chemistry. For twelve years he was Dean and for twenty-three years a professor in Baltimore College of Dental Surgery of Prin. of Dental Science. He graduated in medicine at the University of Maryland in 1864. With the exception of Dr. J. Taft, he is the oldest teacher of dentistry in point of service now acting as such in the world. He is member of the American Academy of Dental Science, of the American Medical Association, and of the Southern Dental Association, of which he was President at the Meeting held in Augusta, Georgia. He has revised every edition of "Harris' Principles and Practice of Dentistry," since the death of the author, Prof. Chapin A. Harris, in 1860. He is the author of Gorgas' Dental Medicine of which a second edition was published within one year of the issue of the first edition, and the author of "Questions Pertaining to the Curriculum of the Dental Student," and has been editor of the "American Journal of Dental Science" since the issue of the 3d series in 1870. Since 1882, he has been Professor of Prin. and Practice of Dental Surgery, etc., and Dean of the Dental Department of the University of Maryland.

"How to Save Your Teeth."—This article, found on page 179, we are having printed in a very neat form, on nice paper, for distribution among patients. The spelling will be a novelty to them, and the subject profitable. We believe a better little leaflet could not be distributed both for the enlightenment of the public on the proper care of the teeth and for the profit of the dentist who circulates them. In our ITEMS for May we will give the price. Before this time if any dentist wishes to see a copy and know the price, write to us.

Dr. Haskell on Prosthetic Dentistry is now ready. On this important branch of dentistry, it is really much in little. It is just crowded full of helpful suggestions and important facts. Welch Dental Co., Philadelphia; price $1.00.

Talbot's Irregularities of the Teeth, published by P. Blakiston Son & Co., Philadelphia, is a work that should be in the hands of every dentist. Dr. Talbot is one of our foremost dentists; and he has made this branch of our calling a special study, and has been long quite successful in it.

The Inconsistency of Our Code of Dental Ethics, by Dr. C. H. Land, Detroit, is a pamphlet just received. This should be read by every dentist, specially those who have given much prominence of late to this subject.

LAKE ERIE DENTAL ASSOCIATION.

The twenty-fifth Annual Meeting or (Quarter Century), of the Lake Erie Dental Association will be held in Meadville, Pa., beginning on the 1st Tuesday in May (1st.) 1888, and lasting four days. Clinics will be held during the meeting.

It is the intention of the Ex. Committee to make this the most interesting and instructive Dental Meeting that has ever been held in Western Pa.

Members of the profession are cordially invited to be present.

Franklin, Pa. G. D. ELLIOTT, Secretary.

University of Iowa, Dental Department, has just closed its sixth session, having had a class of forty. This university does thorough work in all its departments.

The Southern Illinois Dental Society has its second annual session at Centralia, April 10.

The Central Dental Association of New Jersey has become quite an institution. It is hardly fashionable now for a prominent dentist to be in its vicinity without so shaping his engagements so as to attend one of its monthly meetings.

The Indiana Dental College has just closed its ninth term; thirty students were in attendance.

The Nebraska Dental Society meets May 15, at Grand Island. This is a new society but vigorous.

The New York College of Dentistry has had an unusually prosperous session this winter. Seventy-two have been graduated, and those who know the faculty need not be told that graduation means competency. Two hundred and eleven marticulated.

The Philadelphia Dental College has just graduated 119 students. This is we believe, the largest class of dentists ever sent out at one session from any dental school. The marticulates of this college at their last session numbered 215.

The Pennsylvania College of Dental Surgery has had a harmonious and successful session this winter. Its graduating class numbered 58.

The Arkansas Dental Association has issued its Constitution, By-Laws, etc., in pamphlet. Send to Dr. M. C. Marshall, Little Rock.

Beechers Dental Directory again makes its appearance. It seems an improvement on all previous efforts.

Illinois State Dental Society.—The Twenty-fourth Annual meeting of the Illinois State Dental Society, will be held at Cairo, beginning Tuesday, May 8, and continuing four days. This point has been selected because convenient for the dentists of southern Illinois, with the hope that many who have not hitherto met with us will do so this year; also for the further reason that it is easy of access to those living in other States, south, east and west, to all of whom a cordial invitation is extended. GARRETT NEWKIRK, Sec'y.

The Iowa Dental Society will be held at Iowa City, Tuesday, May 1, continuing four days. An unusually interesting program is prepared. Dr. G. V. Black, and others from neighboring States, will be present. The clinics will be interesting, all the leading features of operative and prosthetic dentistry will be demonstrated. The society has at Iowa City the advantage of the operating rooms and laboratory of the Dental Department of the State University. It is hoped every dentist in Iowa will be present, and to dentists from other States we extend a cordial welcome.

Muscatine. J. B. MONFORT, Sec.

The College of Dentistry of the University of California held its seventh annual commencement in San Francisco, November 29, 1887, at 8 o'clock P. M. The number of matriculates for the session was thirty-six.

Graduating Class: Edward Livingston Davis, San Jose, Cal.; Joseph Dupuy Hodgen, Woodland, Cal.; Harold McKean Jones, Cloverdal, Cal.; Edward Maldonado, Virginia City, Nev.; Robert Eugene Payne, Santa Cruz, Cal.; Charles Edgar Post, San Francisco, Cal.; Arthur Theodore Regensburger, San Francisco, Cal.; George Frederick Rodden, San Rafael, Cal.; George Walter Rodolph, Oakland, Cal.; Granville Eugene Shuey, Danville, Cal.; Jennie Martha Simpson, Sacramento, Cal.; Otto Frank Westphal, San Rafael, Cal.

C. L. GODDARD, Dean.

The Scientific American is no doubt the leading journal on inventions and almost everything scientific that is practical. The man who has an inventive turn of mind should certainly take this weekly record of what is going on in the realm of new things, and we can hardly call to mind any intelligent class who would not be benefitted by its perusal. MUNN AND CO., New York, $3 00.

The Manifold Cyclopedia is a library of thirty volumes, so comprehensive in scope that it takes the place of many books on science, history, biography and a dictionary of important words. It is so cheap, only 50 cents a volume, that the best way to test its character is to send for the first volume and examine for yourself.

Pub. J. B. ALLEN, 393, Pearl St., New York.

Six Hundred Medical Dont's is a comprehensive summary of much information and many cautions and hints, especially to patients. These are timely and valuable, not only in conjunction with medicaments, but as preventatives against their necessity. G. W. Dillingham, publisher; Dr. F. C. Valentine, editor. Price not given.

The Archives is reaching out its long arms, and taking to itself some of our best dentists for its editorial staff. Dr. C. S. Stockton of Newark, N. J., is made chief associate editor.

The Dental Cosmos has increased its number of pages to eighty. This is enterprise. There is no padding either; every page is filled with fresh dental literature.

The Texas Dental Journal has assumed a twenty paged pamphlet form. It looks as neat as a young bride. Dr. S. Newman, Dallas, Texas. Quarterly; Price, 50 cents.

The Southern California Odontological Society is in a flourishing condition. We judge by their extensive program and the men who "fill the bill."

The First District DentalSociety of New York is a model organization. Its monthly meetings are well attended and profitable. Their annual meetings are decided specialties, well worthy quite a journey to attend.

Kansas State Dental Society meets at Topeka last Tuesday in April, 1888. C. B. GUNN, Secretary, Leavenworth, Kansas.

The Alabama Dental Association will be held at Selma on Tuesday, April, 11, 1888, and continue four days. All dentists are cordially invited to be present. T. M. ALLEN, D. D. S.,

Washington Territory has a dental law, and is about forming a State Society.

The Code of the N. Y. Dental Society is a good model for who have not yet formulated one. J. P. Smith, Rochester, N. Y.

The Texas Dental Association has its next meeting at Dallas, commencing the first Tuesday in May.

Bro. Catching, editor of the *Southern Dental Journal*, rather smiles at our "poetry." We are no poets; but sometimes by a little rhyming we hope to point a moral; and procure for it attention, that otherwise might pass unobserved.

Miscellaneous.

NOTICES WORTH NOTICING.

There is a great deal of loose writing, not only of that reportorial sort which is often and fairly criticised by the "laity," but also among the criticisers themselves, the dear public. The Waterbury *American* quotes and comments as follows on an advertisement that is of time-honored form, but is none the less open to the objection of having a double meaning. "An advertisement reads: 'Wanted—A nurse to mind children.' It was probably inserted by the children."

An exchange points out that the Johnsbury *Caledonian* advertises for sale "a perfect animal under the saddle, and a fair driver," and adds: "We don't want any horse, but the 'fair driver' rather agitates us. What is her name; blonde or brunette, age, accomplishments and general disposition?"

A good deal akin to the last is a notice that lately appeared in the New York *Tribune*. It runs as follows: "Coachman—A lady having no further use for coachman would like to get him a place; will recommend him highly; is married; no children; is middle-aged; also has nine years best city reference. Call or address Coachman, private stable, 3 East Street." It is a fair criticism on this presumably well educated lady's literary style to say that intending employers want information about the coachman, and are not in the least concerned to know that the lady he serves "is married," and has "no children," and "is middle-aged," and "has nine years best city reference."

ETCHING ON GLASS.

A clean glass plate is coated, without being warmed with a solution of gum dammar in ether. The exact strength of the varnish is immaterial, though it should not be too weak. When the ether has evaporated, we can light up our smoke factory—the benzoline lamp—and hold the glass, film downward, in the flame, moving it about with a circular motion to prevent the heat being concentrated in one part, which would probably crack the plate. The centre of the flame consists of vapor of benzoline, which softens the dammar to such an extent that the soot is absorbed by the film as fast as it settles thereon. If this simple operation is properly done, a quarter or half plate sized glass can be smoked to opacity and will have a smooth, bright surface which is in excellent condition for being etched, and is quite hard enough to form its own protection—that is, it does not require varnishing.—*Br. Jour. of Photo.*

A leading physician says that a patient who is lying dying of exhaustion is generally dyeing of starvation. We give him beef tea, calf's foot jelly, seltzer and milk—that is, a small quantity of the sugar of milk and some fat; but the jelly is the poorest sort of food and the beef tea is a mere stimulant. The popular belief that beef tea contains "the very strength of the meat" is a terrible error—it has no food value.

PROGRESS OF THE NATURAL GAS INDUSTRY.

"Few people outside of the natural gas region," said a large owner of gas wells in Washington County, Pa., "have any idea what enormous proportions the gas business has grown to. It may be said to be only about two years old in Western Pennsylvania, and more than 200,000 acres of land in Washington and adjoining counties have been drilled with gas wells. Nearly 150,000 tons of iron have been used in manufacturing the pipes through which the 500,000,000 cubic feet of gas that flow from the region daily are conveyed to the places using it. Over $25,000,000 is invested in the business by the fourteen organized companies that produce the bulk of the gas. The land and wells represent an outlay of $17,000,000. The wells now producing are capable of doubling the quantity now demanded for light and heat. Nearly 2000 miles of mains are required for conducting the supply to consumers. It is estimated that the use of natural gas has displaced 25,600 tons of coal daily in Western Pennsylvania and Eastern Ohio alone. Besides the wells controlled by the great gas producing companies, individual owners have wells for the supply of the smaller towns, and every village and hamlet in the region has enough natural gas running to waste every day to abundantly supply the same number of towns of 10,000 inhabitants each with light and fuel."

MANUAL TRAINING IN OUR PUBLIC SCHOOLS.

It is well-known that many who are wedded to the old system do not regard manual training as any part of education. It is to give "mental training," they say, that the public schools exist.

This brings up the old question, "What is education?" The root-meaning of the word is to "lead out" the faculties, to develop and train the inherent capacities of the individual. Is it not as truly education for a boy to instruct him in the use of his hands, his eye, his sense of form and color and his judgment, as it is to cram him with soon-forgotten knowledge as to the length of rivers in Africa or the height of mountains in South America? Is not the practical chemistry of cooking as truly education for a girl as the useless puzzles of higher arithmetic?

The real end of education is to enable every one to make the most of himself or herself. Some will accomplish this end with a knowledge of words and facts and formulas. Many more need acquaintance with material things and processes of work. The schools should give everybody a chance and "lead out" the faculties on all sides instead of in the one direction of mental culture.—*N. Y. World.*

The curious fact that the usual heat produced by friction is absent when the articles are magnetized is just now being discussed by scientists who are seeking an explanation. Very striking examples are described in a late number of a scientific periodical. A workman fastened a couple of powerful magnets to his lathe to hold more securely a piece of metal which he wished to drill and turn. The presence of the magnets kept the metal so cool that no water was needed to keep the drill moist and cool. This unusual circumstance may lead to important mechanical advantages.—*Power and Transmission.*