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inal Communications and Editorial Selections.

The Physiology of Mormonism,

BY CHARLES C. FURLEY, M. D., ASSISTANT SURGEON U. S. ARMY.

ı recent visit to Salt Lake I had good opportunities for ing and inquiring into the effects of polygamy, as practi- xemplified in the case of that people. While sojourning I mingled much amongst them, visiting them in their and seeing them at their public assemblies and places of ss and pleasure; wherefore, I feel qualified to speak of ;ults of their peculiar institutions, both in their social, logical and intellectual bearings. It is, however, chiefly ıysiologist that I shall, at present, consider the subject, ı this view, I must say, the consequences of the Mormon ı, as we find them illustrated in the inhabitants of Salt are, in every aspect of the case, hurtful and degrading. arked physiological inferiority strikes the stranger, from ;t, as being one of the characteristics of this people. A feebleness and emaciation of person is common amongst :lass, age and sex; while the countenances of almost all mped with a mingled air of imbecility and brutal ferocity. ı fact, is their true character; they being obsequious and g to their superiors—to strangers sullen and spiteful, mong themselves they are cold and unamiable. In the

faces of nearly all, one detects the evidences of conscious degradation, or the bold and defiant look of habitual and hardened sensuality—the women, with but few exceptions, shrinking from the gaze of the stranger, as if fully alive to the false and degraded position they are forced to occupy. Some seem overwhelmed with shame; others wear a forlorn and haggard appearance, while a few put on a cheerful air, affecting to be satisfied with their sad condition.

Without entering into minutiæ, I may instance the following as a few of the bodily peculiarities that strike the medical man in mingling with the inhabitants of Salt Lake City: Besides the attenuation mentioned, there is a general lack of color—the cheeks of all being sallow and cadaverous, indicating an absence of good health. The eye is dull and lustreless—the mouth almost invariably coarse and vulgar. In fact, the features—the countenance—the whole face, where the divinity of the man should shine out, is mean and sensual to the point of absolute ugliness. I have nowhere seen anything more pitiful than the faces of the women here, or more disgusting than the entire appearance of the men. It is a singular circumstance that the physiognomical appearance of the children are almost identical. The striking peculiarity of the facial expression—the albuminous types of constitution, the light yellowish hair, the blue eye and the dirty, waxen hue of the skin, indicate plainly the diathesis to which they belong. They are puny and of a scorbutic tendency. The external evidences are numerous that these polygamic children are doomed to an early death—the tendency to phthisis pulmonalis being eminent and noticeable.

The evidences of natural degeneracy are more palpable in the youthful than in the adult population; the evils of this pernicious system not having taken full effect upon the latter. A more feeble and ill-looking race of children I have not met with, even among the vice and squalor of our larger cities. One looks in vain for those signs of constitutional vigor and sturdy health common to the juvenile portion of what may be

considered but a country town. So far as food, climate and other external causes are concerned, the children, as well as the adults here, are favorably circumstanced; their sanitary conditions are generally good; wherefore, we must look to the evils engendered by their religious and social system for the agents of this physical inferiority. In this system, the physiologist and moralist will not fail to detect the ample causes for a decay even so marked and melancholy. That this is not a mere fancy, or the result of prejudice, I may say, the same impression has been made upon all who have ever visited Salt Lake City, and published their opinions on the subject. Indeed, we find, in all the instincts and habits of these people, full confirmation of the physical facts above set forth. They are as gross and vulgar in all their tastes, thoughts and styles of expression as in their bodily appearance. More than half their language is made up of slang phrases, nor do they relish the efforts of their preachers, unless well interlarded with this style of speech. As a consequence, these men indulge freely in the most trivial, and, sometimes, in the most vulgar and blasphemous expressions, to the great delight and mental titillation of their hearers.

The Mormon, with few exceptions, is low-bred and vulgar. Dancing is his favorite amusement—forming, in fact, not only a pastime, but a part of his religious exercises. His conversation is of the most simple and commonplace character. His thoughts never soar above his amusements or domestic affairs. He deals in the gossip and scandal of his neighborhood. The Mormons, of both sexes, are an ill-looking set, and when we have said that they are frugal, industrious and content, we have enumerated about all the virtues they can claim, or that we can conscientiously concede to that wretched system of degradation known as Mormonism.

Under the polygamic system, the feeble virility of the male and the precocity of the female become notorious. The natural equilibrium of the sexes being disturbed, mischief of this kind must ensue; as a consequence, more than two-thirds of

the births are females, while the offspring, though numerous, are not long lived, the mortality in infantine life being very much greater than in monogamous society, and were it not for the European immigration, the increase of inhabitants would be actually less than in Gentile communities. The fecundity of the women is remarkable, as might be expected, considering that the husband cohabits with the wife only at such periods as are most favorable to impregnation.

Thesis on Varicocele.

BY CHARES E. HOLBROOK, ASSISTANT SURGEON CAL. VOLS., SAN FRANCISCO.

WHILE connected as a student with the late Professor Cooper, I had a very good opportunity to study, practically, this interesting disease, and having become thoroughly acquainted with his original and peculiar method of treatment, I wish to record my impressions as then received, which have been greatly strengthened by later experience.

I am aware that many surgeons consider varicocele as a light form of disease, of little importance, and requiring but a slight amount of skill in its radical cure, and much less in its palliative treatment. Like all other affections of the genito-urinary organs, however, it is almost invariably the cause of much mental and physical suffering to its unfortunate subject, and, if allowed to continue, is quite certain to produce, in time, a morbid condition of the nervous system, extremely difficult to relieve. For these reasons, it assumes an importance to the surgeon beyond what the extent of the disease and the danger in its cure would otherwise indicate.

Varicocele is an enlargement and elongation of the veins of the spermatic cord, accompanied by a severe dragging pain of the part. Cirsocele is the name formerly given to this condition, while the term varicocele was applied to the enlarge-

ment of the veins of the scrotum; but, at the present day, the latter term is only used as above defined, the old nomenclature having fallen into disuse.

The causes of Varicocele are somewhat obscure. Hereditary weakness of the veins, debility, and the great weight of the column of blood, are given as predisposing causes. The exciting causes are, probably, severe exertion in the erect or stooping posture, constipation of the bowels, excessive venereal exercise, and any disease offering an obstruction to the venous circulation, or inducing a determination of blood to the part. The first-named of the exciting causes is, probably, the most frequent in its production, and, in many cases which have come under my observation, the patient was able to trace the disease to origin of this nature.

Every observer must have noticed the greater frequency of the affection of the veins upon the left side than upon the right, and many theories have been advanced to account for this phenomenon. Constipation has been considered by some as a sufficient solution of the problem, the retained and hardened fœces pressing upon the vein of the left side, where it is crossed by the intestine; but it has been demonstrated that a fibrous arch is thrown over the vein, at this part, completely protecting it from any such pressure.

Mr. Erichsen, in his investigations upon this subject, has discovered, at the entrance of the right spermatic vein into the vena-cava, the presence of a distinct valve, which does not exist at the termination of the vein of the opposite side in the left renal vein, and upon this he remarks as follows: "We believe that the immunity of the right side from the disease in question is really due to the presence of the valve whose existence we have pointed out; and that the frequency of the affection on the opposite side is mainly to be attributed to the absence of any such valvular conformation." And again: "In the opportunities which we have had of examining the diseases of the veins of the right side, we have always found, either that the valve has been absent altogether, or else imperfect in character."

From this it would appear that the disease may almost always be referred to the obstruction of the circulation above the terminations of the spermatic veins, and it is obvious that, at least, some of the exciting causes before mentioned may act in its production.

The diagnosis of Varicocele is always distinct, since the only diseases with which it is liable to be confounded are scrotal hernia and hydrocele of the cord, and from these it may readily be distinguished, by a little care in the examination. The peculiar angle-worm feel of the veins and the absence of fluctuation are sufficient to prevent it from being mistaken for hydrocele. By reducing the tumor when the patient is in the recumbent posture, and directing him to stand, pressure at the external abdominal ring being made at the same time by the fingers, the diagnosis from original hernia may easily be made. For, if the disease be Varicocele, the tumor will quickly return, but, if it be hernia, the same does not take place so long as the fingers are retained at the point mentioned.

The treatment resolves itself into two kinds, viz. the palliative treatment and the radical cure. The first requires the use of a suspensory bandage (the elastic being preferable), "cold douching," early and late, and abstinence from the general exciting cause. Some cases may even be radically cured by this process.

Sir Astley Cooper proposed and practiced the excision of a portion of the scrotum, which is always lax and pendulous in these cases, but the operation is seldom, if ever, resorted to at the present day, the elastic suspension being a great improvement upon it. The radical cure is affected by one of many methods, each having for its object the obliteration of the veins, by producing adhesion between their walls, or, by excision.

Caustic is one of the means resorted to for exciting adhesive inflammation in the veins, and is a favorite method with one of the French surgeons, who rides the hobby so far as even to amputate limbs by that powerful agent. This may be considered

very good practice in France, but in America would be looked upon as little better than barbarian.

Compression, by means of large padded forceps, is the safest plan which can be adopted. The pressure being made over a large surface, prevents the formation of coagula within the veins. But its uncertainty and the length of time required to effect the desired object are objections to its use. Probably the most universal practice in America, in the relief of Varicocele, is the same as is pursued in the varicose veins of the extremities, viz: the use of the hare-lip pin and twisted suture. This operation consists in passing two or three pins beneath the veins, excluding, of course, the vas deferens, and applying compression, by means of a thread, twisted in the figure of 8, around the ends of the pins. These are removed, at the end of eight days, at which time a radical cure is claimed to have been effected. I have seen several operations of this kind, however, in which a permanent cure was not effected, and severe orchitis followed. These are powerful arguments against its employment, where more certain and less dangerous means are at our command. The other modes of producing adhesion are of the same nature, with slight variation. Ricord passed two loops of hempen cord through the same opening in the scrotum, one above the other, beneath the veins, and by passing the end of each through the loop of the other, and applying the traction, by means of the "horse shoe," the ligatures gradually ulcerated through the veins, which are thus obliterated.

This, I believe, to be a good and efficient method, the only objection being that, on the account of the formation of coagula, there is greater danger of phlebitis than accompanies the operation which I am about to advocate. I may next consider the different modes of excision, as a means of cure. Lee passed two needles under the veins, and applies the twisted suture for a few days, until the vein is filled with coagulum between the sutures. He then divides the vein subcutaneously. Another French invention is the écraseur, and, like the hobby of the caustic, it has its rider, who performs every operation possible

by it. His operation for Varicocele is certainly novel: First, separating the vas deferens from the cord, he takes a knuckle of the veins, together with the structures immediately external, and excises the whole by the écraseur, and it is said that he has had good success in this treatment.

The last method which I shall consider, is that originated by the late Professor Cooper. And I am glad that I have the opportunity of paying tribute to even the most simple of the operations originated by his great mind and practiced by his skilful hand.

The treatment instituted by Professor Cooper is easily understood. It consists in passing two ligatures between the veins and the vas deferens, and about one inch apart. These are then to be tied tightly, including, as will be seen, the spermatic veins and artery, and that portion of the scrotum immediately covering. A sharp-pointed curved bistoury is then passed beneath the veins and between the two ligatures, and is made to cut its way out, dividing all the tissues in its course. The wound thus made is to be kept open, as the discharge relieves, in a measure, the irritation and avoids much of the danger of phlebitis.

The advantages claimed for this operation by its author are, first, that it is certain to produce a radical cure; and, second, that it is attended with less danger to the patient than any of the various modes above noted, except that of the forceps, before referred to. And I might add, that another advantage which follows the operation is, the shortening of the scrotum, resulting from the contraction of the cicatrix, a natural suspensory being thus formed.

Dr. M. H. Collis, in his remarks upon the operations for the cure of Varicocele, expresses perfectly the views of Professor Cooper, in very few words, as follows: "There is no greater cause of troublesome and dangerous phlebitis than the presence of coagula in the veins." And it is the principle which led to the institution of the practice so successful in Prof. Cooper's hands; for he considered, and also practically demonstrated, that

the only true means of obviating this danger were "free incisions."

I had the opportunity of witnessing eleven cases which were operated upon by him, and not a single bad result followed in any. The worst symptom which occurred in the whole number was epididymitis in a single case. Several of his cases were affected with double Varicocele, both sides being operated on at the same time. In one of these the patient was induced to undergo the operation as a prelude to marriage, which event took place soon after his convalescence, and, in due time, a child was born to the happy couple.

I am well acquainted with the person referred to, and he informs me that he is entirely cured, and that the functions of the part are normal and strong.

Nearly fifty cases have been operated upon by Professor Cooper in this State, each being a perfect success in itself, and clearly demonstrating the safety of the operation and certainty of its effect.

Optics.

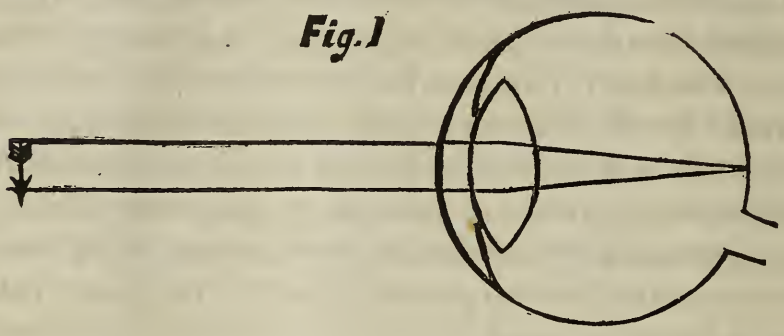
BY F. H. HOWARD, M. D., SAN FRANCISCO.

THE following article is not intended to pretend to the dignity of a treatise on Optics. The intention of the writer is merely to give a brief account of the natural optical conditions of the eye, the principal deviations therefrom, with some of their pathological relations, for the benefit of those who may not have kept pace with modern discoveries in the physiology and pathology of the eye.

1. The rays of light coming from a distant object, say upwards of 20 feet, may be considered, for all practical purposes, parallel. Through the pupil these rays enter the quiescent eye, which is so constructed that the crystalline lens so far refracts

these parallel rays, that they are concentrated upon the anterior layer of the retina, viz. fig. 1 :

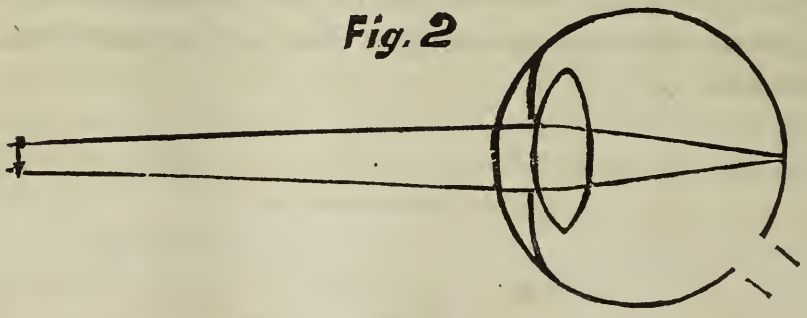
Fig. 1



This is the natural or *emmetropic* eye.

2. It is evident that, in order to see nearer objects, from which the rays of light diverge towards the pupil, as will be seen in fig. 2, there must be some more powerful factor at work.

Fig. 2



The faculty of seeing objects distinctly at different distances, is due to what is denominated the power of accommodation. The true nature of the power of accommodation has been the subject of much discussion, which, however, Prof. Helmholz, the inventor of the opthalmoscope, has set at rest, by a series of beautiful experiments.

Helmholz has demonstrated that the rays of light are refracted in different degrees, by increasing or diminishing the antero-posterior diameter of the crystalline lens, which is accomplished by means of the ciliary muscle.

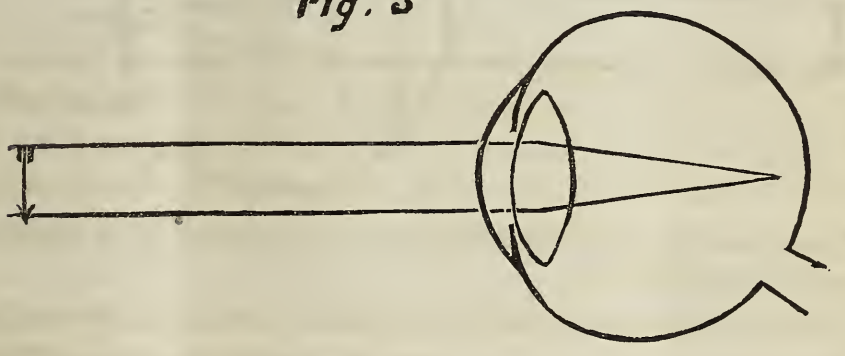
3. Thus we meet with persons affected with weak sight (Asthenopia), from the excessive use of their eyes in the discern-

ment of minute objects, as in reading, writing, sewing, working on jewelry, etc. The trouble, in these cases, is due entirely to the over-use of the ciliary muscle, and can be entirely relieved by discontinuing the use of the eyes for a time; or, where this is impossible, by relieving the ciliary muscle of a part of its work, by means of bi-convex lenses, as spectacles.

4. After the prime of life is passed, men lose a portion of their visionary power, and are forced to supply the deficiency with spectacles. They become presbyopic. With the decay of the muscular power generally, that of the ciliary muscle is also impaired, and with the general stiffening of the tissues, the lens answers less easily to the action of the ciliary muscle; thus is the power of accommodation lessened and the use of bi-convex lenses necessitated.

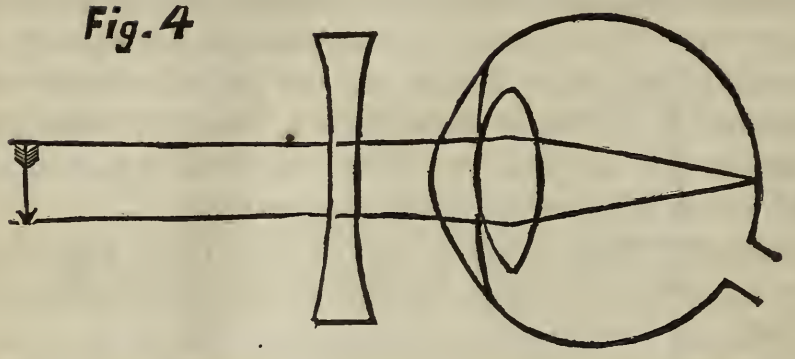
5. In short-sighted persons (Myopia) the trouble is not in the lens, nor in the ciliary muscle, but in the formatiou of the eye. The cornea is not concerned, as is popularly supposed, but the posterior segment of the ocular globe. The posterior wall of the eye is too far removed from the centre of the crystalline lens, consequently the rays of light cross each other before they reach the retina, viz. fig. 3 :

Fig. 3



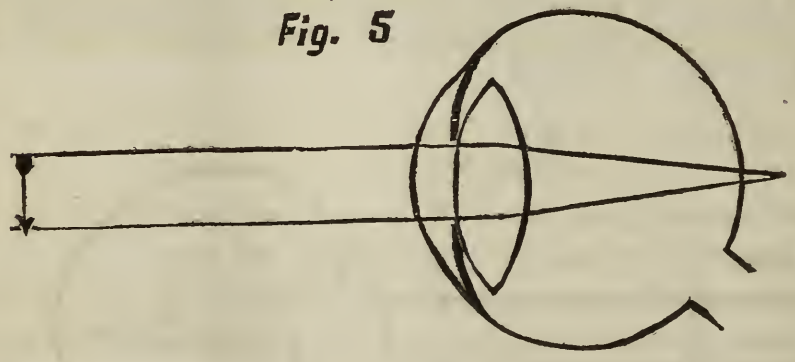
This condition is to be remedied by the use of bi-concave lenses, which spread the rays of light before they enter the pupil, and allow them to be concentrated upon the retina, viz. fig. 4 :

Fig. 4



6. There is another condition, long-sightedness, commonly confounded with presbyopia, described by some, incorrectly, as hyperpresbyopia; but which has been appropriately called hypermetropia by Donders, who has properly ascertained and described the condition. Hypermetropia is the opposite of Myopia. In this condition the posterior wall of the eye is too near the centre of the crystalline lens, and, consequently, the rays of light do not cross each other within the eye or upon the retina, but would do so behind it if prolonged, viz. fig. 5 :

Fig. 5



Hypermetropia must be corrected, as is presbyopia, by means of convex lenses.

7. Now myopic and presbyopic persons are continually straining their eyes to make up for physical defect by means of the power of accommodation, and from this oftentimes results serious trouble in the eyes.

For instance, a person will apply to the oculist, complaining of weak eyes, perhaps of spots or flames in the field of vision.

He examines the eyes with the opthalmoscope, which immediately reveals the existence of a myopia or hypermetropia, together with considerable retinal hyperæmia. He recommends complete rest for a time, then prescribes the proper spectacles to be used, and in a short time all trouble disappears.

There exists a popular prejudice against the use of spectacles, which obtains also in the minds of well informed physicians, from a mistaken idea as to the physiological difficulties for which they are worn.

It is evident that, if what has been above stated be true, which it is, beyond the peradventure of a doubt, that spectacles should be worn as soon as there is any evidence of weakness in the eyes.

In Asthenopia, of course, the continued use of the ciliary muscle but increases the difficulty, and the use of lenses, until the muscle shall have regained its tone, can be of no possible detriment.

In myopia, a new creation is opened to the subject by their use, and serious trouble often averted: for, in a large proportion of cases, myopia is but a symptom of a progressive post-staphyloma, and straining the eyes without glasses hastens the disease.

In both myopia and hypermetropia they should be used to prevent the unnatural work of the accommodation.

There is a popular idea that if short-sighted persons do not wear glasses their eyes will be better in old age.

In some slight myopic conditions, with old age the ball flattens, and, consequently, the myopia is obviated, but the use of glasses cannot possibly retard this event.

The method of selecting the proper spectacles, in each case, is a very important subject, of which I shall treat at some future time.

Complicated Laryngitis.

BY DR. CHARLES C. FURLEY, LATE SURGEON SECOND CALIFORNIA CAVALRY.

FOR some time past the troops at this post have been affected, to a considerable extent, with a severe inflammation, affecting the larynx, tonsils and salivary glands. In many cases, it has been extremely severe, and the inflammation excessive, rendering the act of deglutition not only painful, in all cases, but in many impossible.

The characteristic feature of this disease here, has been the epidemic form in which it has made its appearance, and the suddenness of the attack. The patient, who, in the evening, does not complain of more than a "slight feverishness," will, in the morning, be almost unable to speak or protrude his tongue. The height and continuance of the disorder varies, but it usually reaches its crisis in two or three days. It commences with a general feeling of malaise, a chill, succeeded by a high fever, with some distress about the throat, which, if observed at this time, shows a slight redness about the tonsils and root of the tongue, which is generally covered with a white furry coat. The dyspnœa and disphagia, from this time, increase to an alarming extent. The only exciting cause noticed is cold, most of the persons affected being those coming off guard. It very seldom affects men doing day-duty, and the officers have escaped entirely, their duties not requiring them to be out at night. The treatment pursued by me and found most efficacious, after testing those commonly recommended, has been of a simple character. Bleeding, with topical applications of turpentine, and hot fomentations, with proper attention to the secretions, have been found to answer every purpose, and though the attacks occurring here have been of remarkable severity, not a single case has terminated unfavorably.

Case.—H——, a private of company L, came into the hos-

pital on the morning of December 4. He was unable to speak or exhibit his tongue, his mouth remaining partially open, with the saliva trickling down his chin—breathing very difficult and laborious. On inquiry, I learned he had been on guard the second night before. The following day (Dec. 3d) and evening, he had chilly sensations, succeeded by a hot fever, complaining of some uneasiness about his throat, and, in the morning, his friends found him in the condition stated. Fifteen ounces of blood were taken from the arm, at once, and topical applications of turpentine were ordered every four hours, with hot fomentations of linseed, which succeeded, by nightfall, in relieving him of the distressing dyspnœa, and restoring, to a considerable degree, the respiration. The following morning, twelve ounces of the liquid citrate of magnesia were ordered, and in four days more he was returned to duty, well.

Fort Churchill, N. T., December 20, 1862.

Diseases of the Ear.

DR. VON TRÖLTSCH. WURZBURG. 1862.

BY F. H. HOWARD, M. D., SAN FRANCISCO.

THE diseases of the ear are but imperfectly understood by the profession in general, and, in fact, there has been little of consequence written about them. Kramer, of Berlin, wrote, some years since, a work which contains much valuable information upon the pathology and treatment of these diseases. Since then, Wilde and Toynbee have given us important but still imperfect treatises upon the subject. These, with the works of Triquet and some other French brochures of minor consequence, have been all the aural literature at our command.

Tröltsch, of Wurzburg, enjoys, at the present time, the highest reputation in Germany as an aural surgeon, and some valuable contributions of his to Virchow's Archiv. für Pathologische Anatomie

und Physiologie, vol. xiii. and vol. xvii., have led those interested in the subject to await, with some anxiety, the appearance of a comprehensive work on the ear from his pen.

It has appeared, with the title which is translated at the head of this article.

There is much of interest in each lecture, for the work is but a publication of his lectures ; however, the reviewer will be able but to touch upon a few points.

The second lecture treats of the examination of the meatus externus and the tympanum auri. The author here shows conclusively the superiority of Wilde's conical specula over the dilating specula used by Kramer and the French school. He also recommends the use of a concave mirror, by means of which reflected light shall be thrown into the ear, upon the principle of the opthalmoscope. (I have been for sometime using the mirror, and can testify to its efficacy and convenience. The mirror I use is attached to a band, which clasps around the head, thus leaving the hands free.—F. H. H.)

In the third lecture are treated the secretions of the meatus, with their anomalies. The author here shows the purely traditional character of so-called diminished secretion of cerumen, then speaks of collections of wax, etc.

In lecture 5th the furuncle of the meatus is handled :

" The furuncle of the meatus answers perfectly to that making its appearance in other portions of the body. It is well known that this form of abscess differs from other closed collections of pus, in that the furuncle contains, in its centre, a solid core, which consists of dead connective tissue, and of a necrotized hair follicle," etc. " These circumscribed abscesses of the meatus present themselves as flattened round swellings of different size, which raise the skin of the meatus. The color of the same is often scarcely altered, the tumor is very sensible to the touch, and the neighboring tissue much swollen, so as often to completely close the canal, and thus produce temporary deafness. Not seldom many such furuncles are produced at the same time."

Treatment recommended is, in the first stages, to fill the ears repeatedly with warm water, when the abscess is ripened to open, and if the contents cannot be pressed out, they should be spooned out with Daviel's spoon.

With regard to the extraction of blood and the employment of leeches, the author remarks :

"Local bloodlettings are, in certain affections of the ear, of uncommon importance, and, indeed, I scarcely know any condition where they have such great and immediate effect ; yet they must be rightly applied, and after certain rules, else they are of no use, yes, can even be pernicious. With regard to the place upon which leeches are to be applied : In practice, generally, behind the ear, upon the mastoid process, is the locality chosen, irrespective of the character of the disease. Wilde first observed that, in most painful affections of the ear, (and these are just those of the tympanum and the meatus,) that a few leeches, placed at the opening of the meatus, and particularly before the same are of much greater effect than a larger number applied behind the ear."

"The new discoveries (as by myself) of the origin and course of the external tympanic blood-vessels, yield an anatomical explanation of this fact of observation. We know now that the ext. meatus and the drum receive the greater part of their blood from the branches of the art. auricularis profunda, which emerges behind the articulating process of the inferior maxillary, and, therefore, before the ext. meatus of the ear, and, in the first place, it supplies the Tragus and external half of the ext. meatus. Before the opening of the meatus lies, also, the vena auricularis profunda, the principal vein of the external ear ; and, therefore, when we desire, in affections of the meatus, or of the drum, to extract blood from a place which is in direct circulatory connection with the affected parts, the mastoid process is not the proper place, but the opening of the meatus ext. the Tragus, and particularly the region before the same. The relations are otherwise in affections of the internal ear. In such cases, where, indeed, by extraction of blood, serious issues are often not to be averted, anatomy and experience teach us to choose, partly the mastoid process, partly under the ear, at the foramen stylomastoidea, but also before the ear ; because the tympanic cavity and the neighboring bones receive their blood from various sides, from the art. Tympanica, which passes through Glaser's opening, by the maxillary articulation ; also, from the art. stylomastoidea, which passes into the Fallopian tube, beneath the opening of the ear. Lastly, the mastoid process and the neighboring bones receive their blood from the arteries of the dura mater, from those of the pericranium from within and without, and they are pierced by a number of vessels, which connect the external veins of the soft coverings of the skull with the sinuses and veins within the skull. By extraction from the mastoid process, as we can effect this in a rapid and free stream, especially by means of the artificial (Heurteloup's) leech,

we are able to influence, therefore, not only the circulation in the external soft parts and in the bones, but also the veins and sinuses within the skull.

"So much about the locality of the extraction of blood in each case. I must yet add a number of rules, which you must observe, when you may apply leeches, at or before the opening of the ear. Before all, take care to mark the place to which they are to be applied with ink, if you wish them to be placed according to your directions. If the meatus is not stopped with cotton, the blood will flow in, and by coagulation increase the trouble of the patient; the leeches themselves can also get into the meatus. Thus a colleague related me a case where he himself placed a leech at the opening. It crawled within the ear, and, from the pain, he doubtless bit the drum itself, and must certainly have given him an hour of anguish. I think that the case could have been helped, by pouring in a solution of salt, but it were better to prevent the accident by stopping the ear with cotton. Farther, you should instruct how to stop the bleeding, as leech-bites, before the ear and upon the temple, often cause undesirable bleeding. I know a case where a single leech, placed upon the temple, directly caused the death of a child, aged 2 years, as the severe hemorrhage could not, for a long time, be stopped. The child died from inanition, in consequence of too severe a loss of blood for its age. Lastly, do not neglect to cover the leech-bites with plaster, even when the bleeding has ceased. There are individuals in whom erysipelatous swelling follows every leech-bite, especially on the hand; where the wound becomes infected, as is almost certain to be the case in otorrhœa, the erysipelas can so much the easier be produced It is not long since that I saw, in a patient where I had caused a leech to be placed before the ear, a spreading erysipelas developed, which began to show symptoms of general affection, and which I was only able to keep from the hairy scalp, by energetically pencilling the whole part attacked with stick caustic. In this case, I had all grounds to assume that the suppuration of the wound, caused by the discharge from the ear, occasioned the erysipelas. 'Little causes, great effects,' is a proverb, whose full meaning you will first perfectly conceive in practice. Do not consider little things as unimportant, and you will often hinder serious evil."

(To be continued.)

Valedictory Address to the Graduating Class in the Medical Department of the University of the Pacific.

Delivered by Professor A. J. Bowie, at Platt's Hall, San Francisco, on Thursday Evening, March 12th, 1863.

GENTLEMEN—The custom of inaugurating the admission of candidates to the honor of a degree of Doctor of Medicine by a public celebration, should be construed as an act of becoming homage to those whose diligent devotion to study is sought to be thus openly rewarded, as to the community by whose favor such honors are permitted to be conferred.

These occasions, from the remotest past, have been sought to be wrested to the achievement of a good purpose, and you will pardon me, I trust, if, in the name of the Faculty of Medicine in whose behalf I have the honor to address you, I should avail myself of the present opportunity to mingle a little counsel with congratulation, by presenting to you a few rules for your future guidance and government, the observance of which will contribute greatly to your happiness and advancement, and redound to the dignity of the high and responsible calling to which you have decided to consecrate your lives.

I propose to you, therefore, gentlemen, standing, as it were, upon the threshold of a temple dedicated to science, to endeavor to possess your minds fully with an idea of the sacred solemnity of the duties you are about to assume, before you approach her altar and receive her parting benediction. Your experience has already taught you, doubtless, that every pathway in life has its trials and temptations, but a future experience will teach you that the one you have chosen to pursue will tax your energies and zeal to their fullest bent. Some sickly lupin, some hardy air-plant or thorny cactus, ambitious to assert the prerogative of nature, may essay to deck with vegetation the dreariest wild, but the toilsome steeps you will be compelled to climb, in order to reach the goal of your highest ambition, are oftener unrelieved by a single blade of grass, or the encounter of a human being, to cheer and console you in the pursuit of your noble purpose.

It is of such flowers, however that the amaranthine wreath of fame is composed, growing, as it were, over a gulf, and plucked from the precipice of danger, to secure which you must court the perils of the devious passes that would seem to furnish the only congenial soil fitted for their development and bloom.

Let us dispense, however, with figurative expressions, through which often a moral is sought to be conveyed, and descend to the level of common sense, in order to enforce, by means of plain language, the precepts with which we seek to inoculate you at this last and sacred hour of parting.

They are, first, that you observe a strict and inviolable secrecy in reference to everything which may concern your patient. There is no subject in the world upon which men are so sensitive and peculiar as that of their physical infirmities, and however much it may gratify your vanity, you should never, as a point of honor, reveal the character of your patient's troubles, in order to extol your success in achieving his restoration to health. This rule of conduct gentlemen, pervades almost every duty you may be said to owe to your patient.

I come now to approach a more delicate subject, and that is, the duty which you owe to yourselves. The sacred nature of your vocation, second only to that of the holy priesthood, will often bring you into intimate communion with secrets of family cares and troubles, and I feel it my duty to warn you that such knowledge is to be received as though you had never heard it. The rack and the axe have, in turn, been invoked to extort from the ministers of the Church a disclosure of the secrets of other hearts, of which, in virtue of their sacred office, they had become the privileged recipients, but in vain; and you need not be told, I trust, at this day, that the sacred obligation of secrecy, which that tribunal imposes, has never been violated, in a single instance, in the history of the Church.

It is in deference, doubtless, to the high and noble sentiment which the contemplation of this wonderful truth inspires, that the law has deigned to waive her inquisitorial rights over matters revealed to us in professional confidence. To preserve an inviolable secrecy, therefore, upon all matters which concern only our

patients, ranks as a canon law with every honorable physician throughout the world.

The observance of a becoming modesty and strict adherence to the rules which honor and virtue prescribe, is all that remains to be urged in regard to your personal bearing and deportment in presence of your patient.

You will soon conclude, from what I have presently to propose to you, that the bed upon which you have sought to repose yourselves is oftener the uneasy couch of care, whereon a troubled sleep is sought to be snatched, in intervals of reprieve from the exacting calls of professional duty, than a bed of roses upon which a sybarite might recline in ease. Your entry into the arena as a candidate for public patronage, will be disputed by ambitious as well as unscrupulous rivals, skillfully trained to all the arts as well as weapons of professional warfare ; but if you come to the contest clad in the impenetrable armour of an honest purpose and a high nature, backed by an unfaltering courage, the shafts of envy and detraction, with whatever skill and force they be aimed and hurled, will break, hurtless, against it. I feel it my duty to admonish you, also, in connection with this part of my subject, that there is another species of warfare you will have to encounter as well as combat in your early struggle for public confidence, waged, I am pained to disclose to you, in a spirit of the same implacable earnestness as that of the stern encounter which I have just portrayed to you with your professional brethren. I allude to the cant of affected contumely and doubt, vouchsafed to us as a sort of badge of sufferance, by unlettered skeptics, who affect to treat our art with scorn ; but we can console ourselves with the reflection, that it is the necessary homage which virtue, in all the learned professions, but especially in ours, is compelled to pay to vice. It is true that Œsterlen, in his great work on Medical Logic, could only make the reluctant concession that Medicine, at best, was but a science of conjecture. It is only necessary, however, to point to the discoveries and reduction to proof, of modern philosophers, in regard to the discriminative tests applied to the diagnosis of the various forms of fever and their skillful management, to place him in the front rank of those skeptics, who, having refused to drink the waters which

gushed from the fountain of truth, had sought to find a deeper and a purer spring, but failing to strike it, preferred to slake their thirst in the turbid stream of doubt and conjecture, charged with the impurities it had gathered from the beds and banks along which it had flowed.

I have sought, thus far, gentlemen, to present to you a view of the dark side only of the life upon which you have proposed to enter. Permit me to tell you that it is not wholly unrelieved by rays of occasional sunshine in the way of kind and affectionate recognition of your invaluable services. Some friendly herald is ever at hand, providentially, perhaps, to proclaim and even magnify your triumphs over disease, wrested though they be, as they often are, in behalf of the obscure and needy, hid away in the recesses of poverty, or even despairing want.

You will soon learn that no condition of life, however exalted, can boast an exemption, for any length of time, from the unsparing assaults of disease. But it is from the cultivated and discriminating classes that you are to expect as well as to receive your rewards, and I can assure you that it will always be bestowed with a generous liberality, whenever your skill and ability can commaod the confidence of the public. It is not our province to inquire why, but we know the fact, that the bolts of disease are as often sped, with an arrowy flight, at the breast of the anointed sovereign, as at that of the humblest subject beneath the sway of his realm. Invisible couriers of the air, they mingle their subtle elements with our food, and freight with a deadly poison the atmosphere that surrounds us, and which we are compelled to breathe. They surmount all barriers, spurn all control, and are alike deadly, when stealing through the scented chambers of Windsor palace, to infect the blood of the highest prince of the realm, as when hovering around the squalid haunts of poverty, where want and privation stand sentinel at the door, beckoning them to enter, and marshalling the way.

Pallida mors—
Œquo pede pulsat pauperum tabernas
Regumque turres.

The curriculum of studies, gentlemen, through which you have

been required to pass, has taught you that our science aims at discarding conjecture altogether, and seeks to furnish a solution, by the aid of physiology and pathology, of all the problems of disease, however intricate they may have heretofore seemed. As examples of this, you have only to turn to your note-books to recall to memory all that was attempted to be explained to you in regard to the essential nature of the Typhus process, as well as the mechanism, if I could so employ the term, by which Dropsy, the formidable sequel of Scarlatina, was supposed to be produced. We are forced to admit that it has pleased Providence to oppose certain insurmountable obstacles to the full comprehension of the essential nature of any disease. We only recognize its existence by the derangement of health which we experience within ourselves or observe in others ; but in what the *materies morbi* consists, must forever remain with the Creator alone. Our art, if dignified with the name of science, can only rank as an experimental one, and it is for that reason that we were favored, in early times, with such broad caricatures as Rondabilis in Pantagruel, and Sangrado in Gil Blas. The day, however, is long gone by, if it ever existed, when the profession of Medicine furnished such subjects as provoked the savage raillery of Moliere, and the coarse invective of Rabelais and Montaigne. We can smile with the rest of the world, therefore, at the many jokes which have been cracked at our expense, particularly upon the subject of the glorious uncertainty of the healing art, as I believe, in this matter, our brethren of the wig and gown can boast no especial infallibility over us.

There is one subject further, gentlemen, upon which I desire to say a few words to you before parting, as I feel that it is one which deeply interested you, as it affected painfully the Faculty of our College. I allude, as you have doubtless inferred already, to the great loss our institution sustained in the untimely death of our friend and colleague, Professor E. S. Cooper. The duties of his chair were assumed by Professors Rowell and Cole, which, in addition to those of their own, were faithfully and ably performed through the entire course. That your instruction was thorough, may be justly inferred, from the fact which I had the gratification to learn, a few days since, that two of the present graduating

class, Mr. Holbrook and Mr. Kunkler, had been examined by the Board of Army Surgeons, and had received their commissions as Assistant Surgeons. It is not, therefore, that I allude to Prof. Cooper to deplore his loss as a lecturer, but as an operative surgeon, for which he would seem to have been peculiarly fitted by nature. I can truly say that, for genius in planning operations as well as for skill in executing them, he had few equals, and no superior that it was ever my fortune to meet. As it was my privilege, at the opening lecture of the late course, to announce his death, it has seemed to me not inappropriate, at the close of our labors, to have called up his memory for a moment, that we might pay this humble tribute to his name.

In behalf, then, of the Faculty, gentlemen, as well as for myself, it only remains for me here to thank you for the patient attention as well as courtesy you have so uniformly observed throughout the entire course, and to bid you, in their name and mine, an affectionate farewell.

Case of Croup following Diphtheria: Tracheotomy—Successful Termination

BY WM. H. SHERWOOD, M. D., UNIONVILLE, OHIO.

EDWIN P., aged 9 years, of good constitution, was the subject of croup, following a mild form of diphtheria.

Sept. 19th.—I was called to see him, found him complaining of pain and soreness iu the larynx, with decidedly a croupy cough, unable to speak above a whisper, and breathing somewhat stertorous. Notwithstanding the usual remedies for croup were administered sedulously, there was no permanent benefit. The little patient's sufferings passed on from bad to worse. I explained to his parents the danger of his situation, and proposed to them the operation of tracheotomy, if there was no improvement by 3 o'clock, P. M. They gave their consent at 3 o'clock. I visited him in connection with Dr. M. P. Sherwood. We found him laboring under severe dyspnœa, pulse slow and regular, countenance anxious, with but slight discoloration of the skin, from imperfect hæmatosis. We made every

preparation for an operation, without letting him know what was to be done, and then administered chloroform very cautiously, calculating to desist if it added to the dyspnœa; but, as it did not, we continued it until he was sufficiently under its influence. We then removed him to to a table, and proceeded to operate, selecting the space between the cricoid cartilage and the isthmus of the thyroid gland, carrying an incision from the middle of the thyroid cartilage to half an inch below the cricoid, dissecting cautiously down to the trachea, and by drawing down the isthmus with a blunt hook, found space enough, after piercing the trachea with a straight bistoury, and removing a circular piece, to introduce a large-sized, double silver trachea tube.

After he had recovered from the effect of chloroform, he expressed himself as better. This was September 23d. He had a comfortable night of it, sleeping well, taking nourishment, breathing perfectly good, and pulse regular.

Sept. 24th.—Much the same, breathing regular, expectorated a good deal of tenacious mucus through the tube, pulse a little accelerated.

Sept. 25th.—Came after me early in the morning, said he was dying. When I got there I found him considerably exhausted from a severe spell of coughing and strangling, but, at the time, breathing quietly. He had succeeded in expectorating a considerable quantity of thick gluey mucus, which had closed up the end of the tube in such a way that removing the inside tube did not relieve the obstruction. He remained comfortable during the day and night, expectorating less.

Sept. 26th.—Found him somewhat feverish, tongue a little furred, pulse more frequent, cough tight, bowels had moved. I removed the tube and gave a weak solution of antimony once in three hours. In the evening he was more comfortable, expectorated easy through the day, pulse slow, tongue clean, breathing natural.

Sept. 27th.—Skin cool, pulse feeble, inspiration labored, from contraction of the opening of the trachea. Ordered one grain of quinine once in four hours, replaced the tube, and directed them to give nourishment freely.

Sept. 28th.—Breathing good, pulse slow, tongue clean ; continued to take nourishment.

Sept. 29th.—Expectorated less, much the same ; directed them to omit the tonic.

Sept. 30th.—He is comfortable, has expectorated through the

tube a large quantity of false membrane, and now, for the first time, the obstruction in the larynx appeared to give way, for when he swallowed fluids, a small quantity would trickle down and come out of the tube.

Oct. 1st.—I removed the tube. This condition of things continued until the 10th, gradually diminishing as the opening in the trachea closed.

Oct. 15th.—The wound in the skin has healed, his articulation is good, and he has entirely recovered.

[The above case, according with our own experience, is illustrative of the fact, that the exudation of diphtheria has a tendency, in some instances, to invade the trachea, and there produce all the symptoms of genuine croup ;—furthermore, it demonstrates the propriety of tracheotomy in such cases.—ED.]

Editorial Translations.

IODINE, ITS ACTIONS, NORMAL AND ABNORMAL, UPON THE HUMAN BODY.—BEING A REVIEW UPON THIS SUBJECT, MADE BY DRS. SCHNELLER AND HERMANN, PUBLISHED IN THE OESTRR ZTSCHR. F. PRAKT. HEILK. Translated from Canstatt's Jahresbericht.

Dr. Schneller reports the results of his own experience, which lasted over a period of twenty years; in his practice he employed Iodine, its preparations and certain mineral waters containing it,—his conclusions in reference to its effects being the following: (a) The constitutional effects of Iodine, described by Rilliet under the name of iodismus, offers, in its symptoms, which have been accurately described and grouped together by Rilliet, some new features, though its general symptoms have long been recognized as consequences of the use of Iodine, (b) Iodismus, or anglicised *iodism*, only occurs in exceedingly rare cases. (c) Medium, as well as very small doses of the agent give rise to iodism more speedily than larger ones. (d) Old, debilitated persons, and those of an irritable habit, who have manifested symptoms of scrofula, seem to possess, for these reasons, a greater susceptibility to Iodine than others. (e) The use of this agent, in persons of the characteristics just mentioned, requires, on this account, more precaution than has hitherto been exercised. (f) The constancy of the occurrence of iodism, as set forth by Rilliet, is not so free from doubt, and hence not of so convincing a character as should induce us to use Iodine less frequently than has hitherto been done.

Somewhat in opposition to these views, it is interesting to note the experience of Dr. Jos. Hermann, which bears much analogy to what has been noticed in Paris and London: Her-

mann's observations led him to adopt the notion of the non-existence of constitutional symptoms resulting from the use of Iodine. He treated annually, in the department of the Vienna Hospital, devoted to cutaneous and syphilitic diseases, about 1000 patients. His plan of treatment was as follows: In its incipient stage, syphilis was treated merely as a local affection, without any internal medication; the secondary and tertiary forms of this disease—according to Hermann, sequelæ of mercurial treatment,—were treated entirely by the use of iodide of potassium, iodide of sodium, and iodureted cod-liver oil. Also, as external remedies, were employed the various compounds of Iodine, as well as the tinctura iodini and iodureted glycerine, no mercurials being used: consequently, since more than one-third of the cases had, at the period of their admission, been affected for some time, and been treated with mercury, there were, annually, from three to four hundred patients treated with Iodine. Under this mode of treatment, the following phenomena were present:

(1.) The most ordinary physiological change which took place in the organism was in regard to the urine. This secretion was increased in quantity, and in case metallic poisoning presents itself, the urine is so changed in quantity that its specific gravity sinks to 1005, and even as low as 1002; its solid contents become less in amount, the urea, sulphates, earthy and alkaline phosphates are reduced to amounts so small as to be scarcely appreciable. At the same time the water and the chlorides are increased to abnormal amounts; in this attenuated urine there exist traces of albumen, carbonate of ammonia, and other unusual agents. The augmented urinary secretion, as well as the qualitative changes which occur in it, that have been mentioned, are the most constant phenomena following the use of Iodine,—they occur in near eighty per cent. of the cases; they continue during a variable period, which is influenced by the person's constitution,—the time varying from ten to fifty days, or even more; the increase in quantity disappears, as soon as the urine returns to its normal constitution again;

sometimes, also, the supervention of some other symptom, as perspiration, diarrhœa, salivation, occurring under the form of a crisis, is followed by a diminished flow of urine, and a return to its normal constitution. Under the circumstances mentioned, the presence of albumen in the urine is almost a prognostic sign that mercury may be shown by electrolysis.

(2.) In about ten per cent. of the cases in which mercury had been administered, and to an extent which was detrimental to the system,—inducing a class of symptoms to which Hermann gave the title of hydrargyrosis,—in such cases of syphilis, the administration of Iodine was followed by a profuse secretion of saliva, amounting often to one pound in 24 hours. The salivation thus induced by the use of Iodine is distinguished from mercurial ptyalism in this, that, in the former case, there is no irritation or ulceration of the mouth or gums, no swelling of the mucus membrane of the oral cavity, and in the majority of cases, no soreness of the salivary glands, and no unpleasant odor from the mouth;—in many cases, indeed, in which these symptoms had been brought about by the use of mercury, they rapidly disappeared under the use of Iodine. The author, in all such cases, in which salivation has supervened upon the use of Iodine, has found, on examination, that mercury was contained in the saliva, and hence he regards this as positive evidence, that the salivation arose from the mercury, and not from the Iodine.

(3.) In about four per cent. of the cases, there followed the administration of Iodine a profuse perspiration, which did not weaken the patient: the author regards this perspiration as critical in character, since it arose under the exclusive use of Iodine alone, no sudorific having been administered; he conjectures that mercury is present in this cutaneous discharge. As was the fact in the case of the occurrence of salivation, so after the supervention of profuse perspiration, the recovery was rapid and permanent.

(4.) In many cases, after the internal use of Iodine, during a period, varying from 20 to 50 days, there appeared an exan-

thema of the following characteristics. The original form appeared as small, round, papulæ,—in some cases, instead of the papulæ, small vesicles or pustules were present; these were grouped together in patches, disposed at greater or less intervals, which did not become confluent; this eruption, which was attended by no burning nor itching, ran through its various phases in from five to eight days, and then disappeared, without leaving any scar or discoloration. It either presents itself in isolated portions of the body, as on the face, forehead, breast, abdomen, back, or extremities; or it may occur simultaneously in various parts of the body, or, indeed, the entire surface may be affected with it, including even the scalp itself: the general eruption is not accompanied by a universal reaction, but, for the most part, occurs irregularly, so that, in one portion of the body, it has already vanished, while, in other parts, the erosion still shows itself. The color of the spots, on the margin of the vesicles relatively to that of the pustules, is rose-red, in case the mercurial poisoning has been of small extent or is entirely absent; the tinting becomes of a more intense red hue, or even of a deep copper color, in case there is a high grade of mercurial poisoning. Also, in those instances where the Iodine eruption occurs, in conjunction with some other one, as roseola syphilitica, or with papulæ, pustulæ, or furunculi, which attend mercurial blood-poisoning, then the exanthema, which arises from Iodine,—and which consists of fresh spots or vesicles,—always appears in the intervening interstices, and again disappears,—while the roseola, the papulæ, &c., run through their various modifications. The occurrence of the eruption from Iodine has neither a pathological nor a prognostic significance, and in nowise indicates that the system is surcharged with Iodine and that the agent should be suspended. This phenomenon comes and goes, even during the constant use of Iodine; it appears and disappears during a protracted use of Iodine.

(5.) The scars of chancres, which have long since arisen, even months or years ago, after the use of Iodine, open again;

the scars may actually be seen undergoing disintegration and solution of their texture, and thus to present fresh excoriations and even ulcers; these excoriations or ulcers present a great resemblance to the primary chancre, yet do not generate matter which may be inoculated, or propagated by contact. (I would call special attention to this fact, as it is, no doubt, what has fallen under the observation of every one who has treated syphilitic patients with the compounds of Iodine; six weeks since, such an instance came under my notice, in which, during the use of Iodine, the cicatrix of an old chancre opened, presenting all the characteristics of a primary syphilitic ulcer,—and, what was still more remarkable, a bubo soon followed this pseudo-chancre. From my acquaintance with the patient, I was well convinced that he did not deceive me in regard to this chancre occurring sponte suâ, as he belonged to that class of men who pride themselves upon the frequency of their venereal attacks—regarding each one as a bright jewel in their life-experience. The bubo, in this case, was caused to disappear by active counter-irritation, without reaching the point of suppuration.—Ed.) The author states that he has seen this event only in the secondary and tertiary forms of syphilis, or, according to his ideas, in the chronic forms of hydrargyrosis. He explains this phenomenon in this wise, that the cicatrices remain dormant so long as the mercurial blood-poisoning is not manifest, or, in case it is manifest, it exhausts its injurious effects in the formation and development of other morbid products;—for example, when it is expended upon the mucous membranes, or upon the glandular or osseous systems. If now the iodine be given, there arises from the increased activity of the vital process, an augmentation of the vis medicatrix naturæ, under the agency of which there is a disappearance of those cicatrices which have arisen under the employment of mercury:—in order, however, to effect this, the unhealthy scars, which have arisen from the use of mercury, must first be broken down by an ulcerative process, which, after the purification of the blood has been completed, heal up and re-

main radically cured. Phenomena similar to these have been observed by Dr. Englemann and otner physicians, after the use of the iodureted water of the mineral waters of Krueznach.

(6) In a few cases, perhaps two per cent., there arose, under the use of Iodine, a diarrhœa, which lasted several days, or even some weeks; this diarrhœa, though of a very free character, was unattended with much pain or exhaustion of the body; during its continuance, the external manifestations of hydrargyrosis disappeared before the cessation of the use of the medicine, the diarrhœa also ceased; or, in case the remedy was continued, the diarrhœa in nowise assumed a dangerous character. The author regards this intestinal discharge of a critical character, and especially so when it indicates an elimination of mercury.

(7.) In near one per cent. of the cases in which Iodine was given, the patient's body emitted an unpleasant odor. in other cases, there were objective and subjective indications that the agent had been taken, appreciable in the breath and cutaneous transpiration.

The foregoing phenomena presented themselves in the patient in from eight to ninety days, under the administration of the iodide of potassium, in from 10 to 30 grains, given daily; or, of the pure mineral iodine, in doses of 2 grains daily.

Trachectomy.

TRANSLATED FROM CANSTATT'S JAHRESBERICHT, FIFTH VOLUME, LATELY PUBLISHED

DR. LISSARD has published a work upon Tracheotomy, the chief material for which was furnished him by the practice of Dr. Roser, of Marburg.

To furnish us with an idea of the frequency of cases in

which this procedure was demanded, we have ample evidence in the fact, that in a population of 40,000 souls, in a country district of Germany, in a space of seven years, this operation was practiced by Dr. Roser forty-two times. Also, in addition to this, in the neighborhood and city of Marburg, Roser states that there were 200 cases of death among children, in which the patients were permitted to die, through the unwillingness of the parents to allow the operation, or from the distrust of the attendant physician as to its propriety; so that, had it not been for these obstacles, there were, during this period, near 200 cases, in which the operation might with propriety have been practiced. It is likewise stated, that the inhabitants of the country, who resided some distance from the city, would bring their children, when attacked, into the city's clinic, where they were operated upon.

In regard to the indications demanding tracheotomy, Lissard selects and points out the opportune moment when it should be performed, to be, when the anxiety of breathing, which portends asphyxia, commences; those cases always result much more favorably in which the section was made at that time.

As respects the most favorable point for the performance of tracheotomy, Lissard selects that portion of the trachea immediately beneath the cricoid cartilage, including four of the rings of the trachea, and occasionally even the circoid cartilage itself; for the performance of the operation, he says that nothing more is required than a careful section of the parts, and with such instruments as are at hand in the pocket-case of the surgeon,—all the special instruments which have been invented for this purpose being discarded by him. Besides scalpels and forceps, of different forms and sizes, Roser used an elastic catheter, provided with large fenestræ, and of sufficient flexibility; the object of the catheter was to remove the portions of mucus, shreds of false membrane and coagula of blood; besides these uses, this instrument was found very convenient, also, in maintaining artificial respiration, where the infant remained asphyxiated after the operation. After the

trachea was opened, Roser introduced a canula, through which the child was to breathe. (Of the form and character of these canulæ, in the German text there is a somewhat detailed account, which we deem unnecessary to introduce here, as, in case the operator selects one, there is probably but little difference which kind he chooses; in my opinion, the instrument, at best, is but a useless incumbrance, which may readily be dispensed with in a manner which will be explained at the conclusion of this article.—ED.) Roser was aided in his operation by a skillful assistant; in the directions to his assistant in reference to the use of the sponge, there is a valuable hint, which is, that instead of washing out the sponges after they become saturated with blood during the operation, much time will be saved by simply pressing them with a dry cloth.

The operation proper, as practiced by Roser, consisted of a vertical incision through the skin, extending from the sternum to the thyroid cartilage, about two inches long, and exactly in the middle of the neck. He advises that the division of the tissues be made according to Langenbeck's method, as follows:—the operator seizes, with a pair of forceps, the part to be cut, and holding it steady, his assistant, with a pair of forceps, likewise grasps the tissue, but only the extreme superficial layer of it, which the surgeon then divides. In this way, but small portions of the tissues are divided at a time, and so the danger of cutting the vessels is avoided.

In the operation of tracheotomy for croup, the wounding of an unimportant venous branch may give rise to extensive hemorrhage; besides, anomalies in the distribution of arteries may be present, so that, from time to time, during the operation, it is well that the surgeon feel with his fingers, and seek for any such vessels. It is a rule to which there is no exception, that in the wounding of any vessel, its bleeding should be stopped as soon as possible. For this purpose, the best method is a species of whip-stitching. In case a vessel bleed to such an extent that the operation cannot be continued, it is, according to the advice of Roser, needless to spend time in the applica-

tion of hæmostatic means, but, at once, we should resort to the stitching mentioned, which has the advantage that it can be resorted to more readily than the ligature, and, further, it offers the advantage, that the thread cannot detach itself, as may occur after deligation,—an accident which is often of serious consequence. The hemorrhage, after tracheotomy, is mainly feared, on the ground that the blood may enter the wind-pipe, and there endanger the patient's life by asphyxia. There is no doubt that, in many instances, death has been produced in this way; Lissard, in fact, states that, in this manner, death was induced in one of Roser's patients:—a child, which had been operated upon, from struggling violently, detached the ligature which had been placed around the vena jugularis media, and thus died while on the operating table.

After the incision through the skin and fasciæ is completed, and we have advanced as far as the posterior portion of the inner edge of the sterno-hyoideus muscle, then the knife may be laid aside, and the remainder of the structures which are found on the trachea are to be separated with two blunt hooks ("Hacken") and with them to be drawn aside. The detaching of the muscles is effected without any great difficulty, but the separation of the thyroid gland is not generally accomplished with so much facility; if this part, however, be not of very great size, then the upper portion of it may be lifted up with the blunt hook, and drawn downwards, and retained there until the operation is finished. In case the middle portion of the gland is much developed, then will the operation be proportionally difficult.

In some cases, it may be found convenient to pass a thread around a portion of the thyroid gland, and in this manner, having drawn the part aside, we can lay bare the subjacent trachea. In case we find this impracticable, and it be impossible to reach the trachea above the gland, then there remain but two ways in which we can proceed: viz. to open the wind-pipe, either between the thymus and thyroid glands, or else to open directly through the thyroid gland itself.

The method of opening the trachea, between the thyroid and thymus glands, is, especially in children with short, thick necks, a very unpleasant operation, and attended with much loss of time, and besides, is often accompanied by several disagreeable concomitants. Besides the deep position of the trachea, which renders it extremely difficult to expose it in sufficient extent to complete the operation, and besides the unusual development of the venous structure, which exists in such cases, there not unfrequently arises, on wounding the fascia of the thymus, an emphysema of the structures around the gland; in addition to the emphysema which may thus arise, there may follow an inflammation and the formation of abscesses in the substernal structures; and, lastly, the most serious impediment which is thus presented, is the great loss of time which it occasions, so that sometimes the child dies of asphyxia, ere the surgeon can open the wind-pipe.

In these instances, when the aforementioned complications are present, it is advised that we lay the trachea open by dividing the thyroid gland. Roser counsels, in those cases, when the middle lobe of the gland is much enlarged, and when the symptoms are so urgent as to admit of no delay, that the lateral portions of the gland be ligated, and then to divide the structures between them. This ligation consists in passing a cord wholly around the structures, and thus to strangulate them in such a way, that the division of the gland may be readily made without fear of hemorrhage. Lissard mentions four cases in which the operation was practiced in this way; in one there was some secondary hemorrhage, yet all terminated favorably, the only objectional circumstance accompanying the operation, being the fetor which accompanied the sloughing of the strangulated structures.

When the superjacent structures have been divided, it is easy to distinguish the trachea by the hardness of its rings; the structures may now be drawn aside with a blunt tenaculum, or hooks, or in case no assistant be at hand, they may be retained aside by means of self-clasping forceps; to make the tracheal incision with greater safety, the wind-pipe should be caught and retained

steady with a pair of forceps, with hooked points; with such an instrument the operator draws the trachea forwards from the structures in which it lies; if there be an assistant, he may fix such an instrument on one side of the trachea, and the operator one on the other, and thus the wind-pipe may not only be drawn forwards, but it may be held more steadily; and as soon as the opening through is made, the sides of the incision may be easily separated, and thus the air is at once allowed to enter the trachea, through the artificial opening. The tracheal cut should embrace three or four rings, and, in some cases, it is required to open the cricoid cartilage.

Now, as just said, the hooked forceps are not only to be used in operating, but they will serve an additional purpose of acting as dilatators, for which they should be used until the respiration is fully re-established. The next step to be undertaken, before the introduction of the canula, is to pass a thread through each side of the wound; when this has been done, the threads are to be carried around the neck. In this way, we have the trachea quite under control, and are able, by means of them, to dilate the wound at pleasure; these threads may be permitted to remain for some days, until the wound has assumed such a form as will admit, more readily, of the introduction of a canula. Professor Roser employed, in most of his cases, these ligatures, allowing them to remain three or four days, and in no case did he experience anything ill from their use.

Now when the respiration is restored,—to accelerate which the elastic catheter before mentioned may be used,—then the canula may be introduced; or, in case this instrument is not at hand, then the ligatures just mentioned may be substituted in their stead,—at least for a time. When the canula is introduced, we may be aided by these ligatures, in dilating the wound.

After the operation is completed, the child must be retained in a room, of which the constant temperature is 68°, Fah.; in the same room there should be placed vessels containing warm water, so that the air of the chamber may be kept moist, and,

as nearly as possible, corresponding to the condition in which air enters the lungs ; the child should be kept surrounded with a veil, that thus the access of cold air may be wholly avoided.

The internal antiplastic remedies, viz., nitrate of potash, bicarbonate of soda, calomel, &c., should be given ; above all things, a rich, generous diet should be given the child on which this operation has been performed. During the first twelve days after the operation, there is experienced some difficulty in the swallowing of liquids, since, in drinking, there arises a spasmodic cough, during which a portion of the fluid is sucked down the wind-pipe, and then it is expelled again through the canula or by the mouth.

After the tracheal section is completed, the matter which is expelled by coughing, and which hangs in the canula, must be quickly wiped out, lest it dry there, and thus the opening be closed. Hence, it is well, now and then, to cleanse the canula with a feather, or allow a few drops of water to flow through it, in order to soften the matter which concretes in it. In regard to canulæ, Roser introduced two, of which the smaller one was contained in the outer one ; when such an arrangement is used, then the inner one can be removed, in case there collects matter in it ; after cleansing it, we may introduce it again. The removal of the outer canula, during the first days after the operation, is to be deferred as long as possible ; it should not be changed before the second day. The canula may be cleansed with an elastic catheter, or else with a wire properly bent, to which a piece of cotton is affixed. Sometimes, after the removal of the canula, a portion of the thyroid gland tends to close the opening that has been made, so that the lips of the section may have to be retained asunder with the blunt hook mentioned. To introduce the canula again, we will find the threads before-mentioned, as attached to the edges of the section, to be very convenient ;—by this manner of procedure, the danger of missing the proper opening, and of passing the canula between the trachea and the adjoining parts, will be avoided.

The length of time that the canula should be used cannot be definitely fixed ; in the selection of the time, we must be guided by the symptoms arising in the case ; in certain instances, Roser did not remove it until some weeks after the operation.

The author next notices the erosion and ulceration of the trachea which followed the operation ; ulceration was most apt to occur in the anterior wall of the trachea, and in that portion corresponding to the lower end of the canula ; sometimes the posterior wall is likewise affected, and, in rare instances, ulceration arises both before and behind. The symptoms of this are, pain in the front part of the throat, accompanied by difficulty in swallowing, the rejection of food, and, sometimes, bloody expectoration, a black deposit upon the outer canula, foul breath, and a diphtheritic deposit on the edges of the wound. These ill symptoms are only controlled by the removal of the mechanical causes which gave origin to them. For this purpose, the French advise the use of a canula invented by Luer, which is so arranged as to yield in obedience to the motion of the parts. The chief point to be observed here, according to Lissard, is to construct the canula so that the lower end will be sufficiently rounded off.

It sometimes occurs that there is a secondary hemorrhage into the wind-pipe ; on the occurrence of this event, it was once advised that the lips be applied to the wound, or opening of the canula, and the blood be withdrawn by the aid of suction ; since, however, several physicians have brought death on themselves in this way. Dujardin recommends that, by the aid of the canula, we inflate the lungs, and then, by pressing the chest, to remove the air again, and thus to institute artificial respiration. He states that, in proceeding in this way for a brief time, proper breathing will be restored, and by a violent expiration, the blood will be removed. Instead of this procedure, the German reviewer advises that the blood be withdrawn with a suction syringe.

The wound itself requires no especial treatment ; it may be dressed with simple adhesive plaster ;—should it become covered with diphtheritic matter, this must be touched with nitras argenti, or else fomented with lead-water. In the act of cicatrization contraction often occurs in the direction of the cut.

The author concludes with an interesting resumé of the results which he had from the operation of tracheotomy. Of forty-two cases operated upon, nineteen recovered, and twenty-three died. Three of the children operated on were under two years of age ; six, at the time of operation, were in the last stage of asphyxia.

In two of the cases, death occurred suddenly, from inattention on the part of the nurse to cleanse the canula. In one of the cases, death arose from hemorrhage, supervening upon the detachment of a ligature, the blood suddenly passing into the trachea; another child died from pneumonia, fifteen days after the operation; another died three weeks after, from a complication of croup and albuminuria, and three died from cerebral complication.

[To this article I will append the record of a case in which I performed this operation, some two months since:

A child, near six years old, a few weeks after its arrival here from the Atlantic States, was attacked with diphtheria, accompanied with the ordinary symptoms of fever, urine heavily loaded with organic materials, difficulty of swallowing, also of breathing, with an early appearance of a firm, dense and almost parchment-like membrane upon the fauces; a shred of this, on being detached, was elastic, like a piece of India-rubber, and, in its organization, was every way similar to the masses of coagulated fibrin, which are found in the heart after death.

The usual remedies were resorted to, with but merely a palliative effect; the exudation in the fauces quickly reappeared after its removal by local applications, and soon gave evidence that it had traveled into the larynx and trachea, and must soon produce fatal asphyxia, unless relief was obtained by tracheotomy. The breathing was most difficult, the unmistakable lividity of the countenance showed that defective oxygenation was doing its fatal duty, in admitting blood freighted with carbon into the arteries.

The operation of tracheotomy being decided upon, the child was put under the influence of chloroform, which neither lessened nor increased the difficulty of breathing. The section was made beneath the cricoid cartilage, between the sterno-hyoid muscles, great care being taken to avoid wounding the anterior jugular veins, which lie along the inner margin of the muscles; on reaching the trachea,—which was seated very deep, owing to the excessive development of the subcutaneous adipose tissue,—three of its rings were divided. After the opening of the wind-pipe, respiration commenced to occur through the section made, though it was equally as laborious as before; upon examination, this was

found to depend on the presence of a thick deposit of the false membrane. which was too firm to be removed by the fit of coughing which followed, the moment after the section was made,—and was only dislodged by seizing it with a small pair of forceps, and gradually withdrawing it, when it was found to have reached downwards beneath the sternum. Now, the next step was, the introduction of a canula, through which the respiration should be maintained ; canulæ of three different forms and sizes were introduced, when there followed a most violent fit of coughing, in each case, to such an extent, that the retention of the canula in the opening any longer, was seen to be wholly incompatible with further continuance of the child's life. To obviate this difficulty, the following procedure was resorted to : A notch was made on one of the ends of a divided tracheal ring, so as to present the shape of a half lozenge ; to this was tied a strong silken ligature, which was drawn around behind the neck, a small piece of adhesive plaster being interposed between the lips of the wounds and the thread ; the ligature being drawn sufficiently tight to open the wound, it was retained thus by adhesive plaster. In this manner, the wound was retained agape, without the least difficulty ; at the same time, a double advantage was gained by this mode of procedure, in this, that the matter expectorated from the wound could be readily removed, while, in the use of a canula, had it been possible to use it,—there is a constant need of watching it with great care, lest it become clogged up, as well as of occasionally removing it. In the report of Roser's cases, we have seen that two owed their death to the obstruction of the canula. Besides the objection to the use of the canula, where it can be dispensed with by a procedure so simple, there is another one of as grave a character, in the circumstance that, by its presence, it acts as a foreign body, and may become a fatal source of irritation.

For the first four days after the operation, there appeared, from time to time, an exudation of diphtheritic matter on the lips of the wound as well as in the trachea, which had to be removed by the aid of the forceps ; under a free use of potassæ chloras,—there being given about two drachms in 24 hours,—this exudation

ceased to appear, and the edges of the wound presented a healthy granulating appearance.

On the fifth day after the operation, a very grave and unfavorable symptom presented itself,—this was difficulty of swallowing, and especially the swallowing of fluids. In fact, it was soon observed that the greater portion, if not all of the liquids taken, instead of entering the œsophagus, passed into the larynx—the glottis having lost its sensibility,—and thence into the lungs, whence, after remaining a moment, it was rejected, through the opening in the trachea. Hence, the introduction of aliment through the œsophagus, by ordinary deglutition, being found impossible, resort was next made to the introduction of nutriment per anum ;—this, as is usually, if not always the case, failed in having the desired effect,—the vital powers sinking most rapidly, and threatened, if relief were not soon obtained, to be extinguished by inanition. In regard to sustaining life by the introduction of food per anum, we wish to record our experience here, that, in no case, have we found it adequate to the prolongation of life, for even a brief period ;—and, further, we believe that the results of the experiments of Professor Funke,—one of the first German authorities in physiology,—will be confirmed, viz., that the absorption of alimentary matters by the large intestine, when intact, can only occur in infinitely small amounts.

Resort was next had to the introduction of food through a tube into the stomach ; in this way, a large amount of concentrated essence of beef was passed into the alimentary canal ; the introduction of this was found to be attended with extreme difficulty, owing to the resistance offered by the child ; so violent were its struggles, and so much of the remaining powers of the child's life were expended in its efforts at resistance, that I did not deem it advisable to repeat the operation. The essence of beef, however, that was introduced, had a charming effect in arousing the flagging powers of life, so much so, that the child sat up in bed, and played with its toys, a few hours afterwards.

It was next suggested by Dr. Hardy, of this city, who materially aided me in the operation as well as in the subsequent treatment of the case, that it would be well to try what would be the effect of the closure of the tracheal wound, in restoring the lost sensi-

bility of the glottis. This was done, when it was found that the child breathed easily, through the mouth or nose,—still, much to our regret, the anæsthesia of the vocal chords continued as before ; whenever liquids were swallowed, they passed into the trachea, and, producing coughing, they were rejected again.

On the seventh day after the operation, the child died from sheer debility, manifestly resulting from the want of sufficient nutrition, though nutritious enemata were persevered in until the last. No autopsy was made.

Now, from the result of this case, (though fatal,) and especially from the 47 per cent. of recoveries, which followed this operation in Roser's hands, we have much to vindicate it from the odium which attaches itself to tracheotomy in this country. Another argument strongly in its favor, if this were not sufficient, is the relief which it instantly affords the patient struggling with all the throes of death by asphyxia ;—for, of all the horrors which are presented to eyes of the Physician, in his pathological experience, that of a child struggling under croupal strangulation, is, perhaps, the most painful, and invokes from his heart the keenest feeling of sympathy.—Editor.]

The followiug address is from Prof. Virchow, who now holds the highest position in German medical literature ;—also, as a public orator, he is said to have no superior in Europe ;—hence, though long, we recommend it to our readers, as one of the most beautiful things which has emanated from his pen. —Ed.

Mechanical Conception of Life ; being extracts from a Lecture, delivered by Rudolph Virchow, before the Association of German Naturalists, at Carlsruhe ; translated by the Editor.

When I attempt to treat of life in a mechanical point of view, before an audience so enlightened as the one present, I fear lest it may suggest itself that I wish to renew those unpleasant discussions which arose in a similar meeting held at

Göttingen, some years since, in which the limits between belief and science were so freely canvassed,—the claims of each being as carefully weighed as are debt and credit on a bookkeeper's page. Science, however, has no other bounds than that of the unknown, and I have the happy confidence to believe, that it will never occur in Germany again that the Church will be appointed as a censor of scientific matters. A nation which has bled in a war of thirty years, waged for the sake of conscience, and the free exercise of which was well won by the Westphalian peace, may well regard this liberty as a right which will never be called into question again.

Our question, however, is different. In the amazing strides which natural science has lately made, there has been such an accumulation of facts, that, for a single individual, it is exceedingly difficult to take a general view of the whole,—and the principles of biology now see plainly that the intimate union in which they were connected with natural science, is in great danger of being dissolved. Still nothing is more imperatively demanded than that the old connection between the two should be maintained, and that, in their mutual relations to each other, they be viewed as a unity ; for in the universal conception of life, naturalists should agree. Either such a method is possible, and the doctrine of life,—biology, should be considered as a subject of systematic natural science,—or the opposite prevails, and, in that case, we must no longer strive to subject the phenomena of life to those laws which hold sway in the domain of natural science.

More than the age of human life since, men united in a representation of life, in which there was comprehended the whole of nature. How then did Natural Philosophy pride herself when she spoke of a life of the atmosphere! For when it was known that the great ocean of air was composed of certain gases, mixed together in certain proportions, which remained constant, then it appeared quite natural to suppose that there resided in it a principle of life similar to what is found in the animal and plant, and that the air, like them, maintained its

peculiar composition. But Meteorology has solved the enigma whence the wind comes and whither it goes ; she has found in the mutual relations between the sun and earth, and between place and place, the causes on which depend atmospheric currents ; she knows now that plants absorb the carbonic acid which animals have breathed out, and, *vice versa*, that plants liberate the oxygen which animals respire. Without the mutual agency of animals and plants, there would be no constancy in the composition of the air ; in them is the principle of life, and in them alone. If we do not wish to sink ourselves into the dream-realm of ignorant sophistry, then must we limit our notions of life to the living creature alone. The Plant, the Animal and Man are the only objects endowed with life. Life is linked to these definite forms ; from an analysis of the same must follow our notions of vital phenomena ;—and only those ideas which are obtained from a study of some living form, whether high or low, are entitled to consideration.

Therefore, the question of life in its thus restricted sense, pertains alone to Botany, Zoology, Physiology and Medical Science. Astronomy talks no more of the life of the stars, and in respect to the life of the earth, Geology no longer speaks ;—still worlds have their history, though there remains but little of their history written ; their beginning and end are points beyond our ken. Still we see in them, movement, development and activity. The earth was not always what she now is, and in each moment she changes. But does she live ? Can we find anything in her history that will bear comparison with what is observed in the growth of a plant or animal ? Is she our like ? What a fantastic confusion would result were we to attempt to maintain such an idea ? The Earth has her like in the other heavenly bodies, and she is as little comparable with the living beings which inhabit her, as she is with the ether which physicists say, exists between her and surrounding worlds.

Life is not alone distinguished by this, that it produces bodies endowed with an individual identity, by virtue of which they maintain themselves as such, and by the aid of certain

powers, inherent in themselves, they display action. In all this, they do not differ from the heavenly body, the rock or the crystal. The distinguishing characteristic of life is, that it is united to a definite form, in which is foreshadowed the manner of its maintenance and the direction of its action, and which, different from all else seen in the world, is endowed with the power of reproduction, renewal and growth. Everything living, by means of this specific form which it presents, has a special individuality and permanency of structure ; besides, in this structure we find a peculiar admixture as well as constancy in the nature of the component elements, and it is due to these circumstances alone, that we have the right to group together the lowest plant and the highest animal in one grand kingdom, and to place this kingdom in contradistinction with the still greater inanimate realm of nature.

The characteristic as well as the constant form of life is presented to us in the cell. Whatsoever living form we examine, we find that it has had its origin from a cell,—likewise, that it is composed and built from cells. The plant presents a constitution composed of cells, which are united less closely together than those forming the animal ; in this cell-structure, each has properties which are similar, or even alike. Up to the present time, it is not really certain how many or how few characteristics a cell must present, in order that we may distinguish it by the same ; also, it is disputed whether, at all times, all the tissues of the body contain cells, and likewise whether the lowest animal or plant is constituted of cells, in the full sense of the term, as used in the schools. Still the fact, that cells are the primitive originators as well as the progenitors of life, and that vitality in its history is clearly associated with the same, is a point beyond dispute. All the branches of biological science find, therefore, in the doctrine of the cell their bond of connection ; the idea of the unity of life, as presented in all things living, finds its corporeal representation in the cell. That which has been sought in theory has been realized ; what to many seemed a dream, has now assumed a visible body, and stands before our eyes.

A peculiarly formed granule of matter, and which often presents a nucleolus or central point, the whole being bounded by a limiting membrane, within which we find a substance of greater or less density,—the whole being composed of nitrogenous, albuminous material,—this is the organic cell. Viewed in itself, it is an organism in miniature; it is able to lead an existence peculiar to itself, as we see exemplified in the cell of the plant or the ovum of the animal,—in the one case, its existence being durable,—in the other, ephemeral. Hence, we may consider the cell as the living individual itself, or that which we are accustomed to call so, at least, as respects its structure.

Besides the properties which are common to it, life has certain peculiarities which distinguish one species of life from another; now if we refer to the cell, we will find traces of this peculiarity. The more perfect the creature is, the more complex and varied will we find its cells. Among certain of the Algæ or sea-plants, we find the body of the plant is identical in all its structure, being composed of similar cells superposed upon each other. But in the mammal and man we find a similarity only in those cells which compose similar tissues; while, in parts which differ from each other, we remark the greatest difference of appearance and character in the component cells. This difference corresponds to the peculiarity, activity and function of the special tissue and organ; the manifold capacity and office of parts are alone explicable from this difference of structure.

It is the cell which gives the green tint to the leaf, and its gorgeous coloring to the flower; in all these actions it never ceases to maintain its identity. It is also the cell which imparts the various grades of coloring to the bird's plumage, to the hair, the eye, and the blood; through the agency of the cell,—genus, species, race and variety, even the individual himself, is distinguished, in a striking manner, from all things else. To the green material of the leaf, to the red coloring matter of the blood, the phenomenon of breathing is closely linked; the primordial cell is not able to take the place of the colored cell in these cases. It is likewise the cell which

composes the unyielding woody material of the tree as well as the easily flexible tissue of muscular structure; the hardness of the one as well as the flexibility of the other, are modified, not only by the genus and species of the object, but, also, more or less, by the favorable development of the individual. In like manner, analysis conducts us upwards to the fine organization of the nervous system, upon whose peculiar cellular structure depend sensibility, motor influence and psychical phenomena.

The action of the cell is life; the peculiarity of life is to be found in the peculiarity of the cell. The cell is a material body, composed of definite chemical atoms, united together according to a fixed law; its activity varies according to the material composing it; its function changes, augments and diminishes, arises and disappears, in accordance with the change, augmentation and diminution of its component materials. But these materials, as regards their essential elements, do not differ from those of the inorganic, inanimate world, for it is from this source that the cell is sustained, and to which it returns again, when it has accomplished its mission of life. The mode in which these elements are united together, the peculiar manner in which they are grouped, is indeed remarkable; still, when properly considered, we do not find here any great deviation from what is seen in inorganic nature. The mode of action as well as the function peculiar to organic matter, strikes us as peculiar, still, when well considered, these phenomena do not differ so greatly from what we see in inorganic nature. The most remarkable characteristic lies in this, that, in living matter, we find an extraordinary combination of different materials within a space of miniature dimensions, and that in this the cell represents a focus within which occur the most varied as well as the most intimate actions, and hence, through its agency, results occur which are seen nowhere else in nature, since nowhere else do we see such an intimate union of different agencies.

Though life is thus so peculiar, so remarkable and recondite in character, yet it is but little removed from the domain of

chemical and physical laws. Indeed, each new step that we make in our knowledge of life, so much the more do we see that its processes take place in obedience to the chemical and physical laws which govern the universe. Each distinct feature of life finds its explanation in an anatomical and chemical apparatus,—in a peculiar disposition of material, which material, by virtue of such disposition, exhibits certain properties and powers inherent in it, nevertheless, in a manner different from what we see in inorganic nature; still, the difference exists more in appearance than in reality, since, as an example, the electric phenomenon presented in the living nerve is not essentially different from that of the telegraphic wire, or the thunder-cloud; also, the living body generates heat by a mode of combination similar to what we see occur in the grate or fire-place; likewise, starch is converted into sugar by the animal body as well as by that of the plant, in the same way that the conversion is brought about by a manufactory. Hence, then, in these cases, we see that like processes, as exhibited to us in animate and inanimate nature, are, in reality, one and the same thing.

The cell, then, is a self-existent, independent part of an organism, in which known chemical materials are united together in a peculiar manner,—meanwhile preserving their innate properties,—and which, according to their nature, go forth into action. This action cannot be looked upon in any other light than a purely mechanical one. In vain we attempt to find a difference between life and mechanical force in action; all our experience leads us to the conclusion that life is a peculiar kind of movement of certain materials, which, in obedience to an irresistible necessity, are compelled to step forth into activity on the application of some exciting cause,—some awakening impulse. Every vital action brings a change in the living structure; or, rather, every change in the living structure, so long as this is endowed with life, seems to us to be a result of the action of that structure, and hence, is an index and expression of the life resident in the same structure. When a muscle

moves, its integral constituent parts arrange themselves together in a manner quite different from that which they hold towards each other when the muscle is at rest,—at the same moment, there occur chemical changes in the muscular structure, through the agency of which some of its elements are decomposed and unite in new combinations. But the muscle does not contract spontaneously,—it does not contain an innate exciting force, but the exciting cause must always be an external one, and hence it has no choice whether it will contract or not; it is a fixed necessity of the muscle's nature, and one which it must obey, that when the external exciting cause is strong enough, its structure must pass from a state of rest into action; the invincible chain which unites cause and effect, elsewhere, together, likewise holds sway in the realm of organic nature.

But is this not Materialism? Such is the usual question, and one, to which, in advance, the sentence of condemnation is attached. How few even give themselves the pains to await an answer! As if, indeed, the sentence of condemnation must be pronounced, even though the question be answered by *yes*. Do we not display more wisdom in hearkening to the precepts of experience than to those of traditional prejudice, and are we not right in sacrificing the latter to the former? But, indeed, the mechanical conception of life which we have presented, is far from being Materialism. Materialism overleaps experience; she applies the limited measure of her knowledge to every phenomenon; she constitutes, herself, a system.

Systems, in natural science, are of great importance, but they are only so far important, as they are derived from experience. The majority of systems are mere tissues of speculation, in the construction of which experience has had but little to do; systems often prefer to neglect experience, since they aim at a standard of perfection which can only be found in the field of speculation and conjecture; the fruit of experiencc is yet immature, it will only be perfected by time. Hence, in the present state of natural science, there is a great disinclination to, and,

in certain departments, even a fear of systems; the tendency is now, rather to wait, in order to classify and arrange the known facts;—to offer an explanation of them is only done with extreme caution. The fear, lest the limits of experimental knowledge be transcended, is now so general, that even the advocates of Materialism themselves are not hasty to establish systems.

(Concluded in next number.)

Remak;—Clinical Communications. Œsterr. Ztschft f. Prakt Heilk. Reviewed by Von Eisenmann in Canstatt's Jahresbericht.

Prof. Remak has made some very important observations, which show that an anæsthesia or sensorial paralysis, arising from traumatic causes, in the peripheral extremity of a nerve, gradually extends towards the centre, becoming more and more extensive;—also, that such cases may be treated to advantage by local galvanism. *Case.*—A woman wounded her left thumb with an axe, cleaving the root of the nail by a transverse incision, so that the end of the thumb remained numb and insensible. In the course of one year, the numbness extended from the cicatrix along the flexor side of the fore-arm, in the course of the superficial radial nerve, as high as the upper arm; on the flexor side of the arm, the insensibility extended, in the direction of the median nerve, as high as the elbow; gradually the numbness extended upwards, until, at length, it reached the middle of the left cheek. In the latter place, as well as over the flexor region of the arm, the numbness disappeared of its own accord, but over the radial nerve, the insensibility was augmented, and especially at the points of the fingers. The case was treated with a galvanic stream, generated by from 50 to 70 plates of Daniell; the galvanism being applied to the scar. restored, in four applications, the feeling in the thumb, and finally in the other fingers.

Editor's Table.

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Medical Department of the University of the Pacific.

THE Fifth Course of Lectures in this institution closed on the seventh of March. It will not be out of place here to notice the progress of the school, its prospects, &c. The first course of Lectures was delivered in the spring of 1859, with an average attendance of but four or five students ; during the present course the class has numbered twenty-two, thus presenting a constant increase in numbers, to an extent that is highly encouraging to the Faculty. The original founders, in their establishment of a medical school in this city—the emporium of the Pacific Coast,—were actuated merely by a desire to meet a want which then existed, and which time has demonstrated has been steadily increasing since that period The wisdom of the pioneers in this laudable cause has been thoroughly vindicated against the opinion of those who regarded the scheme as wild and utopian in character. Uninfluenced by derision, censure or criticism,—for each of them, in its turn has been brought into demand to retard or baffle the advancement of the institution,—the Faculty have kept steadily at work, with a zeal and industry which no impediment could thwart or opposition daunt, and with a harmony of purpose which no discord ever diverted a moment from its ultimate object.

It is with regret that we are compelled to record, in our present retrospect, that of the original members of the Faculty, the numbers have been gravely decimated. The resignation of Prof. Morison has already been noticed in a previous number of the PRESS; —his business engagements were such as to preclude him from devoting that attention to his Chair, which he thought it merited; in the resignation of Dr. Morison the institution lost an accurate, careful and conscientious teacher, and a gentleman whose thorough

classical and medical education, fitted him, in every way, for the accomplishment of the tasks, which, until the period of his resignation, he so faithfully fulfilled ; so in Prof. Carman, who delivered three courses of lectures upon Materia Medica in the school, the institution possessed a faithful and devoted teacher ; and his greatest regret in leaving the city was, being compelled to dissolve his connection with the institution. It is with pleasure we learn that his removal to Mexico has had the desired effect of restoring Dr. Carman to his health again, and, at the same time, his intimate knowledge of the Spanish language, as well as his acquaintance with Spanish society, has enabled him to secure an extensive and lucrative practice in his new sphere of action.

In the death of Dr. Cooper, the school lost one of its foremost and strongest pillars ; of all the labor, solicitude and devotion which has been given to the school, his, to it, was the most untiring, the most constant and the most enduring. This solicitude for its interest ceased only with his life, for but three days before his death,—at a time even when his holding on to existence was purely mechanical,—each breath requiring an effort,—on being told that one of the newly-appointed Professors was to deliver his first lecture, he expressed a strong desire that, if it were possible, he would hear it.

The places which have thus been rendered vacant have been re-filled as follows :

The Chair of Materia Medica has, since Dr. Carman's resignation, been occupied by Dr. H. Gibbons, and to this department, at the latter's request, has been added Botany,—a section of Natural Science which has so many connections with Medicine that it has been deemed advisable that, at least, the leading principles of it shall hereafter be taught and made a part of the instruction given in this institution. The Chair of the Principles of Pathology and the Theory and Practice of Medicine has been filled by the appointment of Dr. A. J. Bowie, formerly, and for many years, connected with the Surgical Corps of the U. S. Navy. The Chair of Anatomy and Surgery, made vacant by the death of Professor Cooper, has since been divided into two separate departments ; Anatomy, both General and Surgical, will, in future, be taught by Dr. L. C. Lane, who has hitherto occupied the

Chair of Physiology. The Chair of Surgery remains yet to be filled.

The principles of Surgery have been taught by Professors Rowell and Cole, in addition to their other departments, during the present course.

The Professorship of Physiology, made vacant by the appointment of Dr. Lane to the Anatomical Chair, has recently been filled by the appointment of Dr. J. P. Whitney to that place. Dr. Whitney, it may be mentioned, is the same whose name is familiar to the readers of the PRESS, as the contributor to its pages of several valuable papers, and especially of an erudite article upon "Clinical Medicine."

The course which has just been completed has been thorough, rigorous and complete; the theoretical as well as the practical principles embodied in the Science of Medicine having been taught in all their minuteness and detail. The Faculty know full well that the future prospects and success of their institution, are wholly dependent upon the character of their graduates, and hence they have unanimously decided that nothing save a high grade of medical scholarship will entitle the candidate to receive the collegiate honors which are conferred by this institution. The school, desiring to stake its reputation rather upon the quality than the quantity of the material which it issues, will not be in haste to grant these honors, in order to swell the list of its alumni. This being the policy which, at present and in future, will guide the Faculty, it is confidently believed that the young gentlemen who graduate at this institution will not be slow in taking a high position among the medical fraternity of the Pacific Coast.

In addition to the course of instruction delivered by the Faculty, the student possesses here rare facilities for seeing disease in its multiform types, as exhibited in hospital practice. Through the agency of Professor Bowie, the St. Mary's Hospital, (under charge of the Sisters of Mercy,) as far as its medical and surgical supervision is concerned, has been transferred to the Faculty of this institution; the division of the labor of attendance upon the sick who resort to this hospital for treatment is as follows: The first half of the year, viz. from Jan. 1st until July 1st, the hospital will be visited by Drs. Whitney, Cole and Gibbons; during the

last half of the year, the attending physicians will be Drs. Bowie, Rowell and Lane. The three physicians who, at any time, are on duty, will exhibit and illustrate such cases of interest as may be present in the hospital ; the clinical instruction which the student will thus have the advantage of, will be of incalculable benefit to him in his future professional career. Besides the St. Mary's Hospital, the students also have access to the City and Marine Hospitals ; at the Marine Hospital, Dr. Hastings has kindly proffered to show and clinically illustrate, once a week, whatever of interest there may be in this hospital ; the students who have attended his cliniques, during the past winter, express themselves as much benefited by the clinical lessons which he has given them. At the City Hospital Dr. Holman has also kindly opened his wards to the class, exhibiting to them whatever there was of pathological interest there.

Now, in these three hospitals, the student has the privilege of seeing disease as it manifests itself in three very different orders of society : viz., in those accustomed to the comforts and conveniences of life, in the sailor, and in the victims of want and poverty ; the combination is such as to place before him pathology in every phase in which it can possibly present itself to him in his future practice.

From the retrospect which has thus been cursorily drawn of the past progress and present status of the Medical Department of the University of the Pacific, the Faculty have just grounds to be proud of what they have already achieved, and, in contemplation of the future of the institution, they have every reason for cherishing even more exalted hopes than were entertained by its original founders at the commencement of their labors.

The following is a list of graduates to whom were awarded the collegiate honors of the Medical Department of the University of the Pacific, at its recent Commencement, March 12, 1863 :

Name.	Place of Residence.
Henry Gibbons, Jr.,	San Francisco, Cal.
Wm. F. Hale,	" " "
Charles E. Holbrook	" " "

E. WARREN KING,.....Downieville, Cal.
JOHN C. KUNKLER,.....Placerville, "
JAMES W. MCAFEE, ...Corvallis, Oregon.
H. V. MOTT,.....Butte county, Cal.
JAS. D. WHITNEY, ...San Francisco, ".

Two of the Class, viz., Drs. Holbrook and Kunkler, having passed the Army Medical Board, recently convened in this city, have been commissioned as Assistant Surgeons in the U. S. Volunteer Service.

Notes Upon Aboriginal Medicine.

IN the last number of the PRESS we solicited from some of our medical brethren, living in the interior, in contiguity with the Indian tribes who yet inhabit our frontiers, some notes in reference to Medicine as it is practiced by these people: in response to that request, the subjoined items in reference to the aboriginal mode of treating the parturient female, have been kindly furnished us by Dr. W. P. Melendy, engaged in the practice of Medicine at Round Valley, in the Indian Reservation. We hope that, following his example, some of the other readers of the PRESS, who have facilities for so doing, will furnish us with additional items upon the same subject. By way of suggestion, we would propose the following questions for answer: Does phthisis pulmonalis prevail among the Indians, and, if so, to what extent? Does scrofula prevail among them? What indigenous plants do they especially use in medicines? At what age does the female commence to menstruate? Does the female Indian bear as many children as does the European female? Is the hybrid offspring of the Indian and European races endowed with procreative fecundity co-equal with that of either of the unmixed races? The latter question is one which is being extensively investigated by the savants of Europe: in its demonstration is sought a solution

of the problem whether the human race is an identity, or whether it is of plural origin.—Ed.

"The treatment of the parturient female by the several tribes of Indians which inhabit the frontier north of California, known as the Indian Reservation, is as follows: During the incipient stage of labor, she shuts herself up alone; when this period passes, and the labor proper is ushered in, she calls for help, when from four to six females rush to her relief. It may be remarked that these assistants had been previously selected by herself. One of these women acts as midwife, and her orders are implicitly obeyed, in a manner which would be well worthy of imitation by those more enlightened. During the labor, the woman sits upon the ground, and, as her pains return, four of her aids lift her up, and then forcibly thrust her back to the earth again. This process is continued until near the close of her labor; as soon as the head of the child has been delivered, it is seized by the midwife, who then carefully aids the mother in its expulsion.

"When the child is born, the midwife removes, without delay, the placenta; the mother now remains quiet, for fifteen or twenty minutes, when she goes to the nearest spring or pool of water, in which she bathes herself thoroughly. She is next caused to undergo a species of steam-bath, which is prepared by digging a hole in the earth, in which are placed hot stones, which are covered with sticks, over which are placed herbs; next water is poured upon the stones, the patient, meanwhile, being placed over them in such a manner as to be exposed to the vapor thus generated; she is exposed to this *medicated* vapor bath, wrapped in blankets, for half a day, and thus returns to her hut, from which I have often seen her come forth, in two or three days afterwards, in comparatively good health, and resume her ordinary avocations.

"The new-born child is seldom washed, but it is wiped, and wrapped tightly in its blanket, and then placed in a willow basket, of such form as to neatly fit the babe, an opening being left for the face, but over this opening a lid is placed, and kept closed for a few days. In this basket the child is borne upon the mother's back, until it is five or six months old; it is, no doubt, owing to this mode of being carried, that the exemption of the Indian race from spinal curvature is due."

Editorial.

In the previous number of the Press we announced, for this issue, the continuation of the article upon Urine ;—the amount of matter destined for its pages has increased to such an extent, since the issuing of that number, that the continuation of that article will be deferred till the next number ; so, also, in reference to Walshe's Work upon the Heart,—it was intended to present our readers with a more extended notice of the same : in respect to this work, we will but repeat what was formerly said in reference to its merit,—that it is far superior to any book of the same size which has hitherto been written on the same subject ; in accurate delineation of symptoms, systematic classification and especially in brevity of style, it is a paragon of excellence, which would serve well as a model of imitation to many of our cis-Atlantic writers upon Medicine, who, so far from studying conciseness in composition, seem to aim at diluting their ideas in a shoreless ocean of verbiage.

The subjoined communication, received frem the Medical Class of the University of the Pacific, we gladly accord a place in the pages of the Press, as not only expressive of the gratitude of the Class to the gentlemen therein named, but also as a tribute justly due the latter for the disinterestedness shown by them in thus volunteering instruction to the Class.—Ed.

At a meeting of the Medical Class of the University of the Pacific, for the session of 1862 and '63, held in the Lecture Room, San Francisco, Saturday, March 7th, 1863, the following Preamble and Resolutions were unanimously adopted :

Whereas, F. A. Holman, M. D., having at heart the encouragement and advancement of young men treading the difficult path with which he is already familiar, has kindly extended to us the benefit of his knowledge and experience in a course of lectures on Clinical Surgery, at the City and County Hospital ;

And Whereas, J. Hastings, M. D., influenced by the same

generous motives, has enriched our store of medical knowledge by a course of Clinical Lectures at the U. S. Marine Hospital;

And Whereas, F. H. Howard, M. D., has kindly given us a series of lectures upon Ophthalmic Surgery, embodying therein the result of his studies and researches, in this department of Medicine, during a protracted visit to Europe; therefore, be it

Resolved, That the sincere and grateful thanks of this Class be and are hereby extended to each of these gentlemen for their kind efforts in assisting us to surmount the difficulties which embarrass the course of the medical student, and that while we gratefully remember their professional kindness, we shall likewise cherish their memories as those who not only have endeared themselves to us as teachers but as friends.

Resolved, That a copy of these resolutions be presented by the Secretary to each of the above-named gentlemen, and that a copy be forwarded to Prof. L. C. Lane, with the request that they may be published in the Medical Press.

E. B. ROBERTSON, President.

F. S. Stirling, Secretary.

Reviews and Notices.

REPORT OF W. P. TILDEN, M. D., Resident Physician of the State Lunatic Asylum, Stockton, for the year 1862.

Glancing through Dr. Tilden's Beport, one is impressed with the many serious disadvantages under which he has labored, owing to want of funds and room, even if he had not suffered from the two month's flood, which must have interfered greatly with the successful treatment of curable cases. It appears that 717 patients were under treatment during the year; 571 were males, and 146 females. Of these, 141 were discharged, 65 died, and 12 eloped, leaving 499 on hand at the commencement of the present year. Of the 65 that died, 22 only died of disease of the brain, and among these was but one female.

Dr. T. says, "although not as favorable as could be desired, the results thus shown are more encouraging than we had reason to expect, in view of the state of things, worse, in many respects, than at the commencement of the year. At that time, there were 150 patients in the Asylum more than could properly be accommodated, and scarcely a month had elapsed before we were called upon to remove over one hundred from the two outside wards to the main building—these wards being, during the flood of that season, two feet in depth of water." He states that the Asylum contains room for only 250 patients, whereas they have 500 crowded into it. Shall this state of things continue? No other class of patients call so loudly for hospital aid as the insane, as all others can be treated properly at their homes, but these cannot; you must remove them from the condition of things that surrounded them in the early stages of their disease. The condition of the institution, when compared

with that of similar institutions on the other side of the continent and those of Europe, should arouse every physician and intelligent citizen throughout our State, but especially, our legislators, to devise and provide ample means to place it on a footing that should be second to no other in the world. In no other State of our Union are they more blessed in climate, wealth or ability, or the citizens more liberal—when they can realize the wants of the unfortunate—than in our own commonwealth.

It is impossible to provide for the necessities of the insane, without large outlays in money. We would, therefore, call on every citizen, but especially every physician, to look into the matter carefully, and bring all the intelligent influence to its support possible. We would respectfully suggest to physicians, in every county in the State, to set about procuring, for their respective counties, an almshouse and hospital, and keep within them all incurable and harmless cases, which would relieve the State Institution of the greatest incubus, retarding the cure of hopeful cases, besides, it would be more humane to such.

The crowded State of the Asylum calls not only for the withdrawing and withholding the class mentioned, but an enlargement of its dimensions. Besides, steps should be immediately taken to erect another institution of its kind in another part of the State.

It is to be hoped the present Legislature will not adjourn until it has made ample provisiou for these purposes, even if they are obliged to lay a tax especially for it.

Will physicians do all they can to promote this end?

Medical Report of California State Prison for 1862. By Dr. Stillman.

Through the politeness of Dr. Stillman we have been furnished with the "Annual Report of the State Prison Directors;" in this is also contained a compendious and well-written medical report of this institution for the past year.

There are in the State Prison, at this time, 577 prisoners ; of those natives of the United States, the largest number, viz. 45, are from New York ; of foreigners, 63 are from Ireland, from Mexico 48, from China 47. Of the whole number, 342 are not natives of the United States.

The whole number of patients treated by Dr. Stillman in the prison was 86, of which 32 were cases of gunshot wounds received in the emeute of July last ; as outside patients, there were treated 375, who were excused from labor, from five to six days, per man.

The report tends to confirm the opinion prevalent among surgeons here, that the climate around San Francisco Bay is not surpassed by that of any in the world in the salutary effect it has upon patients suffering from surgical diseases.

Dr. Stillman regards the location of the prison as eminently healthful ; this is practically demonstrated in the fact, that the list of mortality averaged but 1 19-100 per cent.,—this number being swelled beyond the average, by those deaths which were produced by gunshot wounds in those who attempted to escape in July.

The Institutes of Medicine. By Martyn Paine, A. M., M. D., L L. D., Professor of the Institutes of Medicine and Materia Medica in the University of the City of New York, and Member of numerous Foreign Medical and Scientific Societies. Seventh edition. New York : Harper & Bros., Publishers. 1862. Sold by H. H. Bancroft, San Francisco.

The rapidity with which new editions of this work have been demanded, is satisfactory evidence of the high appreciation in which it is held by the American medical profession : it is with pleasure we notice the desire on the part of Professor Paine to make those additions to his work which the annual advance in the science of Medicine demands in this, one of its fundamental and most important departments. This book should be in the library of every student and practitioner of Medicine.

The Hospital Steward's Manual: For the Instruction of Hospital Stewards, Ward-Masters, and Attendants on their several Duties;—rendered authoritative by order of the Surgeon-General. By Joseph Janvier Woodward, U. S. A. Philadelphia: J. B. Lippincott & Co. 1862. For sale by Roman & Co., San Francisco.

This volume, in duodecimo form and containing 324 pages, presents simple and explicit instructions for the guidance of hospital stewards in all the duties which pertain to their avocation; guided by this Manual, the steward will be able to relieve the surgeon of much of the onerous duty which, from the inexperience of his assistants, is often committed to his charge.

The Physician's Pocket Memorandum for 1863. By C. H. Cleaveland, M. D., Editor of the Journal of Rational Medicine.

Besides being a well-arranged blank book for daily use by the Physician, it touches briefly upon a number of medical topics, among which, as standing prominent, may be cited: "List of Medicines," "Abbreviations used in Prescriptions," "Accidents and Emergencies," "Poisons and Antidotes," &c. In the List of Medicines will be found those plants which are being introduced into practice by the Eclectic class of practitioners, from the flora of the United States; for this item alone, it should be in the hands of the regular practitioner.

Anatomy of the Arteries of the Human Body, Descriptive and Surgical, with the Descriptive Anatomy of the Heart. By John Hatch Power, M. D., Fellow and Member of Council of the Royal College of Surgeons, etc., etc. Authorized and adopted by the Surgeon General of the U. S. Army, for Use in Field and General Hospitals. 12mo., pp. 400.

The favor with which this volume has been received by the Surgeon General of the U. S. Army, is sufficient commendation, without criticism or laudation of ours, to cause it to have an extensive circulation among the profession. To be had at Roman & Co.'s, Montgomery st.

PHYSICIAN'S HAND-BOOK OF MEDICINE. By WM. ELMER, M. D.

This pocket volume should be in the hands of every physician, as a book of daily record. It is arranged for all facts connected with his duties, besides containing much condensed information. Its List of New Remedies, with their uses, alone is worth the cost of the volume. To be had at Roman & Co.'s, Montgomery st.

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Original Communications and Editorial Selections.

Spiritual Surgery.

BY THE EDITOR.

In an age so substantial, real and material in its tendencies as the one in which we live, it appears exceedingly singular that there should still be found a large class of persons in our community, who, so far from trusting to, and being governed by the principles which the experience of all the past has furnished, still allow themselves to be influenced by visionary delusions, which, so far from resting upon the substratum of facts which departed time has left as our heritage, repose upon a basis so wholly unsubstantial, so perfectly unreal, as to elude the minutest investigation of the profoundest philosopher, and are only susceptible of being compassed by the undisciplined movements of the imaginative power. We allude to that class of persons who resort to what they style spiritual agency, as a means of remedying the maladies to which the human organism is subject;—nor, as the case which we will presently detail shows, do they confine themselves to those recondite ills, which, during their course, present no visible lesion in the body, and which, therefore, are best suited to the purposes of those who would engage in deception,—but even they do not hesitate, in some instances, to step into the more positive domain of surgical pathology, and to grapple with disease as exhibited there in its substantial and positive character;—even for the reduction of

luxated and broken bones, spiritual agency is invoked. But in such instances, as might have been apprehended, total failure ensued, and stamped the seal of glaring deception on the pretensions of Spiritual Surgery.

A gentleman, well known in this city, a devotee to spiritualism, some time since, had a fracture of the lower portion of the leg, in immediate proximity with the ankle,—an injury of very serious character, and one which ordinarily requires accurate surgical skill, in order to effect a perfect cure. He sent for a spiritual medium, who, representing that she was acting under the influence of an old English Surgeon, endeavored to reduce the fracture. The spirit who purported to have been present on the occasion, and to have vouchsafed the use of the skill which he once exercised on earth, gave his name as "Dr. Swasey of London." The medium represented that she acted under the immediate guidance of this noted surgical character,—who, we may remark, seems to enjoy far more reputation in his abode in the ethereal spheres as a "bonesetter" than he did ere he had shuffled off his mortal coil, for in the annals of medical celebrities his name occurs not;—perhaps, like some other unfortunate mortals, he had to leave the world in order to be properly appreciated, and hence he is a great debtor to Death for having invested him with those honors which, while living, men did not grant him. Be this as it may, at all events, the medium, pretending to be inspired by this unseen personage. attempted to bring the fragments of the broken limb into proper place, and, after so reducing them, to apply a bandage and splint. In this way the limb was retained a few days, when it was decided to dress it; as some of the gentleman's friends were not disposed to accord as much faith to Spiritual Surgery as he was, they requested and obtained permission from the patient as well as from the ministering spirit, (through the medium,) that a regular physician should see it and examine it, in order to determine that it was properly adjusted. I was sent for to be present at the dressing,—with the

understanding that I was to be allowed to make a careful examination of the nature of the injury, as well as of its condition.

On the day designated, I went to the house, where I found a number of persons,—some believers, some disbelievers of Spiritualism,—who had assembled to witness the dressing of the injury, as well as to hear the report I should make upon it. The medium, a middle-aged female, on whose face time had engraven a goodly number of deep foot-prints, and with an evident good-earnest in the work which she was about, preceded the process of undressing the limb, by a great variety of fantastic movements with the hands, together with various guttural actions of a most singular and grotesque character. For example: the throwing of the arms, united in the arc of a circle, over the head, the sudden extension and retraction of each arm divers extensory movements towards each of the persons present, then a furious slapping of the left breast with the right hand and of the right breast with the left arm, the eyes at times rolling towards the ceiling, and, during the greater part the time, there was a violent movement of the pomum Adami, or Adam's apple, to and fro,—in fact, the guttural motions might easily remind one of the ante- and retrocedent movements of the breast of a cooing pigeon;—meantime, the medium's locks of hair,—as nearly as one could guess, about four inches long,—moved in beautiful harmony with the aforesaid motions, those of them which skirted the forehead, being now and then brushed upwards with a rapidity in which velocity rather than grace claimed the ascendant. The movements with the arms were so various, that no single adjective can describe them, since they were gyratory, circulatory, rotatory, centripetal, centrifugal;—even the sections of the cone found themselves there represented in multitudinous ellipses, parabolas and hyperboles. nay, even curves were shown in that grave drama, of which the elements were so abstruse and marvelous as to defy the most daring essays of geometrical analysis to compass them. During the performance of these actions, the spirit uttered through the medium various shockingly misquoted passages of

Scripture, while, from time to time, there were interlarded with these, extravagant exclamations, announcing the brilliant future which awaited Spiritualism; occasionally, a spicy malediction was thrown in, for the benefit of the skeptic who might be present. As a means of demonstrating the eternal truth of the spiritual doctrine against the assaults of future disbelievers, the medium embarked upon the dubious ocean of prophecy, and, among other things, declared that, in three weeks, to the astonishment of skeptics, "bone would be united to bone, muscle to muscle, and sinew to sinew, so that the patient would walk with all the vivacity of youth." Gay predictions, as the sequel will show.

During the act of removing the dressings from the limb, there was a house-fly which appeared to give the medium, and, consequently, the spirit (since the former was merely the mouthpiece of the latter) an infinite amount of annoyance, by its lighting upon the bandage, or hovering over the limb; as the insect seemed determined to rest upon the leg, even at the peril of its life, so equally determined was the medium that it should not do so, and with an envenomed, choleric energy, ever and anon, the circles, gyrations, ellipses, and all other mathematical as well as *un*mathematical motions were suddenly suspended, and, in their stead, well-pointed, truly *purposive* aims were directed at the little obtruder, with an impulse and vigor which appeared to quadrate rather with that feeling which men style anger, than with that purified spirituality which had doffed the grosser appurtenances of humanity.

At length, when the limb was bared of its dressings, the medium sprinkled a few drops of water upon the wounded part, and then began to blow them with her breath, with the apparent intention to cause them to dry. This being done, she passed her hand quickly to and fro, as if she were in the act of sprinkling something upon the leg, saying, at the time, "I am now sprinkling upon it the holy oil, which has been made in the heavenly laboratory above,"—the patient rejoining, "It is too ethereal for mortal eyes to behold." In the pronunciation of

technicalities, it would appear, that spirits are given to err, for, in the use of the term "laboratory," instead of accenting the first syllable, the spirit placed the stress on the third, so that the ejaculatory manner in which it pleased the sainted Swasey to utter his dictums, the portion of the word which especially struck the auditor's ear were "lab" and "rat," the latter leaping from the medium's throat with all that explosive emphasis with which it appears to delight spirits to commune with the wights of this sublunary sphere. The oil having been duly sprinkled, and the water that had been dropped upon the leg having dwindled to attenuated points under the inspiring influence of the medium's breath, freighted though it might be with elements of decarbonization far from ethereal, and the fly having been prevented from imbibing a few sips of the ethereal oil, or rather of the purulent matter with which the bandage, as well as the limb were saturated,—for. when the dressings were removed from the leg, it was found to be in an exceedingly unhealthy state, presenting a large suppurating surface in the region of the ankle,—a request was made by the patient's friend who was present, that an examination of the limb should be made by me; the patient acceded at once to the request, but asked the medium to consult the spirit in reference to it. The moment the request was made the choler of the medium became most conspicuous, as revealed by the angry eye, the indignant lip, the face livid with maddened blood, and. above all, the guttural, or rather pigeon-like movements of the throat,—which, for a moment or two, were repeated with double quick time. The question finally being put categorically, whether an examination of the limb might be made or not, the angry response was, "No, sir, no, sir; we stand on professional etiquette."

This, of course, put a period to the drama, in which our part was, throughout, only that of a passive spectator, and not that of actor;—still, as far as the patient was concerned, the time for acting *his* more important part, namely, that of walking, had not yet come,—but, as we have seen, the period for his appearance in that. on this occasion, unusually important character of

walker, was fixed for an early day, when he was to do so "with all the elasticity of youth." On that occasion I was not present, yet, as I learn, at the appointed time, the medium told him, if now his faith were strong enough, he could walk. At the spirit's order, the head of the bed was lifted up, and the sick man was thus raised from a horizontal to a perpendicular position, when, if his faith were strong enough, he was to walk off. On being thus raised and placed on his feet, the deluded patient, so far from walking, would have fallen to the floor, had he not been caught by by-standing friends. This was enough to break the spell of delusion which had seized upon his common sense; his faith in Spiritualism was shattered, and he changed his treatment by gyratory passes, the sprinkling of oleum æthereum, scriptural incantation, and the whole armamentum of Spiritualism,—for the skill of a regular Surgeon, under whose judicious treatment, we learn that his limb will be saved, and rendered as useful as could be expected in a case which, at its commencement, had been managed in a manner so far from what common sense and experience dictated.

A Case of Tetanus.

REPORTED BY D. B. HOFFMAN, U. S. A.

PETER W———, æt. 22 years, while on a journey from Santa Barbara to Los Angeles, last fall, was thrown from his horse into a marsh, while he was crossing it. That night, being some distance from any house, he was obliged to sleep out in his wet clothes, without fire or blankets, having lost his blanket, etc., when his horse ran away, after throwing him. This particular night happened to be one of those cold, foggy ones, which frequently occur in the fall of the year. He, of course, before morning, became very cold and stiff—or, to use his own language, "chilled through, since which time I have not felt warm or well, as I was before." To make the matter worse, he did not exercise or move about any, until the sun was up; and as it arose and

dispelled the fog and cold, the day suddenly became very hot. After lying in the warm sunshine for some time, he suddenly vomited freely a quantity of frothy phlegm from his stomach. This relieved him very much, and, fortunately, on looking round, he found his horse, got something to eat, and slowly prosecuted his journey ;—but he was in great pain from the least motion of his limbs, and, at the same time, suffering now and then with trismus, and during the whole day had opisthotonos. He again slept out in the cold and fog, with his blanket over him, passing the night much the same as the one when wet and without any covering. The next morning he was too ill to ride on horseback, and took a seat in the stage. Here he suffered again severely from the continued jolting. In this condition he arrived home, and thinking that his illness would not amount to much, had nothing done for three days ; but as he got worse and worse every day, he, finally, on the fourth morning after his arrival, and the seventh from the day that he got wet, called me in to see him. I found him in the last stages of tetanus, and saw at once that he could not live long, unless he could be relieved. Before I examined him for any wounds, I prescribed for him ; viz.,

℞
Hydrarg. chl. mit. grs. x.
Ol. Ricini ℥iss.
Ol. Terebinth. ℥ss.
M.

But the trismus was so bad, even during the intervals of convulsions, that he could not be made to swallow the dose. I then decided to use the same prescription, with some mucillaginous mixture, as a glyster, but, owing to the severe spasms, I did not succeed as well as I would like to have done. The glyster, however, acted promptly, which served to afford some relief. I immediately ordered another, and while the attendant was preparing it, I took the occasion to examine his whole person for wounds of any kind, but could find nothing—not even as much as an abrasion of the skin—anywhere. I then came to the conclusion that it was a clear case of idiopathic tetanus. By this time some chloroform that I had sent for had arrived, and with the careful administration of it, I controlled the spasms, and, at a favorable moment, gave the glyster, while he was partially under the influence

of the chloroform. Soon after this, I again tried to give him some medicine by the mouth, but as soon as he attempted to swallow, a spasm would come on, in spite even of the anæsthetic. However, he was somewhat easier than when I first saw him; and as I had to go away, some four miles, to see another patient, I left this one in charge of one of my students, with directions to continue the treatment, at the same time leaving medicine for him, should a favorable change take place before I returned. When I got back I was informed that my patient was dead. It appeared that the treatment only afforded him temporary relief, for a short time, after which spasmodic convulsions came on so rapidly that there was not time between them to bring him under the influence of the chloroform. I now went and examined him again, but could not find any injury anywhere.

There is a physiological question connected with this case that I wish to call the attention of the profession to. Some nine years ago, or when this patient was 13 years of age, he was bitten by a large rattlesnake, on the right thigh, about two and a half inches above the knee-joint. As he was, at the time, some miles away from home, he came near dying, from the effects of the wound, before remedial relief could be obtained. The treatment which relieved him, consisted, principally, of the *liquor arsenicalis*. From this time to the day of his death, he had a strange, cadaverous appearance, which his parents and relatives always attributed to the effects of the snake-bite. The question then is, was the venomous effect of his wound so deleterious to the system as to remain in an inert or latent state for that length of time, waiting only for an exciting cause to revive it into vigorous life, in the form of traumatic tetanus? Can this species of specific poisonous matter, after a long lapse of time—like the strumous diseases—produce a true case of traumatic tetanus? My impressions are that it can. At all events, it is a question worthy of careful investigation, by those members of the profession who have opportunities to observe like cases with the present one. It may be that this was a true case of *idiopathic tetanus;* but I am not inclined to believe so, and think that the exposure was only the exciting cause, while the specific poison was the real one.

Continuation of Article upon the Urine

BY THE EDITOR.

IN Number XII of the PRESS we presented our readers with an extended article upon the Urine, concluding with the promise that, at some future time, they should be presented with some additional remarks upon the method of making a qualitative and quantitative analysis of some of the normal and abnormal organic components of this excretion.

As a normal ingredient of human urine, urea occupies, as regards quantity, pre-eminently the first position. The elements composing it are C2 H4 N2 O2. When urea is separated from the other solid constituents of urine, and dried, it resembles gelatin, though somewhat more vitreous in appearance. In a series of experiments made upon this substance by me in the Physiological Laboratory connected with the University of Gottingen, three years ago, the subjoined results were obtained:

Having placed a small portion of urea in a small glass tube, and heating it, it melted, giving out ammonia when first heated; when heated longer it became dry, yellow in color, and yielded the odor of cyanic acid, an agent of extremely penetrating odor. In the upper portion of the tube, the urea was deposited again; this deposition of urea there may proceed from a union of ammonia and cyanic acid, viz., NH4 O, C2NO=C2 H4 N2 O2.

In the fusion of urea, it becomes a clear liquid; it has a taste like nitrate of potash, and is readily soluble in water.

A portion of urea being dissolved in water, it was subjected to the following tests:

(1.) Nitric acid, added to a concentrated solution of urea, gave a crystalline precipitate; the crystal-form of the nitrate of urea is similar to that of nitrate of soda.

(2.) Solution of urea with oxalic acid gave a crystalline de-

posit, viz., oxalate of urea;—the crystal-form of which does not differ from that of oxalic acid.

(3.) Neutral acetate of lead gave no reaction.

(4.) Basic acetate of lead gave no reaction.

(5.) Sulphate of copper, no reaction.

(6.) Nitrate of mercury gave, with solution of urea, a dense, white, gelatinous precipitate; even a very dilute solution of urea gave a very marked reaction.

(7.) Another portion of the solution of urea, when saturated with chloride of sodium, gave no reaction with the nitrate of mercury.

As urea is, as said at the commencement of the article, the most important organic element of urine, owing to its being quantitatively far in excess above the other components, and as its retention gives rise to one of the most grave diseases to which the human organism is liable, hence it often becomes a matter of great importance to the practitioner of medicine to determine whether his patient is discharging it in normal quantity.

In a quantitative analysis of urine, the following was the method pursued to determine the amount of urea in it:

Took of urine 60 cubic centimetres, and to this added a preparation of baryta, which is to be made as follows: take of baryta-water two parts, and solution of nitrate of baryta one part; mix them, and of such a solution there were added thirty cubic centimetres to the sixty of urine; on mixing the two, there fell a copious precipitate; the whole is next filtered, and in the filtrate there is contained the urea. while on the filter there remained the precipitated acids of the urine, in combination with baryta. Of the filtrate containing the urea there were taken 15 cubic centimetres, and it was found that 16 c. c. of a solution of nitrate of mercury were required to precipitate the whole of the urea in the 15 c. c. just mentioned. According to the law of chemical combinations, the solution of nitrate of mercury was of exactly such a strength that each c. c. of it would precipitate precisely 10 millegrammes of urea; hence 16

c. c. would precipitate 16X10=160 millegrammes. Now as the amount of urine tested for urea was diluted one-third with the baryta solution, hence 15 c. c. of it would equal 10 c. c. of urine, and as 10 c. c. of urine contained 160 millegrammes of urea, so $\frac{160}{10} = 16$, or 1 c. c. of urine, would contain 16 mgms. of urea;—and as the daily excretion in the case under examination was equal to 945 c. c.;—hence 945 c. c. gave 15-120 grammes in 25 hrs. That is, in the quantity of urine that was voided in a day, there were found a little over fifteen grammes of urea, and as a gramme is equal to $15\frac{1}{2}$ grains Troy, hence, in a day, the amount of urea excreted was somewhat over a half ounce;—we may add, that this is something less than the average daily excretion. In the use of the nitrate of mercury, in order to know that all the urea has been precipitated by the mercurial salt, we take a few drops of the united urea and mercurial solution, and add a drop or two of solution of carbonate of soda to it;—as soon as the mercurial salt is in excess, and hence, all of the urea has been precipitated, then the soda solution being added, gives a yellow reaction.

For the determination of uric acid, the plan to be pursued is, to add to the liquid containing it, a solution of the hypermanganate of soda. The latter salt, it will be remembered, is of a deep red tint, yet, when brought in contact with uric acid, it loses its color; this change of hue is taken advantage of in the quantitative determination of uric acid.

Experiment.—Took a half gramme of pure uric acid, and added to this 500 c. c. of pure water, after having first dissolved the acid in a solution of carbonate of soda. We will remark here, that, in the chemico-physiological laboratory, for the purposes of experimentation, the excrement of the boa constrictor may be used, as it is a sample of pure uric acid. In the experiment here detailed, the acid was derived from this source. The addition of the water to the soda solution did not precipitate the uric acid. Next, there were taken ten cubic centimetres of this solution, and this was acidified with sulphuric acid,

when a solution of hypermanganate of soda was added to it, the result of the mixing being a deoxydation of the hypermanganate. After a number of trials, it was found that 10 c. c. of the uric acid solution deprived of color $1\frac{6}{10}$ c. c. of the solution of hypermanganate of soda. Now, as we know that each c. c. of the uric acid solution contains one millegramme of the acid, hence each c. c. of the hypermanganate solution required of the uric acid 6-3 millegrammes for its complete discoloration. It is in this manner that a test-solution for volumetrical analysis is prepared. After the test-solution of the hypermanganate was accurately determined as to its powers as a reagent, it was used to determine the amount of uric acid in a specimen of urine, in which the quantity of it was unknown.

Besides urea and uric acid, there exist in the urine a number of other organic matters, among which we may enumerate hippuric acid, kreatin, kreatinin, and grape sugar; all these matters, though in small quantity, are normal compounds of healthy urine.

The saccharine element which, by Prof. Brücke of Vienna, has been pronounced to be a constant element in the constitution of urine, was, according to his mode of procedure, shown as follows:

Took of urine 200 c. c. and pure alcohol 800 c. c.; to the urine there was, prior to mixing it with the alcohol, added an acid, in order to render it decidedly acid in reaction;—for this acid, it matters not but little which one we choose; the urine and alcohol are next mingled together. After some hours, the solution is filtered, in order to remove the uric acid which had been precipitated by the acid which was added; when this precautionary acidification is neglected, the presence of the uric acid will interfere with the due reaction of the tests which are used for determining the presence of the sugar, and it was due to a neglect of this point, that previous examiners failed to discover the saccharine matter.

To the alcoholic urinary solution, which is thus procured

free from uric acid, there is to be added a solution of caustic potassa;—the addition of this alkali is followed by a gradual deposition of the sugar, in union with potassium, upon the walls of the vessel containing it; this compound is named kali-saccharat by the Germans, meaning sugar and potash. The sugar, as thus united with the alkali, is separated from the alcoholic solution by filtering; the matter thus procured is redissolved in hot water, and this again is filtered. The aqueous solution thus obtained was tested with the ordinary reagents for grape-sugar, viz., Fehling's alkaline copper test; also, with the solution of the nitrate of bismuth;—these reagents showed the presence of a small portion of sugar.

From this, we see that one of the functions of the kidney is the elimination of a small portion of grape-sugar from the blood; hence, in the disease known as diabetes mellitus, which is characterized by the discharge of large quantities of grape-sugar, we see that the affection is only an exaggeration of a normal function of the kidney. This fact is one among the many which tend to confirm the idea of Virchow, in his "cell-theory," that the essential elements of disease do not contain within themselves anything new, but are susceptible of an explanation on this ground, that they are merely deviations from their normal pathway of some of the normal elements or functions of the animal organism.—As a very important fact in connection with the amount of sugar which may be discharged by the kidneys, and still the limits of health not be transcended, is this,—that there is an unusually large quantity of it eliminated in persons who are in a state of plethora.

In the ensuing number of the PRESS, I will give the means of making a quantitative analysis of grape-sugar, as well as of albumen, when found in abnormal amounts in the urine.

Cholesterine and Seroline as Secretions.

IN the April number of the *American Journal of Medical Sciences* there is an elaborate article from J. H. Salisbury, M. D., in reference to the discovery of Cholesterine and Seroline as secretions, in health, of the salivary, tear, mammary and sudorific glands ; of the testis and ovary ; of the kidney in hepatic derangements ; in mucous membranes, when congested and inflamed ; and in the fluid of ascites and that of spina bifida. It is but a comparatively recent period that Dr. Austin Flint claimed to have made the discovery that one of the offices of the liver was to excrete cholesterine ; that other organs may eliminate it, is shown in the following resumé of Dr. Salisbury's experiments :

1. Cholesterine occurs largely in the ova of the human subject and of animals.

2. In the seminal fluid of the human subject, seroline and cholesterine are largely present, the former more so than the latter.

3. Cholesterine occurs very largely as a secretion in the saliva. No seroline is found.

4. Neither seroline nor cholesterine occurs in healthy urine.

5. Cholesterine occurs quite largely, and seroline in small quantity in jaundice-urine. (These bodies are probably always secreted by the kidneys whenever the liver, through organic or functional derangements—is unable to secrete them from the blood.)

6. Cholesterine and colourless blood disks are secreted or effused from highly congested and inflamed mucous surfaces.

7. Cholesterine is secreted or effused from the peritoneal (serous) membrane in ascites.

8. Cholesterine occurs largely in the fluid of spina bifida tumors.

9. Cholesterine is secreted by the tear glands.

10. Human milk, previous to birth, is rich in cholesterine. No seroline detected in the experiment made.

11. After the birth of the child, and during nursing, the mammary glands secrete largely cholesterine and seroline.

12. The milk of the cow is rich in cholesterine and seroline.

13. Butter, beef, and hog suet contain cholesterine and seroline.

14. The primary forms of the crystals of cholesterine appear to

be the cube and rhombic prism ; and that of seroline, the very acute rhombic or rhomboidal prism ; though frequently appearing as simply acicular.

15. Cholesterine and seroline are largely secreted from the blood by the sudorific glands, during the sweating stage of intermittent fever. These glands become important blood depurative organs in this disease.

16. The kidneys largely secrete cholesterine in intermittent fever.

17. The kidneys secrete cholesterine in varicella.

18. The kidneys secrete cholesterine in diphtheritic conditions.

19. The kidneys largely secrete cholesterine in the disease known as *diabetes mellitus*.

20. The kidneys secrete cholesterine and seroline in remittent fever.

21. The kidneys secrete cholesterine in typhoid fever.

22. Cholesterine is secreted by the sudorific glands in health.

Concluding Remarks.—Cholesterine appears to be essentially a body, secreted from the blood by the glands concerned in digestion; the sudorific glands ; those secreting tears and milk ; and by the testis of the male and ovary of the female, and by the kidneys in hepatic disease. In the secretions of the testis (seminal fluid), seroline occurs more largely than cholesterine. In the female ova, cholesterine occurs largely, and no doubt has some office to perform in furnishing one important constituent of nourishment in the early fœtal development ; before in vivaparous animals, there are any uterine attachments ; and in oviparous, before they can escape from the ovarian envelopes. Mucous and serous surfaces do not appear to have any power to separate cholesterine from the blood ; unless perhaps when under the influence of congestion and inflammation.

As cholesterine occurs so largely in the bile and saliva, two secretions important in digestion in the female ova, and in the mother's milk upon which the young feed, is it not highly probable that it has some important function to perform in digestion, at all ages ; and as nourishment and a soporific in infancy, it only becoming excrementitious proper when this office is ended, and it is changed into seroline (stercorine of Dr. Flint) ?

It is believed to be pretty well established, that the true cholesterine is from the nervous system, of which it is an effete product. From the nervous system it passes to the blood, and is removed from the blood by the liver.

These experiments go to show that the liver is not the only organ which separates this body from the blood. The salivary, tear, mammary, and sudorific glands ; and the testis and the

ovary come in, each in its peculiar time and place, as important aids. They also show that a portion of the cholesterine of the human body may be taken into it through the food eaten, consisting of milk and butter, eggs, beef, and hog fat, and as there are more or less blood and serous matter in meat, be taken in, in that substance also. Still, these facts do not argue against the nervous system being its true original source. They only show that it is formed in the nervous system of animals as well as in that of the human subject ; and that in feeding upon animal food, the vascular system may gather this substance from two sources, the nervous system and the food eaten. The nervous systen being the source of cholesterine, and the tear glands secreting this body, may explain why the profuse shedding of tears, in health, for any great length of time, so enervates both physically and mentally.

All functional and organic derangements of the liver produce despondency. The dark side of the picture is the one ever prominent. Actions and remarks are perverted, and everything goes wrong There is a tendency for this condition to relieve itself, especially in the female sex, by a profuse flow of tears. May not this peculiar mental and moral condition, full of sad forebodings, be but a part of that beautiful sympathy of action between different organs of the body, wisely designed, in this instance, to stimulate the tear-glands to excited action, in order that they may perform, to some extent, the depurative office of a liver, and thus relieve, partially, a vascular system surcharged with cholesterine ?

That weeping relieves sad and despondent conditions is so true that you everywhere find it proverbial ; it is well known that sudden grief does much towards deranging the functions of the liver. The tear-glands, through sympathy, appear to come in as little safety-valves to the vascular system on such occasions, as well as on others hereafter mentioned, where the liver is deranged in its functions.

In climates where there is a disposition to "biliousness" ("bilious climates"), there is a tendency to inaction of body and mind ; a heavy lethargic feeling prevails ; a greater tendency to lounge about lazily and to sleep than in less "bilious" localities ; the intellect is inactive and heavy ; there is also a tendency to the greater disposition of adeps—a tendency to obesity.

In all diseased conditions of the liver where its normal functions are impaired, there is great dullness and lethargy, with a feeling of melancholy sadness and a disposition often to doze and sleep.

Children while nursing sleep, a great portion of the time ; they fall asleep while feeding : there is also a remarkable tendency to

take on fat. After being weaned they are much more wakeful, and the fatty deposits usually decrease.

The free use of cow's milk as food produces heaviness and a tendency to sleep. The use of eggs largely as food produces a similar lethargic condition.

May we not account for the lethargic influence and the tendency to sleep and obesity of "bilious climates," on the ground of the blood and nervous system becoming and remaining constantly surcharged with cholesterine? In diseased conditions of the liver, when its depurative functions are impaired, we know the blood and nervous system become surcharged with this body, and we know that this surcharged condition produces results similar to those of "bilious climates."

May not the cholesterine and seroline in the food of nursing infants be one cause of their disposition to sleep and to become fat?

May not these bodies also, in milk and eggs, be the cause of their producing heaviness and sleep? When using milk and eggs as food, the liver has to perform the double office of removing the cholesterine formed by the nervous system and that taken into the blood by the food eaten. The result is that the blood and nervous system become surcharged with this body, and we have temporarily the same condition of the system that occurs in "bilious climates." The liver being more or less deranged in its functions in intermittent fever, the sudorific glands come in as blood depurative aids in freeing the vascular system of cholesterine and seroline and other effete matters. This may explain, to some extent, the advantage derived from the use of diaphoretics as aids in the successful treatment and eradication of this disease.

The secretion of cholesterine from the blood by the kidneys, in intermittent fever, may explain why it is that the free use of diuretics (acetate of potash, &c.) are so beneficial often in its treatment. Without the free use of diaphoretics and diuretics in the treatment of intermittent fever, the disease is seldom so perfectly eradicated from the system as to prevent its reappearance the following spring; while, with proper use, the disease seldom reappears, unless the system is again exposed, for some length of time, to the exciting cause.

The discovery of the fact that the kidneys secrete cholesterine largely in diabetes mellitus may throw some light upon the pathology and therapeutics of this peculiar disease.

[In respect to this agent, the following items in reference to it I extract from my notes of chemical analysis made in the Chemical Laboratory, Gottingen, in 1859 and 1860:

A portion of the ethereal extract from the yolk of a hen's egg became covered with a film-like coating, which, examined under the microscope, showed well-formed crystals in needle-form of cholesterine.

Again, in an extract from bile, which was procured by the aid of chloroform, there were found margarin and cholesterine, in crystal form ; the microscopic appearances of the first was that of a tuft of grass ; those of chloresterine were well-defined rhombic plates. When concentrated sulphuric acid was added to the crystals of cholesterine, then they presented an intense red hue, of extraordinary beauty ;—with this transformation of color, there was lost, however, the definite outline which they primarily presented.—EDITOR.]

Editorial Translations.

Great Sympathetic Nerve.

FROM a recent number ot the *Journal de la Physiologie de l'Homme et des Animaux*, published by Brown-Séquard, we extract the following, as a resumé of the results of certain vivisections lately made by Claude Bernard, for the purpose of determining the office of the Sympathetic Nerve. It has been determined, beyond all doubt, by Bernard, that this nerve exercises an influence upon the calibre of blood-vessels, as well as upon the temperature of the parts to which it is distributed; also, that the Sympathetic Nerve exercises these functions wholly independently of the cerebro-spinal system.

" In conclusion," says he, " to make a summary of the results of my experiments upon this nerve,—they demonstrated that the nerves which are sent to the vessels, (and which he terms vascular nerves,) and those which preside over calorification, are

topographically and physiologically independent from those which are known as the muscular, (that is, the common motor nerves.) From this we derive this general proposition, that the vascular circulatory apparatus possesses a special vaso-motor system, and that the movement of the blood can be accelerated or retarded in the vessels, either locally or generally, without any participation of the cerebro-spinal motor nervous system. The local and functional congestions which occur in certain organs at certain periods, are examples of circulatory movements in a physiological state In fevers, we have presented to us another striking example, occurring in a pathological state.

"I am not able to close this communication without adding certain reflections relative to the relations which my experiments hold in reference to the ideas which generally obtain among physiologists in respect to the great Sympathetic Nerve. It should be mentioned that, during a long period, physiologists have discussed, and are still discussing, the nature of this nerve, and it has been a question whether the sympathetic system constitutes an apparatus independent of the cerebro-spinal, or whether it is dependent upon, and sustained by the latter system;—and certain physiologists seem to think that the solution of this question would be equivalent to solving the problem of this nerve. I am, then, perhaps, asked, what I deduce from my experiments in this respect;—whether I conclude from them that the vascular branches of the Sympathetic Nerve arise from the spinal marrow, or whether they are independent of it? I reply, that I believe that no person, to-day, is capable of answering that query, at least, in an absolute manner. I know very well, that, in cutting the roots of the nerves whence spring the sciatic, or those of the brachial plexus, without obtaining any calorific phenomena in the limbs, this by no means proves that the vascular and calorific branches found in the Sympathetic do not arise at some point higher or lower than where the section was made. In certain cases, it seemed that I procured calorific phenomena in the hind-leg of animals, after

acting upon the marrow at some higher point; also, I have witnessed an augmentation of temperature occur in the fore-leg and ear, after cutting the sympathetic cord at a point on a level with the third and fourth dorsal pair of nerves, and this occurred without any action upon the pupil;—all this appears to prove that the calorific effects are distinct from the action upon the pupil and eye-ball. (For, after section of the Sympathetic in the upper portion of the body, Petit found that there ensued contractions of the pupil, and sinking of the eye into its orbit. —*Translator.*) In that portion of the marrow which is comprised between the brachial and lumbar plexuses, as well as in other portions of the medulla spinalis, there could exist, without doubt, centres which act, either directly or indirectly, by reflex action, so as to produce the vascular and calorific effects of the great Sympathetic. * * In my opinion, the vascular and calorific nerves are motor nerves; before commingling with the nerves of mixed function, these nerves constantly emanate from the ganglia of the Sympathetic, in which points they may be considered united together as in a plexus."

Hence, then, according to the opinion of Claude Bernard, one of the great functions of the Sympathetic is to serve as an excito-motor of the blood-vessels; likewise, either directly or indirectly, it influences the heat of the part to which it is distributed.

MECHANICAL CONCEPTION OF LIFE; being extracts from a Lecture delivered by RUDOLPH VIRCHOW, before the Association of German Naturalists, at Carlsruhe; translated by the Editor.

(Concluded from the last Number.)

This mechanical view of life is so far from being materialistic in nature, that even the ideas presented in the Mosaic account of creation would be imperfect without it. Says Moses expressly, "God made man from the dust of the earth, and

breathed into his nostrils the breath of life," and "he made woman from a rib which he took from man." Indeed, this conception of a material, mechanical creation of man, who is destined to return to dust again whence he was taken, is so common in the teachings of Religion, that it would be unjust to impute to Natural Science a more material tendency than she has; in fact, the mechanical tendency of Natural Science is only of a more refined and analytical character, and seeks, by the aid of the advanced experience of our time, to explain the more recondite phenomena of organized creation.

Some again urge, that, with the acceptance of such ideas, all ideality and poetry are lost; many would fain pity the philosopher who divests himself of the delusions of childhood; they would have us turn from that knowledge which, passing over the more palpable phenomena of nature, penetrates into the real essence of things. Some imagine that the heart of the naturalist is closed against all the attractive imagery of the heavens and the earth; in vain, it is thought, that, to his eye, nature puts on her most gorgeous display of colors, and revels in her countless variety of forms; many would say, that. before the icy look of the naturalist, form and color sink into insignificance, while he is enraptured with the cell, in which neither grace nor beauty can be found. Such would fain have us think that science is alone occupied with her own achievements;—and thus given to self-adulation, she has nothing else to admire, and nothing else to adore save her own deified self.

How profoundly deep in error are those who hold such notions! It is by no means necessary that the naturalist should have a stoical heart, or that his senses should be sealed to the beauties of external nature, or that his breast should be steeled against every extrinsic impulse which can excite or awaken to wonder the human heart. From the philosophic schools of antiquity, there has been transmitted to us the rigid admonition: *Nil admirari.* In the character and tendencies of individuals, as well as in the culture of the masses, there is just ground for inquiry why it is that both are inclined to view the phenomena

of this world at different periods so differently; at one time, the tendency was to look at everything figuratively, at another, more objectively or materially; again, at one time, the tendency of the mind has been to yield itself more to the feelings; at another, more to reflection, and again, human taste has been more poetic or investigative in its inclination. In the earlier periods of human society, the voice of the thunder was the voice of God, and the rainbow was viewed as a bridge between heaven and earth; likewise, in our time, the child, the girl, whose mind is yet on her toys, and the enraptured poet may follow, with hope and fear, the quivering track of the thunderbolt, and in the misty cloud they may see all manner of forms, as ghosts, human faces, animals or distant mountains: but the man of tranquil thought, will he indulge in such dreams? In order to see what is charming in nature, need we resort to the supernatural and incredible, or must we yield unbounded reign to the imagination?

Lately in our skies there presented itself a comet of greater brilliancy and more magnificent proportions than had been seen for many years. Should we of this age regard it as a supernatural monitor who portends hardships, war, famine and pestilence? Or should we view it as the herald of a fine vintage? The inhabitants of the skies are now no more looked upon as messengers sent to announce this or that event. The Astronomer now measures the orbit of the comet, and calculates with certainty the period of its return; and, at the period so determined, it *must* make its appearance again. And still, when the eye of man shall re-welcome this heavenly messenger, and when another generation of far wider views of nature shall perhaps await his coming, will the flames of his burning attire be looked upon with less wonder, as they glitter in the horizon of night, than they were a thousand years ago? Will not the appearance of this wanderer from the far distance whither he had retired, be hailed with as much astonishment as that which thrills the human heart to-day, or did ages ago?

No, truly, a study and knowledge of nature by no means blots

out from the human breast its innate love of the beautiful, or its power of responding to the sublime; the emotion which is awakened by a knowledge of the excellent and good never dies. The snowy crest of the mountain-peak, the blue outlines of the distant hill, the pleasant green of the meadow, the babbling music of the brook, the elegant tintings of the flower, never lose their attraction in our heart. Rather, we are ever impelled by the desire to indulge in a tranquil contemplation of nature; fancy is ever ready to paint new images of strange events, and to combine the imagery of the past and future with that of the present, into new forms and new combinations.

But our fancy requires no illusions. Why need we fancy a wood-nymph in each tree, when our experience has taught us that within it there is a far greater profusion of life, than this creation ot an inferior divinity can afford? Why need we people the cleft of the rock with elves and fawns, when the properties of the stone, of water and the air, the mutual and opposing powers of heat, as well as the various phenomena of animal and vegetable life present, for our contemplation, such an immense field of ever active agencies? Is a knowledge of these agencies and their laws inimical to the finer feelings and emotions of our nature? Oh no, but, on the contrary, this knowledge increases the emotion, and it alone depends on our mental disposition, whether the idea thus awakened shall give us an emotion of the beautiful and sublime, or shall address itself to our feelings. In fact, the naturalist does not need the influence of the storm, the comet, or any unusual phenomenon in nature, in order to be a participant of these emotions. Even a clouded sky of autumn, the daily rising and setting of the sun, the most insignificant agent in nature, afford constant entertainment, both for the reflective as well as the imaginative powers of the human mind.

* * *

The province of the naturalist is not to deal with the intangible and invisible;—natural science deals only with phenomena; she knows nothing of the beginning of the world. As far

as her capacity and experience reach,—and they reach far beyond the present generation of man,—she has only the present earth as a given object of investigation, and her problem is to explain what is presented by the world as it now is. For a long period it has been believed that the phenomena of the heavenly bodies would at length be found to be embodied in a series of mechanical laws, established, perhaps, on a mathematical basis. Also, in regard to organized bodies,—the world of life,—there has long prevailed a desire to establish similar laws, but, thus far, the attempt, for the most part, has been in vain. Are we, then, not justified in recognizing in these bodies peculiar powers, the action of which differs from those processes which occur in the rest of nature? Air, water, fire and earth can now be made by man;—should he not then be able, in a mechanical manner, to construct a plant, an animal, or even man himself? And especially so, when, from what we have seen, these all arise mechanically under the influence of cell-agency?

But in vain have the learned of the middle ages attempted to fabricate and make the *homunculus*, or little man. In vain those of modern times have aimed at the power of constructing the primitive cell. The doctrine of spontaneous generation, or rather equivocal generation, according to which organized living beings may be produced from inanimate matter without the agency of a father and mother, is now gradually losing its advocates; at this time, it is only for the most inferior as well as for the most exquisitely small creatures of the animal and vegetable kingdoms that such a mode of origin is claimed. In respect to the more perfect creatures, no one pretends to demand for them a spontaneous origin; every plant has its germ, every animal its ovum or nucleus of origin, and every cell looks to another as its progenitor. Likewise, during the last few years, there have been made discoveries in the field of Pathology which have torn from the doctrine of spontaneous generation its last pillars of support, since we have learned to refer each new formation in the human body, each tumified enlargement of

structure, and each diseased growth, to a previous structure which had its place in the body in a state of health.

Hence, the world of life forms a long, unbroken series of generations, in which the offspring again becomes a parent, and the effect, in its turn, becomes a cause. In life we are presented with a continuous chain of living beings, in which, by the aid of a most complex nature, there is beheld an ever-constant tendency to youth and renewal of energy. * * The plant begets again the plant, and the animal again the animal. But the special species of plant can produce its kind, and that alone; so the propagation of the animal is limited to its own kind; if a species dies, then is it forever lost from the earth; even disease is governed by laws which control the species;—and in the case of pathological growths, of the most abnormal and eccentric character which may be exhibited in man's body, there is, as I have elsewhere attempted to show, no organic form, no cellular structure which does not have its like in the healthy body. Every physiological and pathological structure is but a repetition, a reproduction of some known and previously existing prototype. The model, the type of organization, within the species, is subject to no change;—the species never forsakes its lineaments, never loses its identity.

Somnambulism.

TRANSLATED FROM CANSTATT'S JAHRESBERICHT, VOL. III. 1861.

Dr. Bourgarel, Surgeon in the French Navy, publishes his observations of a case of Somnambulism, the leading features of which were the following:

The sailor Olivran, who was the son of a hysterical mother, two months after his recovery from a severe attack of abdominal typhus, was attacked with Somnambulism. When Dr. Bourgarel first saw him on shipboard, it was already a year that he had suffered from this affection. His action during the invasion was

that of the ordinary somnambulist: he moved with his eyes open, stiff and immovable, his knees rigid, and his arms hanging down, in which manner he went about, appearing as if occupied with his ordinary business. The slightest blow caused him to fall down, and to remain stiff and unconscious. After the attack, there remained no recollection of what had transpired. Dr. Bourgarel desired to witness the attack himself, which he had no difficulty in doing, as the man was carefully watched by his messmates, when he showed signs of an approaching attack;—hence, his doctor had opportunities to witness several of its invasions. The habit of the man was never to sleep upon his back, yet on the nights when his affection came on, at about 10 or 11 o'clock, he turned upon his back, and thus placed, he stretched all his limbs, and made certain convulsive motions with his arms, or with his entire body; at the same time, he uttered certain words of command, and in case he had had, during the day, any strife with his comrades, he then made mention of it, and threatened his antagonist by lifting his fists upward; thereupon, there ensued new convulsive movements, the eyes remaining closed all the time. Next, he arose to his feet, when his eyes were widely opened, and he ceased to speak. If, at this moment, he were touched on the shoulders, breast or face, then he suddenly fell back again, like a dead man, with his lower jaw convulsively closed, likewise his eyes were shut, and his limbs were stretched out, and seemed insensible. In this state the eyes moved, and the pupils were dilated; the pulse was full and frequent, and the heart-stroke tumultuous; respiration was very noisy, the skin hot and without any excretion. After the lapse of 15 minutes, the several phenomena of the attack recurred again, and in the same order;—in case, however, that this attack was checked by touching him, he remained stiff as before, and these returns occurred as often as four times, in case he were interrupted as often.

From half an hour to an hour after the commencement of the attack, the surface became moist, the pulse slower, the rigor and movements passed off, the man sighed once or twice, turned himself suddenly upon one side, and in this way the attack ended.

Some minutes afterwards he awoke, knew nothing of what had happened, felt, however, heavy in his head, and sought fresh air.

Upon the second, and even the third day after, he complained of a headache, universal prostration and uneasiness in the neck and large joints ; this was the case even after the attack had run its course without interruption. The disease recurred in from four to eight days again, and had the following antecedent symptoms; viz., anorexia, tension in the head, intolerance of light,—but the most prominent precursor was an extraordinary dilatation of the pupils, which, in other occasions, were unusually contracted. The intellect of this man seemed to be gradually impaired by the attack.

Though tonics were ordered, still no kind of treatment had any efficacy in his case, as far as Bourgarel had an opportunity of seeing, which was, however, but a few months.

Editor's Table.

In the April number of the London *Lancet*,—a medical journal of whose superior excellence we take great pleasure in bearing evidence to, since, in our opinion, it is excelled by none and equaled by few in the English language,—there will be found a number of most interesting original communications. The first article by John Hilton, Esq., F. R. S., detailing the beneficial effects of rest in cases of disease of the bones and cartilages of the lower extremities, and especially of the tissues, will be read with interest and advantage by all those who have occasion to treat such diseases. The advantage of rest is especially seen in the case of disease of the epiphysis on the posterior inferior aspect of the os calcis, which sometimes occurs in youth ;—without rest, the action of the muscles which are attached to this epiphysis through the medium of the tendo Achillis would strongly militate against a cure.

The article by Barwell,—author of a recent work on diseases of the joints,—upon hip-joint disease, bears the impress of thorough

and practical knowledge of the subject. From it we make the following extract :

"In the commencement of the first stage of *morbus coxæ* it is quite possible to distinguish the synovitic from the osteitic disease. The symptoms of the latter are as follows :—The appearance of suffering and the worn look of children come on before any limping can be detected, and before any complaint of local pain can be elicited. When any such complaint is first made, the knee is nearly always pointed out as its seat ; afterwards the hip becomes painful, in which place the pain increases throughout the day, being worse at night. There is no stiffness in the morning. The pain at the knee is more variable, but is always worse at night, and is early accompanied by starting of the limb. These symptoms occasionally disappear for a few days. There is no tenderness on pressing behind the trochanter, nor, unless inflamed from other causes, in the groin. Tenderness from pressing the joint surfaces together is not uncommon. During the progress of these symptoms a very gradual change takes place in the position of the limb and in the gait of the child : the foot is turned a little out, the toe is pointed and drags, and limping becomes perceptible. At this time, too, there is often difficulty and pain in abducting the leg. There is no swelling, either behind the trochanter or deep in the groin. The inguinal glands are, however, frequently enlarged, and this is a point which should strongly influence the surgeon's opinion. There is no increased heat about the part.

"By carefully contrasting one set of symptoms just described with the other, you will have little difficulty in distinguishing the two cases ; and your diagnosis will be assisted by remembering that the osteitic disease attacks children almost exclusively, and them only in a considerable state of strumous cachexia ; it hardly ever comes on in persons approaching puberty, and in those beyond that period hip-joint disease begins always in the synovial membrane. When the surgeon has convinced himself that there is disease of the hip-joint, his next consideration is the treatment that he shall apply ; and in either case, whether the commencement of the disease be in the bone or in the synovial membrane, the great resource of the art, in that case, will be rest. In a good many of the cases seen quite early, simply keeping the patient in bed for about three weeks will alleviate all the symptoms—at least for a time—perhaps for a month or two, perhaps for a year. The same thing may be said *à fortiori* perhaps of the simple application of a long straight splint. Every surgeon with any experience in hip-diseases knows that he may, in the slighter cases, particularly in those that begin in the synovial membrane, thus conquer the symptoms for a time ; but he also knows that a fuller

and more careful treatment is frequently required even to effect such temporary restoration, and is nearly always necessary to produce more permanent benefit."

Spectroscope.

By G. Valentin, of Bern, Switzerland, there has lately been issued a work upon this instrument, in which he sets forth the aids which it will furnish the medical man in physiological, chemical and medico-legal investigations.

Says Valentin: "This instrument can aid the physiologist not only in his optical researches, but it will assist him in his investigation of absorption, the movement of lymph, the circulation of the blood, absorption and nutrition. The ophthalmic physician will derive material advantages from the Spectroscope, in determining the functional activity of the eye, the healthy as well as the pathological conception of colors, and the inherent quality of green, and especially blue spectacle glasses. So, also, in medico-legal investigations for the diagnosis of blood-spots, the detection of poison, and the determination of the presence of certain metals, which otherwise would elude the tests of chemistry, this instrument is of great value."

To explain the mathematical principles upon which the action of this instrument is founded, as set forth by the author, would be ill in place in a journal of this kind;—still, that our readers may have somewhat of a notion of the principles involved in it, we will devote a small space to that subject: The analysis of light into its seven component colors, by the aid of the prism, which the light was made to traverse, it will be remembered, was a discovery of Newton; light, when thus transmitted through a prism, presents what is named a spectrum of seven colors, viz.: red; orange, yellow, green, blue, indigo and violet; besides these colors, when the spectrum is carefully examined, there will be found in it certain dark lines, which have been named the "lines of Fraunhofer,"—so called from Fraunhofer, a German, who has given much study to them.

The means which were used by Sir Isaac Newton to show the spectrum have been greatly improved upon, and instead of a darkened chamber, which was formerly employed, a small portable instrument has been constructed, by the aid of which, in the spectrum which is produced by it, besides the lines of Fraunhofer, there are seen a great number of others. These lines are differently arranged, according to the source whence the light originated, or according as it results from the union and fusion of light from different sources. Several of the lines which have been described by Fraunhofer admit of an explanation, on the ground that they result from substances which exist in the form of gas in the atmosphere; that is, it would appear probable that the prime cause of such spectral lines is this, that the medium through which the light passes is imperfect.

Kirchoff, on studying the spectrum, as produced by light from an artificial source, in which there was effected an evaporation of some volatile matter, has found that ordinary air, as lighted up with sunlight, contains potassium, sodium, calcium, magnesum, iron, nickel, in small amounts; also, in more minute quantities, there is thought to be barium, copper and zinc. When a spirit-lamp is lighted, in the wick of which any of these metallic matters is contained, then the spectrum resulting from its light shows lines identical with those from sunlight;—in this way it was that Kirchoff traced the identity of the lines in the two instances, and thus he was brought to the very curious and interesting conclusion, that the atmosphere in which we live and breathe, contains, in volatile form, a great number of metallic matters.

Among all substances, Valentin has found the blood one of the best suited for spectroscopic purposes. He found that when he placed a lamina of blood from a hare before the "entrance-cleft" of the instrument, there presented themselves, in the green of the spectrum, two dark bands. Now it is by these bands,—their form, size and place upon the green of the spectrum,—that blood is specifically distinguished;—and that it is so characterized, and maintains its identity, even though re-

markably attenuated, was proved by Valentin in experiments in which he examined it in different degrees of dilution. For instance, arterial blood, which was taken from the human thigh, when diluted with 6075 parts of water, presented plainly marked spectral bands; the same was the case when diluted with 9720 parts of water, but at an attenuation of 19540 the "blood-bands" disappeared; when the blood was mingled with 9720 parts of water, then its color was wholly lost. These phenomena were still more conspicuous in the blood of a dog, which had been poisoned with strychnine. Not only Valentin himself, he remarks, "but the enfeebled eye of a learned gentleman, who was laboring under disease of the eyes, and consequently saw indistinctly, perceived plainly the 'blood-bands' in this poisoned blood, after it had been diluted 91125 times; even a trace of these remained after the dilution was carried to 182,250 times." On the addition of different substances to blood, as acids, there is a change in the character of the spectral "blood-bands."

In a specimen of blood that had been deprived of its fibrin by Hugo Schiff, and retained in a colored flask for four years, it was found that thin laminæ would present the "blood-bands" in the green of the spectrum, in a most evident manner, —though, in this case, the blood had undergone most extensive decomposition. Now, the tenacity as well as the constancy with which blood retains its power of giving the dark bands in the green of the spectrum, leads Valentin to regard the spectroscope as an invaluable instrument for the determination of blood in certain medico-legal examinations;—and its superiority is especially manifest in those cases, where the blood has been discharged from the body for a long time, and even undergone change of composition,—for in the case cited, in which the blood had been kept four years, it was found that the blood-corpuscles had nearly, or all disappeared. Valentin also found, that when thin laminæ of blood had been dried upon plates of glass, in case the film was thin enough to be translucent, then the same spectral bands were shown, as if fluid blood were ex-

amined;—since, however, it will be but very seldom that blood will be so dried upon a transparent body, as to be available in medico-legal examinations, therefore, in most cases, it is advisable to make a solution from the blood-stains, and, for this purpose, there is nothing better than an aqueous solution.

The Spectroscope may also be employed for the diagnosis of mineral and vegetable poisons; in cases where the vegetable alkaloids yield, with chemical re-agents, changes of color which, in certain instances, are equivocal, the Spectroscope may be used to clear up the doubt.

This instrument is a valuable aid to the ophthalmic surgeon, as, by it, he can determine, in cases of blindness in respect to colors, the extent of such blindness, whether it extends to one or all of the prismatic tints.

In a recent number of the *Polynesian*,—Government organ of the Sandwich Islands,—there is a report of the Queen's Hospital, at Honolulu, by Dr. Hildebrand, the attending Surgeon. A number of important surgical operations are reported; there is also attention called to the rapid inroads of a disease which the natives call "Mai Pake." Dr. Hildebrand regards this as genuine oriental leprosy, and states that he has demonstrated its contagious character.

In the same number of the *Polynesian* we find mention of the idea which is prevalent among the Sandwich Islanders, that a person may be "prayed to death." A communication from the Rev. W. R. Scott, Lahaina, contains the following in reference to a case which came under his observation:

"Easter Monday and Tuesday were to me days of great anxiety. One of Mr. S——'s grown up daughters, whom I had baptised in February last, and who had just recovered from a slight illness, became alarmingly worse and died, with all the horrors of one impressed with the belief that she was doomed to die on Tuesday, at noon. It was a dreadful scene. In full health, with no tangible disease, sheer terror at the conviction that she was being *prayed to death*, absolutely annihilated all her vital powers. Young, strong, healthy otherwise, she died. Her grown up

sisters and brothers, singularly attached to her, horror-stricken at the dreadful death, with the old heart-broken father, as they pressed around the body and literally rent the air with their cries, presented a spectacle of misery such as one seldom meets. The *wail* was no form ; the natives are not callous. Real, heartfelt woe, if ever there was, you might see there. Next morning at 8 o'clock, the body, in simple but most decent coffin, was carried from the house into church. (Here follows an account of the funeral which excited much interest and sympathy.) The last observations of the dying woman were, looking wistfully at Mrs. R., who had gone to fetch her stimulants, 'is the foreign woman gone—won't she come back ? Aloha nui, aloha nui.' Just before death, during a little pause, looking to me, she said, 'e pule, e pule.' She died just before the commendatory prayer was closed, and I was in the act of blessing. This death has taught me much. The people may pretend to be no longer idolaters in life, and indeed are utterly indifferent about religion. They quickly accept the new God, or say they do so, to save trouble. This, in life ; but when disease comes and death is approaching, just as with every man, all pretence is, in the face of death, cast aside, and the man's sincere actual belief alone prevails ; so with them. The firm belief in the power of another to *pray to death* comes down on the soul, utterly crushing it. Pele and the Shark-God are invoked to overpower the prayer of the other, to avert premature death. But if no evident token is found that those deities are neutralizing the *praying to death*, then absolute deadness takes possession of the whole being, and despite youth, health, care, medical aid, death inevitably results. This is what is slaying the people. Here is the horrible spectre, I believe, more than anything else, that is frightening to death the population of these Islands. They have no real belief, scarce one, in a future state—while the old deities, discarded during life, rise before their minds in the hour of death, not to divert the terrors of another world, not to pardon or receive, but simply to stay the dreaded decay of the body. Hence incantations, the black pig, the white cock, are *universally* practiced. I am investigating the matter in its bearings, and accumulating facts, which will prove that a system of 'indirect assassination' is rapidly annihilating the people. A affronts B, B goes to C, gives him ten dollars to pray A to death—tells A so and A dies ; of course A's father hears it, goes to D, pays him fifteen dollars to pray B and C to death. Tells B and C, who also die ! What nation could stand it ?"

No comment of ours can heighten the impression of the above heart-rending narrative. The belief of the common people in the power of "praying to death" is universal ; they imbibe it from childhood ; it meets them in every relation of life, and events like the foregoing but strengthen its intensity.

Medical Officers of California Volunteers.

C. H. ALDEN, Assistant Surgeon U. S. A., has, by order of the Surgeon General, written to Col. B. A. Sheldon, Surgeon General of this State, for a roster of the Medical Officers of California Volunteer Regiments now in the service of the United States, with the date of commission of each officer. This information is not only deemed important, but necessary for the completion of the record of the Medical Bureau. Adjutant General Kibbe has furnished Surgeon General Sheldon with the following Roster of Surgeons and Assistant Surgeons of California Volunteers :

First Cavalry—Surgeon, John H. Prentiss, Aug. 16th, 1861 ; Assistants, John E. Kunkler, Feb. 26th, 1863 ; W. S. Strong, Feb. 25th, 1863.

Second Cavalry—Surgeon, Jonathan W. Williamson, Sept. 27th, 1861 ; Assistants, George H. Horn, Feb. 26th, 1863 ; Charles E. Holbrook, Feb. 26th, 1863.

First Infantry—Surgeon James M. McNulty, Aug. 15th, 1861 ; Assistants, Peter W. Randle, Aug. 16th, 1861 ; Edward L. Watson, Nov. 18th, 1862.

Second Infantry—Surgeon, Isaac Parry, Oct. 8th, 1861 ; Assistants, James Foreman, April 11th, 1862 ; John Flock, Oct. 8th, 1862.

Third Infantry—Surgeon, Robert K. Reed, Oct. 1st, 1861 ; Assistants, Charles A. Kirkpatrick, Oct. 1st, 1861 : J. W. Brown, Nov. 5th, 1862.

Fourth Infantry—Surgeon, Simeon S. Todd, March 12, 1862 ; Assistants, Edward A. Tompkins, Sept. 27, 1861 ; Robert Parker, Feb. 26th, 1863.

Fifth Infantry—Surgeon, William H. McKee, March 11th, 1863 ; Assistants, V. H. Cox, Sept. 30, 1862 ; L. W. Hayes, March 11th, 1863.

Sixth Infantry—Surgeon, W. W. Hayes, Feb. 26th, 1863 ; Assistants, William C. Deane, Feb. 26th, 1863.—*Alta California.*

DR. SNOW, Superintendent of Health, Providence, R. I., has sent us his ably written annual report for 1862, from which we extract the following :

(1.) 6. Of 13,182 children, born in the last eight years, 3,086, or 23.41 in each 100, were the first children of the mothers ; 9 were fourteenth children, 5 the fifteenth, 5 the seventeenth, and 1 the nineteenth.

(2.) 7. In eight years past, there were, in Providence, 155 cases

of twin-births, and 4 cases of triplets, in which 322 children were born ; 152 boys and 170 girls.

(3.) 8. The cases of twin-births were one in 84.6 of all the cases of child-birth, and the cases of triplets, 1 in 3,255.

(4.) 9. Of all the children born in eight years, 1 in 41 was a twin or a triplet.

(5.) 10. Of 13,172 children, born in Providence, in eight years past, 721 were still-born, or 1 in every 18.28.

(6.) 11. Of the still born children, 57.57 in each 100 are boys, and 42.43 in each 100 are girls ; or 135.6 boys to 100 girls.

American Medical Monthly.

It is with regret that we notice the suspension of the publication of this journal, which we have always reckoned among the best of our exchanges ; in the closing number, however, the Editor, Dr. J. H. Douglas, announces that, at some future period, he will resume its publication again ; until that time, we shall regret the absence of the *Medical Monthly*, as we always found its pages enriched with valuable original matter, whilst its editorial criticisms have, at all times, furnished ample evidence of accurate scholarship and cool judgment on the part of those who have written them ;—we shall, therefore, ever be ready to welcome the *Monthly* to our table again.

Canada Lancet.

Through the kindness of the Editor, Dr. W. E. Bowman, we have received this journal, which is published in Montreal, Canada ; though it contains but eight pages, "probably," as the Editor says, "one of the smallest medical periodicals in existence," still we find in it, in compendious form, many interesting items. Hoping that the Editor may have full success in the enterprise upon which he has embarked, we take much pleasure in according this periodical a place among our exchanges.

In the January number of the Chicago *Medical Examiner* will be found a very elaborate "Record of the Surgery of the battles fought near Vicksburg, December 27, 28, 29 and 30, 1862, by Dr. E. Andrews, late Surgeon of the 1st Reg. Illinois Light Artillery, and Professor of Surgery in the Medical Department of Lind

University," Chicago. Reports of this kind, though fully replete with toil on the part of those furnishing them, will be of great value to the future surgical writers of the war, and when properly generalized will go far towards giving military surgery a more secure basis than it has hitherto occupied.

☞ In the previous number of the PRESS we omitted to refer to its proper source the report of a case of "Croup following Diphtheria," in which Tracheotomy was successfully performed by Dr. Sherwood, of Unionville, Ohio ;—the communication was copied from the Cincinnati *Lancet and Observer.*

Excerpta from Our Exchanges.

Professor Detmold advises the ligation of the subclavian artery below the clavicle, instead of above it, since the vessel is more accessible there. ..... Instead of a sponge for absterging bleeding wounds, the same author advises an "old dry towel,"—in this way the flowing blood will be more readily checked. ..... Asst. Surg. S. Adams, U. S. A., relates a case of ulceration of the duodenum, supervening upon a severe frost-bite, which ended fatally. ..... Dr. Little, Surgeon 32d Reg. N. Y. Vols., reports that Colonel Matheson, commanding 1st California Regiment, died from secondary hemorrhage, following a wound of the posterior tibial artery; the bleeding occurred on the 17th day after the receipt of the wound. ..... In cases of acute pyæmia, in which the stomach rejects all kinds of food, Professor Detmold has found iced champagne to give the greatest relief,—in fact. the only thing the stomach would retain. ..... Prof. C. A. Lee states that grape-eating has become one of the established modes of treatment of pulmonary diseases on the Continent; especially along the Rhine and in Switzerland. He says: "The treatment of grapes consists essentially in taking a pound of fresh grapes early in the morning, not swallowing the skins or seeds, and two hours after a still larger quantity. The patient dines at 12 o'clock on beef or mutton, boiled or broiled, stale bread, well baked, and a glass

of old Rhine wine, but no vegetables, except occasionally potatoes or carrots. About 4 o'clock, a certain quantity of grapes are to be taken; at evening, tea with white bread. The patient is directed to take as much exercise as possible between meals, and abstain from drinks, unless he should feel quite thirsty. The whole quantity of grapes to be taken in 24 hours is from two to three pounds."—*N. Y. Med. Times.*

In the Buffalo *Medical Journal* a case of paracentesis abdominis is reported, where seventy-five pounds of fluid were discharged from the abdomen of the patient,—a female. . . . . In the same journal, under the head of the "Editorial Department," are some very rational remarks in relation to the treatment of Diphtheria; our experience fully coincides with the Editor's, in the uselessness of "violent caustic and irritating applications;" likewise, his criticism of the routine-habit into which the profession has fallen, of giving quinine as a "tonic," in cases of debility, is in due place. In what way this idea became so stereotyped in the medical mind, it is difficult to understand. When quinine itself is examined chemico-physiologically, there is not even a remote similarity between its composition and that of the structures of the human body;—and again, when examined by its actions upon the organism, producing a temporary hyperæmia of the brain,—especially of the basial structures of that organ, then do we find no argument for believing that it has, in anywise, a tonic influence;—but rather, from our experience, which, we might add, has been, to as great an extent as we wished, subjective in character, we are inclined to regard its action as depressing.

A writer in the Chicago *Medical Examiner* highly recommends the iodide of silver as a nervous sedative.

In the Boston *Medical and Surgical Journal*, Surgeon E. C. Bidwell, U. S. Vols., reports the following symptom as pathognomonic of the "malarial diathesis:" "A very peculiar and abnormal appearance of the tongue, in which its under surface appears to have trespassed upon the upper, the *papillæ* of the latter being supplanted by the transverse *rugæ* of the former. The sides are thickened and rounded, the normal well-defined edge being obliterated, and the line of demarcation being moved nearer to the mesial line."

In the Cincinnati *Lancet and Observer's* report of the proceedings of the Academy of Medicine of that city, blistering is recommended by Dr. Graham to remedy the hemorrhagic ten-

dency which exists in certain individuals, "as it would improve the fibrin in quality. Long ago he had made use of blistering, to increase the fibrin of the blood in hemorrhagic difficulties. The power of the inflammation on the surface increases the amount of fibrin, and also its coagulability." ..... In the same journal, there will be found an elaborate and carefully written article, entitled "The Doctrine of Thrombosis and Embolia," by D. S. Gans, M. D.; the article is written with that care which shows that the author has closely studied all the authorities bearing upon the subject.

Reviews and Notices.

PHYSIOLOGICAL MEMOIRS. By WILLIAM HAMMOND, M. D., Surgeon General U. S. Army. J. B. Lippincott & Co., Philadelphia. A. Roman & Co., San Francisco.

This volume, in octavo form, containing near 350 pages, embraces, in the main, a series of communications which appeared in the *American Journal of Medical Sciences*, some five or six years ago, in reference to the urine, when in normal as well as abnormal condition;—also, there is contained an interesting chapter, entitled "The Physiological Effects of Alcohol and Tobacco upon the Human System," to which we call attention. At the period when these papers were issued, we were struck with the ingenuity of the writer, as well as with the devotion which he showed to the science of Medicine, in thus occupying himself with physiological investigation in the extremely unfavorable circumstances which are inseparably connected with the nomadic life, which, as Assistant Surgeon of the U. S. Army, he was then compelled to lead. In his promotion to his present enviable position as Surgeon General of the grandest army which modern times have seen, we take great pleasure in saying that he is an honorable instance in which justice has been rendered to high and deserving literary merit,—and also, that in thus finding time, amidst the numerous duties of his office, to devote attention to the advancement of his chosen profession, he still reflects additional credit upon the post which has been awarded to him.

The work will prove of double interest to the American reader

from the fact that it embodies numerous experiments and vivisections which were made by the author himself, and hence do not claim a second hand origin from European sources. The work should find a place in every well-selected medical library.

Cazeaux's Midwifery, including the Diseases of Pregnancy and Parturition, and the Attention required by the Child from Birth to the Period of Weaning. Translated from the sixth French edition, by Wm. R. Bullock, M. D. Published by Lindsay & Blakiston, Philadelphia, and sold in San Francisco by Roman & Co., Montgomery street.

This volume, although prepared as a text-book for students, is well worthy a place in every physician's library. The author seems to have examined with care the productions of all eminent antecedent writers on the subjects treated, and with selections from these, combined with the results of his own observations in a large hospital and from private practice,—all which he has well digested and arranged in a clear and pleasing style,—he brings each division to the point to which science had advanced it at the date of publication, making up a book that equals, if it does not surpass, any in the English language bearing a similar title.

We agree with a cotemporary who says of it, "It is unquestionably a work of the highest excellence, rich in information, and perhaps fuller in details than any text-book with which we are acquainted." It is well and beautifully illustrated by numerous wood and lithographic engravings, and in typographical execution will bear a favorable comparison with other works of the same class.

Chemistry. By William Thomas Brande, D. L. C., F. R. S., L. & E. of Her Majesty's Mint; Member of the Senate of the University of London, and Honorary Professor of Chemistry in the Royal Institution of Great Britain; and Alfred Swaine Taylor, M. D., F. R. S., Fellow of the Royal College of Physicians of London and Professor of Chemistry and

Medical Jurisprudence in Guy's Hospital. Elementis et Preceptis. Philadelphia : Blanchard & Lea. 1863. To be had from A. Roman & Co., San Francisco.

This excellent work has been issued by the American publishers in its original form, untarnished by those additions or annotations, which, by those who aim to shine by others' light, have hitherto so often been interpolated in and foisted upon standard European works.

From a careful examination of its contents we have no hesitation in pronouncing it one of the best works on the subject which we have seen in the English language. To the physician who would be thoroughly acquainted with this department of Medicine as it now exists, greatly advanced, to the student who *must be so*, in order to receive the ordinary collegiate medical honors, and to the professional chemist, we would especially commend this book as one which, though compendious,—when we consider the present vast range of chemistry,—is yet sufficiently extended in detail,—especially for the medical student.—We are pleased to notice the name of Wöhler of Göttingen, from time to time, in the work, since, when we consider what he has done for both organic and inorganic chemistry, his name deserves to be quite as familiar to the student as that of Liebig or Faraday.

THE MEDICAL STUDENT'S VADE MECUM. A COMPENDIUM OF ANATOMY, PHYSIOLOGY, CHEMISTRY, POISONS, MATERIA MEDICA, PHARMACY, SURGERY, OBSTETRICS, PRACTICE OF MEDICINE, DISEASES OF THE SKIN, ETC., ETC. By GEORGE MENDENHALL, M. D., Professor of Obstetrics and Diseases of Women and Children in the Medical College of Ohio, Member of the American Medical Association, etc., etc. Seventh edition, revised and greatly enlarged, with 224 illustrations. Philadelphia : Lindsay & Blakiston. 1863. A. Roman & Co., San Francisco.

The student will find this work of near 700 pages a useful aid in following the extended course of lectures which he hears in his usual collegiate course ; the present edition is much larger than those that preceded it.

THE

SAN FRANCISCO MEDICAL PRESS.

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Original Communications and Editorial Selections.

Nasal Polypoid Tumor, arising from the Presence of a Foreign Body.

REPORTED BY THE EDITOR.

A little girl, aged four and a half years, was admitted into the surgical wards of the St. Mary's Hospital, in this city, for treatment for closure of the nares, by a morbid growth, suspected to be of malignant character.

As nearly as could be learned, the affection of the nose, presented itself near two years ago, at Folsom, in this State, of which town the child is a resident;—the child was perceived to have a difficulty of breathing, accompanied by an unhealthy discharge from the nostrils. Upon presenting herself at the St. Mary's Hospital, on examination, it was found that one nostril was wholly occluded by a foreign growth, which was polypoid in aspect, and its depending portion was constantly breaking down into a species of muco-purulent matter, which continuously escaped from the nostril;—the other nostril was in a state of ulceration, and so nearly closed, that the child breathed only through her mouth.

The initiatory treatment adopted in the hospital was the application of the ordinary astringent and escharotic lotions to the growth, with the design of thus effecting its gradual removal. A few days having shown that these means were inadequate to a cure, there was a resort to surgical procedure. The polypoid growth was easily detached and removed by the aid of a pair of common forceps;—with a scoop-shaped director, such as we generally find in the common pocket-case,—an at-

tempt was made to obliterate or destroy the radicles of the growth at their point of origin from the turbinated bone,—a procedure which should, according to our experience, not be neglected in the removal of the nasal polypus,—when the instrument was felt to grate against the surface of a hard object. With a little manipulation, the instrument was passed beyond this object, when it was readily removed,—revealing the exciting cause of the growth. The object presented the shape and appearance of a cherry-seed, though, on being broken open, it exhibited the aspect of the premature fruit or seed of the sycamore tree,—in a miniature form. This body had, no doubt, been introduced into the nostril by the child herself, without the knowledge of the parents, and being at the time unable to talk readily, hence the reason of the exciting cause of the disease having escaped discovery. The removal of this body was followed by a speedy return of the nares to their normal condition, the child breathing readily through them;—likewise, the ulcerated state of the Schneiderian membrane soon disappeared. It is now three months since, and there is no disposition of the polypoid structure to reappear,—the patient appearing to have wholly recovered.

On the Use of Iodide of Potassium and Carb. Potash, given alternately in Rheumatism.

J. T——, æt. 40 years, was attacked with Syphilitic Rheumatism, of a very severe character, which rendered him entirely helpless; he had been under treatment for three months previous to my seeing him, with apparently no benefit arising from the treatment he had been subjected to. His appetite had been very poor; very restless at night; urine high colored and scanty. All the joints of the lower extremities painful, particularly the right hip. I applied a blister over the hip, and gave tinct. gent. ʒij., carb. sodæ gr. x., three times

daily, and continued this treatment for five days, with great improvement of the appetite. I then commenced with carb. potash, gr. xx., iod. potassium, gr. v., three times daily;—continued this treatment for five or six days, with no improvement; pain quite as severe as in the commencement of the treatment, except when I applied the blister; then the pain was not quite so severe.

I thought I would see what virtue there was in the preparations of potash, when given alone, and ordered, of carb. potash gr. xx., three times a day, and was most agreeably surprised, at the end of the third day, to see such an improvement; but, at the end of the fifth day, I found the case retrograding, so I stopped the carb. potash, and commenced with the iodide of potassium, gr. v., three times daily, and was pleased to see a gradual improvement, the same as in the first instance, when I gave the carb. potash alone; so I kept alternating the treatment until I had a perfect cure. It will be perceived that the quantity of the medicines was in no way altered, only they were given separately.

Another case I will give. C. A——, æt. 30 years, suffering from Rheumatism to such an extent that, at times, he was unable to use a knife and fork at table. In this case, I had, from the commencement of the disease, used such treatment as is generally prescribed for such cases, with little or no improvement; I then tried the same remedies and in the same manner as in the first mentioned case, and the result was very satisfactory.

I have tried this treatment in some seven or eight cases, and the result has been uniformly the same. I would like to have this mode of treatment thoroughly tested by the medical men on this coast, and to hear the result. I do not pretend to give or lay down any theory why these medicines should give such satisfactory results when given alone, and have little or no effect when given conjointly, but such is the result in the cases I have treated.

JOHN R. FLOCK, M. D.,
Assistant Surgeon, Cal. Vols.

Case of Traumatic Tetanus, treated Successfully with Chloroform and Subsequent Use of Belladonna.

REPORTED BY THE EDITOR.

SOME weeks since, in the St. Mary's Hospital in this city, there was admitted a young man with fracture of the os femoris in its upper third; the fracture, which was comminuted in character, was the result of a fall from one of the city cars, while in motion.

The injury was treated by the application of Desault's long-extending and counter-extending splint. Shortly after the limb was dressed in this manner, tetanic symptoms presented themselves in the form of trismus, which ultimately became general, the whole body being thrown into violent muscular contractions. Soon after the supervention of these symptoms, the patient was put under the influence of chloroform by inhalation. He was maintained in a state of constant anæsthesia for near seven hours, consuming, in the meantime, several ounces of chloroform, administered by means of an inhaler, so constructed, that but a small amount of the article could escape without being breathed. After the use of chloroform for that length of time, the tetanic symptoms so far disappeared, that the inhalation was suspended, and the patient was ordered belladonna; opiates were also given him. On the following day, trismus again ensued, when resort was had again to the chloroform. The closure of the lower jaws was quickly relieved, whereupon the inhalation was discontinued.

The remedy to which I am inclined to refer the rescue of the man's life in this case, was chloroform. The inhalation, as will be perceived, was carried to a much greater extent than usual, or than prudence would dictate in any other than a hopeless case. After the discontinuance of the anæsthetic, the patient presented symptoms of aberration of the mind, which were present for several days afterwards, though they gradually became less, and in a week afterwards, they disappeared. The patient is yet under my charge, in every respect doing well, though time enough has not yet elapsed to have effected entire union of his fractured femur.

Case of Judge W. R. Langley.

AT the request of a number of the friends of Judge Langley, I herewith append the result of the autopsy on his body, together with the circumstances under which I saw him.

On July 23d, 1863, I was requested by Dr. Boyce to see W. R. Langley, æt. 32, in consultation. I found him laboring under all the symptoms of cerebral apoplexy. The history which I received of his case was as follows: He had suffered from violent headache, for a few days previous, and while walking in the street, about three hours previous to my seeing him, had fallen down, and was carried into an adjoining house.

We immediately extracted ten ounces of blood from each arm, followed by an enema of mustard, with cold applications to the head and cataplasms of mustard to the extremities. This gave temporary relief for a few hours, but he afterwards sank, and died about ten hours from my first visit.

POST MORTEM.—The scalp was extremely vascular and loose upon the cranium. The calvarium was thick and dense; the dura mater adhered strongly to the calvarium, and was dark-colored, from venous congestion. There was extreme congestion of the arachnoid and pia mater, giving a red hue to the left anterior lobe. Over the petrous portion of both temporal bones, the dura mater, arachnoid, pia mater and substance of the brain were firmly adherent.

The substance of the brain was very much softened; the gray matter was dark but uniform; the medullary portion was minutely injected, and of a pinkish color. The lateral ventricles contained a clot, weighing about five ounces. In the left anterior cornu was found an abscess, extending into the corpus striatum, containing about a drachm of pus. The substance of the brain in proximity to the abscess was completely disorganized, and of a dark brownish color. The fourth ventricle contained about half an ounce of dark grumous blood. The heart was small, and its walls hypertrophied, being about twice their normal thickness. The valves were also hypertrophied, and the chordæ tendineæ nearly absent. The parenchema of the lungs was healthy, but some old adhesions existed between the pleuræ. The stomach was one-third less than

its normal size ; its walls were very much thickened, and its inner coating very much broken down. The pyloric orifice would barely admit the passage of a goose-quill.

The small intestines presented a remarkable appearance, some portions beng constricted as small as the pyloric orifice, others being dilated nearly as large as the stomach. The inner coating was softened, and, in some places, completely disorganized.

The liver was very large and dense. Its cut surface presented a granular appearance, some of the granules being green, others yellow, and occasionally a reddish granule.

The spleen was twice its normal size. The kidneys appeared healthy. JAS. MURPHY, M. D.

Treatment of Variola, Measles and Whooping Cough in Southern Californla.

SAN DIEGO, JULY, 1863.

EDITOR MEDICAL PRESS :—Following the Small Pox (*Variola* and *Varioloid*,) which prevailed all over this section of the State last winter, carrying off several hundred *unvaccinated* persons, as it always does, under like circumstances, came the Measles (*Rubeola*), which, in turn, was quickly succeeded by Whooping Cough. I did not treat any of the cases of *Variola* or *Varioloid ;* but I was informed that, in all who had protection by vaccination, that they were very light, while with the true cases of *Variola*, it was malignant and violent enough, notwithstanding good treatment, to cause death in a great majority of cases. Out of forty-two (42) cases of Measles which I treated, only three (3) of them could be classed as *Rubeola maligna ;* the balance of them were light, and promptly yielded to the ordinary treatment. The three others proved troublesome and refractory. At first, I tried to cure them ; but failing to check the violent symptoms, I at once stopped the "heroic" practice, and adopted the palliative, guiding them through their usual course, without any untoward symptoms, to a favorable termination. Time did here, as in almost all

troublesome cases of eruptive fever, according to my experience, what the best and most approved medical practice fails to do, viz: cured the disease. I believe that the best practice, as a general thing, in these unfavorable cases of Measles, is simply to let them run through their usual course, the physician acting as the guide rather than the manager. My practice is nearly the same, in these cases, as in typhoid fever. When the cough is troublesome, a suitable linctus, with or without an anodyne, is prescribed. The diarrhœa which accompanies these cases, I have generally been able to control with the bismuth mixture, frequently used in the last stages of consumption. The delirium yields readily to some refrigerating remedy applied to the scalp, and good ventilation. Bay rum, cooled with ice, is excellent for this, but it should not be applied where it produces a shock, only when and as it feels grateful to the "heated brow" of the patient. All the other symptoms will run through a regular and well defined course, and do not require any particular treatment, except, perhaps, in some special cases, where, as a matter of course, the bad symptoms must be combated, as in other special and local cases, according to the dictates of the practitioner's best judgment. Of the Whooping Cough there is nothing positively worthy of attention. Nearly every child in the community had it. Only two died, and they were not under treatment of any physician. I was called on to prescribe for some sixty of the little sufferers. Most of the cases that came under my eye were very mild, and did not require any treatment at all. Some few others were stubborn, and would not yield to any of the known remedies. One case, in particular, was very severe, and threatened death, convulsions coming on. For this case I made up the following prescription, which I do not recollect of seeing in any formulæ extant, and here give it to the profession, viz:

℞ Syrup Ipecac, Wine Antimony, Fluid Extract Prunus Virginiana, aa ʒ ss., Tincture Digitalis, ʒj., Diluted Nitric Acid, ʒij., Magendie's solution of Morphia, ʒ1 to iv., according to the age of the child. Balsam Tolu, ʒij. m. Dose—One teaspoonful, *pro re nata*.

This controlled this case so beautifully that I was induced to try it in several others, and it acted almost like a charm in all of them. I do not think that this is a specific for every case; but I think that it will relieve many cases which the usual remedies frequently fail to do. I wish the profession would, when opportunity occurs, try it, and record their views as to its usefulness, in your valuable journal. Another question I would respectfully ask: Do these three diseases usually follow one another up, in the same order in which they have occurred here this season? Does the same condition of the atmosphere produce all of them in succession, or does one produce the other?

Yours, &c., &c.,

D. B. HOFFMAN,
Surgeon U. S. Army.

Editorial Translations.

The Physiological Effects of Exercise upon the Human Body.

TRANSLATED FROM CANSTATT'S JAHRESBERICHT.

THE investigations of Speck, upon the influence of exercise on the human body, embrace two new series of experiments, which the author made upon himself, and those which he made on two persons, aged 23 years, and one upon a young man of 19 years. His conclusions are as follows:

Corporeal exercise has, as its consequence, the diminution of the weight of the body. Since there is but a small change, unless the weight of the body be at once determined, after the exercise has been taken, there might be an error in the estimate. The diminution of the weight ceases cotemporaneously with the cessation of the muscular activity;—in case there should continue any excretory action after the muscles are at rest, this

should not be included in the estimate of the loss. The researches of Speck afford no positive evidence whether or no moderate muscular exercise favors a reparation of the loss sustained.

The use of water during corporeal exercise appears to act differently than during inaction; during rest, the use of water diminishes the weight of the body;—on the contrary, during action, the drinking of water is accompanied by an augmentation of the body's weight, the water being probably retained to compensate for the loss of fluids, which otherwise ensues.

Muscular exertion constantly diminishes the whole quantity of urine which is excreted; during action, the quantity may be reduced to two-thirds, or even one-half of the normal amount. The cause of the diminution of the quantity of the urine during action, is, that there is, during exercise, an increased cutaneous transpiration;—hence, during exercise, the urinary excretion contains more solid materials than usual, so that, in this respect, muscular activity becomes an important agent in promoting renal elimination.

During labor, the skin and the lungs become the main excretory outlets; the excretory processes are more active at the close of the afternoon than during the forenoon. During active exercise, the perspiration may be increased to threefold its usual amount;—after the exercise has ceased, the perspiration is rapidly reduced, or may wholly cease.

The fæcal evacuations are, as a rule, less during exercise than during repose. Food of the same kind appears to be alike digested during repose or muscular activity;—it is probable that the less weight of the excrements, during exercise, is dependent upon the want of the aqueous element. Intestinal peristalsis occurs more slowly during violent exercise.

There has been observed no perceptible alteration in regard to the quantity of urea which is eliminated during active bodily exercise. * * Physical exercise increases, to a great extent, the amount of uric acid that is discharged;—indeed, it is augmented beyond any other urinary ingredient; for example, it

is augmented to $\frac{4}{3}$, double or even threefold its normal amount. As the use of the water diminishes the relative amount of the uric acid in urine, so, on the contrary, free perspiration increases it.

Since the perspired matter contains, in considerable quantity, chloride of sodium, hence, when the cutaneous transpiration is profuse, the quantity of chloride of sodium in the urine is lessened.

All researches made indicate a considerable increase of sulphuric acid in the urine during exercise;—this augmentation continues for some time after the exercise has been discontinued. The perspiration seems to remove little or no sulphuric acid.

Phosphoric acid is also considerably augmented in the urine, both during and after exercise; the quantity of this acid which is excreted during free perspiration appears less than that during diminished perspiration, hence the inference that there is a portion of phosphoric acid excreted also through the skin. * *

The quantity of the air which traverses the lungs is gradually increased from morning until evening, so that, in the evening, from 8 to 9 o'clock, the maximum is attained. Exercise very notably augments this amount; the augmentation is manifest, even when the number of respirations remains the same. The quantity of carbonic acid which is eliminated is more increased than the amount of air;—for example, during gentle exercise, the elimination of this gas becomes double the normal standard, and during violent exercise, the quantity of carbonic acid excreted is augmented to threefold the usual amount.

The heat of the organism is somewhat increased by exercise, though, soon after the exercise has ceased, the temperature rapidly sinks, even to a point below the normal degree. The production of the perspiration appears to be accompanied with an increase of bodily heat. The lowest temperature of the body is in the morning, the highest at midday, and in the evening there occurs a diminution again.

The following interesting item, we translate from *Canstatt's Jahresbericht*,—last number issued,—which shows that, in the intercommunication between mother and offspring, even foreign matter may pass from the mother to the young, through milk as well as placental blood.

The fact having previously been noticed by Flourens, that the bones of the fœtus became colored red, when the mother has been fed upon red coloring matter, he extended his observations still further, and has found that the bones of the young offspring become red-tinted, when, during the period of nursing, its mother feeds upon reddened food. The experiment succeeded perfectly in young suckling pigs, of which the bones became red in from 14 to 20 days. Since, however, the pigs might have eaten some of the reddened food of the mother, Flourens selected another class of animals for experiment, in which this source of error could not exist, viz., albino rats and rabbits. In the albino rat, the skeleton became red in 11 days; in the albino rabbit, the same phenomenon occurred in 9 days; though not a trace of reddened matter had been eaten by the young, since they had lived wholly upon the milk of their mothers. (The coloring material usually employed in these experiments is that from the Rubia tinctoria, or madder.—Ed.)

From the same we translate the following interesting item:

Bert has made an experiment, in which he made an incision on the side of the back of two albino rats, and having raised a portion of the skin and subcutaneous tissue, he connected the two together, securing the adjoined parts in situ by the aid of sutures and collodion. Union ensued in six days afterwards, so perfectly, that the dressing was removed. The two rats marched side by side, connected by a strip of skin near an inch in length. The connecting band was afterwards contracted to near 1-6 of an inch in length, which the animals attempted to separate by gnawing asunder. A matter which was injected into the jugular vein of one rat was detected in the femoral vein of the other, thus plainly showing that there had occurred a true vascular anastomosis between the animals.

Editor's Table.

Surgeon-General Hammond's Anti-Calomel and Antimony Order.

THROUGH the medium of the public prints, many of our readers have been made cognizant of the order which was, not long since, issued by Surgeon-General Hammond, of the U. S. Army, to the medical officers under his control, in which he discontinued the further allowance of Calomel and Tartar Emetic in the medical supplies of the Army. This order has given rise to most severe criticism,—a criticism which, judging from the tone it has taken in certain quarters, has degenerated far beneath the character of a cool and candid examination of the subject, into extravagant raids of censure and denunciation. Indeed, to such extremes have certain members of the profession at Cincinnati gone, that, in a series of resolutions denouncing Surgeon-General Hammond, they have urgently petitioned that he should be removed from the position to which he, as they claim, has been so unjustly raised over those of his colleagues who rank beyond him in the service.

Now as regards the place to which Dr. Hammond has been promoted, though it is beyond some of his old peers, still so far from any injustice being done in the case, we regard his promotion as an honorable tribute to the good sense of the powers who now control the destinies of our land, and had they been as fortunate in their selection of officers in other departments, there would have been little cause of complaint of inefficiency. Among all the old medical officers of the Army, we know of no one, who, during his connection with the Army, as well as during the period which elapsed after his resignation until the commencement of the present war, has shown such true devotion to his chosen profession, or who from his pen has furnished such ample evidence of thorough and accurate medical

scholarship, as the present Surgeon-General. A person who, amidst the distractions of army-life in camp, or in march through the uncultivated wilds of our western frontiers, should find or rather *make* time to pursue a series of accurate physiological experiments, such as he did while connected with the service as Assistant Surgeon, has shown truly that he has an innate love of his profession far beyond what is usual, and indeed there is none certainly to whom the interests of our profession could be more safely confided than to one possessed of such traits. Then, since his connection with the Army as Surgeon-General, the unanimous voice, up to the issue of his Calomel and Antimony order, has been that, in administrative talent as well as in the capacity for organizing and executing plans for the advancement of the medical interests of the Army, he has shown qualities of character which eminently fit him for the sphere of action to which he has been chosen. And thus in the evidence he has furnished of superior executive ability, he has demonstrated, what too often is overlooked in our country, or at least is not enough credited, that such capacity is by no means incompatible with, but is most often the offspring and associate of thorough scholarship.

Next as regards the order prohibiting the use of Calomel and Antimony among our sick and wounded soldiers. There is no doubt but that the statistical evidence furnished at the Medical Bureau has been of such a nature as fully justifies such on order. What that statistical evidence may be, we do not know; we fully believe, however, that, when furnished, it will be quite adequate to the justification of the order. The statistical results which our own experience and observation have furnished, have long since convinced us that there was urgent necessity for a move in this direction;—this especially applies to mercury;—the powers which are ascribed to this agent of counteracting inflammation, and especially of promoting absorption, after an extended use of the article, we have failed to verify to our satisfaction. For example, in infantile cerebritis

and meningitis, with or without effusion of serum, we have, time and again, used this medicine, yet so far from its controlling the inflammation or favoring the absorption of the effused fluid, in no instance that has fallen under onr observation, have the benefits of the mercurial treatment been seen;—the disease, in almost each instance, has advanced so rapidly towards death as demonstratively showed that the medicine was quite powerless to check it. Even in one case where gangrene of the cheek supervened upon ptyalism in a babe laboring under cerebral meningitis, the brain-disease marched as quickly towards a fatal termination, as though nothing had been given, death thus relieving the patient of a horrible deformity, and the attending physicians of much prospective odium. Likewise in syphilis, in which, it is claimed, by some, indispensable to administer mercurials, it has been fairly proven, by the extended hospital experience of some of the first physicians on the Continent of Europe, that the disease may be managed safely and successfully without the use of mercurials;—in fact, the use of mercury has been shown to be so far from curing the disease, in some instances, that it really induces a diseased condition, named by the Germans "Hydrargyrosis," which, in virulence, is quite equal to secondary syphilis. Some years since, some of the surgeons connected with the Pennsylvania Hospital, Philadelphia, arrived at the same conclusion, and treated the disease most successfully without mercury, relying alone upon the compounds of iodine;—and cases I remember well to have seen there, in which the iodide of potassium promptly caused the disappearance of the disease, after mercury had been fully tried and found wanting. So that, when the entire field of pathology is searched over, we believe there is not a single disease in it which may not be treated successfully without the use of mercury, and certainly with far more security to the patient, for we think there is no one who has had extensive experience in its administration, but who will admit that, with the greatest precaution which can be observed, there are occasional instances where salivation will unavoidably supervene. We con-

fess to such cases in our own experience formerly, when, despite the utmost care which could be used compatible with the ordinary attention rendered in private practice, salivation did ensue, and though the agent was discontinued as soon as the least ptyalistic tendency was perceived, still the salivation proceeded steadily and unchecked onwards, never stopping until it had injured the teeth for life. Though we have been educated in the allopathic doctrine, and still regard this system as the stronghold in which is enshrined all the truth that is embodied in the science of Medicine, and that he who pretends to practice Medicine on principles other than those which are contained in it, is basely imposing upon the credulity of his patients,—since whatever weapons are known against disease, every student of Medicine knows, have been the result of allopathic investigation,—yet, notwithstanding all this, we are free to admit that the science is by no means a perfect one, that it is susceptible of great improvements and many amendments, and, we think, that so soon as experience has indicated where these amendments can be made, it is the duty of every one to, at once, adopt them.

It is the excessive abuse of allopathic Therapeutics which has given birth to all the charlatanism which now invades the domain of Medicine, and among all those abuses, *par excellence*, and above all others, stands mercury, and especially the compound,—Calomel;—from our personal experience, during a long residence in certain of the miasmatic regions of the West, we think that one out of every four of old and middle-aged persons had suffered from mercurial salivation sometime in his life, as shown in the mutilated gums or teeth, which stand as broken, though enduring monuments of a former mercurial ravage. Hence it is no wonder that the people have resorted to the "pellet-system," so pleasant and dainty that children cry for its medicine, and young ladies run no risk of losing their teeth and especially their cheeks by it.

Next, in regard to the use of Tartar Emetic, which, by the Surgeon-General's order, has also been struck from the supply

table of the Army, there cannot be urged so much against it, on the score that its ultimate effects on the body are of so lasting and deleterious a character as those resulting from mercury;—still, as a therapeutic agent, does it exercise that sanative power which has hitherto been ascribed to it? It has formerly been taught that, in the treatment of pneumonia, the great remedy, in fact, the sheet-anchor, was tartarized antimony. Recent experience is now bringing its claims, on that score, into discredit. In the Hospitals of Vienna, under the old plan of treating pneumonia by the antiphlogistic treatment,—in which tartarized antimony figured prominently,—the rate of mortality was 25 per cent.;—under the milder, in fact, almost expectant course of treatment which is now followed there, the rate of mortality has been reduced to 7 per cent. Facts of this kind speak so loudly that none, except those who are deaf, will not heed them.

This somewhat extended editorial essay, we have written, not so much with the intention of an apologetic defence of the Surgeon-General's order,—for we have no doubt but that he has good and sufficient reasons to sustain him in his course, and which will be set forth by him in due time,—but we desire to record here our dissent from the opinions which have been, and are still entertained, by a large number of our profession, respecting the use of mercurials,—a dissent which was held by the former Editor of this journal, and which he, at some future time, intended to promulgate, or, as he said, "to make a crusade against mercury;"—so that, in conclusion, we will merely add, that we do not regret this order of Dr. Hammond, believing that it will have a good effect upon the profession generally, so that, not only the "Monk-killer," but especially the Aquila alba, or "white eagle" of the old alchemists, shall be shorn of a portion of his plumes, and will, in a measure, if not altogether, be remanded to the alembic, whence he has been too often accustomed to soar, and that thereby our soldiery shall only have occasion to show wounded limbs and not mutilated jaws, as the results of their service in behalf of our country.

In the 12th number of the *Medical Record*, of Australia, vol. 2d, there is an extended article upon Softening of the Stomach, in which the editor expresses his opinion that this disease will be found to be common in the Colony. It is most usual in the four hottest months of the year, viz.: November, December, January and February. He thinks that it is often the prime disease, when, in fact, the trouble has been mistaken for diarrhœa, dysentery, teething, convulsions,—those affections which occur most often in infancy. The disease is essentially one of children, for, of 156 cases, 51 were under 12 months of age;—still, it was also met with in adults. The writer says:

"The exciting causes of the disease in children are, improper food; in suckling children, giving large quantities of the breast at a time when the mother is heated or excited, or when she is suffering from constipation or diarrhœa; in children brought up by hand, sour milk, unaccustomed or indigestible food. Teething and hot weather act as powerful predisposants, and, it would seem, in some cases, as exciting causes.

In adults, improper food or irritants will excite the disease."

The treatment employed was as follows:

"Having employed the acetate of lead, and opium, in several of the cases which fell under our observation in England, successfully, we have had recourse to them here with the best effect. Powerful as they act in checking the vomiting and purging, their benefit will only be passing, if the diet is not carefully regulated. The best mode of administering them is in powder, ¼ to ½ a grain of acetate of lead, with 1-12th or 1-10th of powdered opium in wet sugar, placed in the mouth, and repeat every four or six hours. Given this way they are rarely rejected. When the vomiting and sickness have existed some days, we have confined the children to gum water, or chicken or veal broth—strictly prohibiting milk, if it is rejected in a coagulated state, and passed in the same state in the motions. In very recent cases this strict diet is not necessary—the mother should however take a dose of castor-oil; if the child is brought up by hand, milk and water with a little sugar should be given; but if the purging and sickness continue, it must be enforced, although great difficulty will be experienced in getting the mother to understand the importance of it, even when she sees the breast-milk excite severe sickness. When the disease

has not been of long standing, the stomach soon recovers its healthy state, and the breast-milk can be borne in two or three days. Care must be taken not to allow much to be taken into the stomach at a time."

DR. WICKERSHAM, in a number of the Chicago *Medical Examiner*, lately received by us, has written an exceedingly intelligent article, in which he accounts for the rapid advance of Homœopathy, on the ground of the pleasantness of their remedies, and asserts what we believe,—as we have verified it by observation,—that in a given number of cases, the Homœopaths give a larger amount of medicine than the regular profession. Dr. W. very justly advises the profession to direct more attention to the mode and form in which they prescribe their medicine;—he particularly commends the preparations of Tilden & Co. for this purpose. This firm have prepared opium, quinine, and even the *oil of turpentine*, in such forms that they are rendered wholly tasteless, and by no means unpalatable. The suggestions contained in this article, if followed, we are sure would do much towards reconciling our patients with our medicines. Whoever has had the misfortune to live in a miasmatic region, and to have been the victim of malarial disease, in which he was compelled to resort to the use of quinine, and especially a *sulphuric acid solution* of it, cannot fail to retain in mind,—despite the assertions to the contrary of the Physiologist, that there is no abstract memory of tastes,—a memory of bitterness so well defined, and so acutely vivid in character, as to claim for itself the title of imperishable;—if the waters of Marah were half so bitter, we are not surprised at the Jews revolting at them.

There is another point of view under which this matter of nauseous medicine can be considered, and certainly claims a larger share of attention than has generally been given to it;—in modern improved therapeutics, a well selected alimenta-

tion figures, in many cases, quite as much as medicine; that aliment should have its normal action, should be properly digested, it is required, beyond all things, that the organs of taste should have their due and normal co-operation. Take any well man, and, previously to his meal, saturate his gustative apparatus with a solution of quiniæ sulphas, or with castor oil or turpentine, and I am sure there would soon be such a falling off in his consumptive capacity as would enable his landlord to double his gains upon his board;—how much more, then, must it operate against the digestion of one sick,—whose fur-clad tongue already sends so many morbid messages to the stomach, as to retain it in a state of semi-nausea,—to be ever and anon filling his mouth with tastes so intensely bitter, acrid, pungent, astringent, and not unfrequently so fetidly nauseous, that it requires all the heroism of a Hercules to swallow them;—in fact, had Juno, as a thirteenth task, imposed upon Hercules the order to swallow a draught of sulphuric acid solution of quinine, every three hours, for forty-eight hours, I regard it as by no means improbable that he would have descended to posterity much less of a paragon for bravery than he has. I have, in fact, known patients who seemed, from their boasting, to regard it as among the most transcendant of their heroic traits, that they were able to take bad-tasting medicines.

It is useless to conceal the fact, there has been by far too little care directed by us to the mode and form in which we administer our remedies; investigation, and certainly very laudably, has been mainly directed to discovering the action of our remedies;—those of them which experience has verified to have such and such effects, should now be given in such a form as will not render them an opprobrium to us, and the means of driving our patients from us.

Dr. Bowman, in the second number of the Canada *Lancet*, which he edits,—and of which the last number of the Press

contained a notice,—gives his experience of the use of digitalis, when administered in large doses in delirium tremens. The result of his observations places the use of this agent in a most favorable light in such cases. In a case of great obstinacy and severity, in which digitalis was given, in quantities far beyond what was usual, he says:

"Thus it will be seen that I gave my patient $2\frac{1}{2}$ fluid ounces of the tincture of digitalis in $11\frac{1}{4}$ hours. The tincture was made by myself, according to the P. L. (4 Troy ounces of the dry leaves to 40 fl. oz. of diluted alcohol.) The dried herb was from the Shakers, and very fresh and fine. The case was a very severe one, but it was unaccompanied by any preternatural heat of the head. As it may be seen, the first dose lowered the pulse permanently 8 beats, but it was again raised by the second; and the 2d, 3d and 4th doses had no effect on the number of beats, but rendered them irregular at times. The 5th dose, however, brought down the pulse at once to 48, at which it remained most of the time for several days, producing no ill effects whatever, and merely rendering the patient languid."

Changes in the Faculty of the Medical Department of the University of the Pacific.

THE Chair of Anatomy and Surgery, made vacant in this School, by the death of Professor E. S. Cooper, has been divided into two separate departments; to the Chair of Anatomy, Dr. L. C. Lane has been appointed, while Dr. A. J. Bowie, late Professor of Pathology and Practice of Medicine, has been appointed to the Chair of Surgery. The Chair of Theory and Practice of Medicine, thus made vacant, has been filled by the appointment of Dr. J. F. Morse, of Sacramento;—in the election of Dr. Morse to this place, we are happy to state, that the school has secured for itself, a thorough and accurate medical scholar, a ready and easy lecturer, and, what is most needed by the student, a prompt and assidious teacher, while, as regards the appointment of Dr. Bowie to the Chair of Surgery, we will but add, that the fine reputation which this gentlemen has established for himself as an operative Surgeon, peculiarly fits him for his new post.

The following extract from the Editor's Table of a recent number of the Chicago *Medical Journal*, published by Dr. Brainard and Allen,—the former being the well-known Surgeon of the West,—we take great pleasure in copying into our columns, as the sentiments, not only of the extract, but of the whole article, are nearly in accord with what we entertain :

"We said we thought at first that the Surgeon-General might have adopted some course less distasteful to the profession. Reflection convinces us that from his point of view he could scarcely have taken any other course than that which he has taken. And this conclusion has been arrived at only after mature consideration.

In the first place the indignation expended on the Surgeon-General is from a mistaken idea of his position, and the position of his subordinates on the medical staff.

The Surgeon-General is responsible for the success of his department, for the health and lives of the soldiery, as a commanding general is for the success of the army in the field. He is placed in the position of one who has to accomplish through others that for which he is held to personal accountability, as the private practitioner is for his own methods of treatment. It may be that there are private soldiers better informed and with better judgment than the officers over them—officers also superior in qualifications to their generals and commander-in-chief—but the usages of war and the necessities of discipline require that the private judgment of the inferior, in arbitrary rank, shall be wholly subservient to the superior. And this is not deemed improper or entailing any disgrace to the subordinate. On the contrary, implicit obedience to orders is the highest virtue of the service. The army is a vast machine responsive to a single master-hand, and the master is solely responsible.

But this is too clear to need argument. The Surgeon-General is General over his subordinates, and is held responsible for them, and hence has clearly a right to control their official actions according to the dictates of his own judgement, not according to their's, or your's, or mine.

Is a great profession about to denounce one of their number, upon whom such tremendous responsibilities rest, for using or not using this or that agent, whilst each of its members claims the absolute right to use or not to use them as he pleases ?

In joining the army, observe, the surgeon has merged his personality in it, and become only a part of the great engine of power. He is only responsible for obedience to the order which comes down to him, whereas the Surgeon-General is responsible as an individual, and has the rights of an individual to employ or not to employ, by himself or his agents, whatever he in his best judgment thinks best.

But it is said he has based his action upon false premises, and therefore is censurable. His primary expressed reason for the removal of Calomel and Tartar Emetic from the Supply Table is, that they have been abused in use and that the consequences have been disastrous—a statement which the Chicago meeting insinuated to be unproved, and the Cincinnati brotherhood roundly asserted to be libelous. Here is a simple question of fact, and by the record only is it to be proved or disproved. Where is the record? In the hands of the Surgeon-General. On the one side stands the official record—vouched for by a professional gentleman of high distinction, thoroughly versed in the scientific methods of observation and analysis of the present age; a man against whose personal integrity his bitterest official enemy dare not breathe a whisper, and who has responsibilities piled upon him beyond any which the world has ever known, (for we repeat what we have elsewhere said, that his position is infinitely more important than that of any mere general in the field,) and on the other side we have but the irresponsible *say-so* of individuals perhaps of private civil eminence, and the prejudices and prepossessions of persons of limited view, who fancy that the removal of a couple of agents from the medical *armamentaria*, is about to break down all divisions between the scientific and pseudo-medicine and bring the quack on the level with educated physicians.

If any one knows the truth of this premise, we insist, it is the Surgeon-General, and we are bound as honorable members of the profession to accept his statement to be true until, by evidence fully as authoritative as that which he claims to have in his bureau, the opposite is made to appear.

We apprehend that no educated physician will assume that his second statement, viz: that the advance of modern pathology has narrowed the range of useful application of the two mooted agents, is at all questionable.

For example, the old idea of Calomel was that it is an "antiphlogistic," hence applicable in all febrile and inflammatory affections—all educated medical men now know that it is not an antiphlogistic, but rather a *stimulant*, rapidly disintegrating the tissue, exhausting by excessive cell and molecular change.

True, by its primary action as a cathartic it may prove antiphlogistic, but every repetition of the dose develops more and more the stimulating, *i. e.* tissue-disintegrating effect.

Why not then, it may be asked, use it as a stimulant? Because it rapidly exhausts without replacing tissue. That stimulant is always to be chosen which is adjuvant to increased nutrition; a part, or the whole, of which is capable of entering into and forming a portion of the organism."

We take the liberty of making another brief extract:

"We know to-day in this city excellent professional gentlemen who if they could be induced to leave out Calomel and its congeners from their practice for a few months, could scarcely be persuaded to take them up again, even in cases which positively demand their use."

Appointment of the Editor as Surgeon of the Board of Enrolment for the Southern District of California.

We have recently been tendered by the Secretary of War, the place of Surgeon of the Board of Enrolment, appointed for the Southern District of California;—our acceptance of the same, which has been announced in the daily press of this city, will not, in anywise, interfere with the regular continuance of our professional and editorial duties; in the ensuing number of the Press, we will publish the several species of disability, which secure exemption from service on the part of those drafted; we may add, that, at present, it is believed that the Government does not contemplate drafting in this State.

Excerpta from Our Exchanges.

Pernitrate of Mercury.—Having been invariably successful with this form of caustic for the arrest of soft chancres, in my own practice, I place it, "par excellence," first on the list. I prepare it by adding an ounce of red precipitate to an ounce and a quarter of nitric acid, in which it readily dissolves by shaking. It is very painful when thoroughly applied, causing much inflammation, and, when the chancre is large, the effusion of serum into the cellular tissue of the prepuce. It has seldom to be employed but once, however, even in aggravated cases; nor have I ever noticed any injurious effect, hitherto, from its employment. Linseed poultices should be kept to the part until the inflammation subsides, and afterwards water dressing; when the gray slough separates, which it does generally in three or four days, the healthy ulcer left afterwards must be treated in the usual way, wet with lint and oiled silk; stimulating it

with red wash or solution of the chlorate of potash, should the granulations become exuberant. Collections of serum formed after the operation, may be allowed to ooze away through punctures made into them with a needle.—*Canada Lancet.*

Dr. Roelker, in an able paper, read before the Cincinnati Academy of Medicine, upon "Tænia and Cysticercus," reports, as follows, the successful elimination of a tape-worm, in a child three years old, by the administration of pumpkin seed:

I ordered an emulsion of pumpkin seeds, twelve ounces, prepared from six ounces of the seeds, with the direction of making the child drink the whole of it within two days, allowing her to take as much at the time as she was willing to. After the first day she passed about fifty inches of the broad end, and on the next all the smaller remainder of the worm, in all one hundred and thirty inches, or about eleven feet. Although she took, the same day, yet half an ounce of ol. ricini and one drachm of turpentine, not one particle of the worm came away from her; nor has it, up to this day, eight weeks since the expulsion. The change in the child was immediate. She became cheerful, natural in her appetite, normal in her digestion, and quiet in her sleep.—*Cincinnati Lancet and Observer.*

Says Prof. C. A. Lee: "I have never seen so much time spent by the visiting physicians in their daily rounds as in Italy, nor such intense devotion to their duties, nor such extreme caution in forming a diagnosis, nor such carefulness in writing out prescriptions, nor such tenderness on the part of nurses. Were I to seek for a cause to explain all this, I should certainly not fail to find it in the cultivation of a deeper religious spirit, a more profound conscientiousness, a quicker sense of duty, a feeling of greater responsibility; and I shall leave Italy with a full conviction that in all that concerns humanity, benevolence, and charity, she stands in the van of nations, and deserves the plaudits of mankind."—*N. Y. Medical Times.*

M. Grave, in the *Journal de Pharmacie*, advises the employment of chloroform to modify the disagreeable tastes of medicines which are unacceptable to the palate, such as aloes, gentian, quinine, and the like. He states, moreover, that it removes entirely the odor of assafœtida. The *Lancet*, however, thinks it possible that those changes are not unlikely to be accompanied by some partial or complete destruction of the therapeutic qualities of the substance so operated upon.—*Australian Medical Review.*

Reviews and Notices.

The Druggist's General Recipe Book; comprising a copious Veterinary Formulary; numerous Recipes in Patent and Proprietary Medicines; Druggists' Nostrums, etc.; Perfumery and Cosmetics; Beverages, Dietetic Articles and Condiments; Trade Chemicals, Scientific Processes, and an Appendix of Useful Tables. By Henry Beasley, Author of "Medical Formulary" and "Book of Prescriptions." Fourth American, from the fifth London edition. Philadelphia: Lindsay & Blakiston. 1863. A. Roman & Co., San Francisco.

This,—certainly a *multum in parvo*,—is a highly useful book to both the medical man and the druggist;—for in a very compendious form, will be found a great number of recipes, which, though not often required by the sick, are not unfrequently asked for by those who are well. For example, it embodies numerous compounds for beautifying the hair, for coloring, renovating or removing the same;—likewise various recipes for the teeth and gums, skin cosmetics, &c.;—and as these are matters in which the better half of our patients are quite as much, if not a little more interested than in their health,—hence we take pleasure in recommending this work as one which the physician will find very convenient for reference on such points.

The Pacific Monthly; devoted to the Arts, Science, Literature and Life of the Pacific Coast. Editors: J. D. Strong and M. D. Strong. San Francisco, Cal.

To our readers, who desire to mingle with their reading a little miscellany, we take great pleasure in recommending this periodical; the several numbers with which we have been favored contain articles from the pens of some of the most able and gifted writers on this coast; among these, we notice the name of John S. Hittell, Esq., whose pen has not only done much, but is still active in rescuing from oblivion many items which will serve as building materials for the future historian of California. What

we regard as especially valuable in this journal is, each number contains one or more illustrations of some of the plants which are indigenous to this coast ;—every effort to cultivate a fondness for Natural History we consider as highly commendable, since every mind which is imbued with a love of nature, contains within itself at least one element, which will tend to elevate it beyond the baser objects of life.

THE PHYSICIAN'S VISITING LIST, DIARY AND BOOK OF ENGAGEMENTS FOR 1864. Philadelphia : Lindsay and Blakiston, 25 South Sixth street, above Chestnut.

As a Physician's memorandum book, this is finely arranged and well adapted for daily use.

Selections.

On Sarracenia Purpurea.

BY DR. FREDERICK W. MORRIS, HALIFAX, NOVA SCOTIA.

CLAIMING, as I have a right to do, I will not say the honor, but the priority, of announcement to the profession of the Sarracenia purpurea, as the great anti-variolous remedy and elixir for suffering humanity,—being the first medical man in history to employ it in this practice, and in the face of a population of thirty thousand in this city of Halifax, when not a whisper of it was known to other medical men in the community, military, naval or civil,—it is with no little assurance that I feel myself authorized to come forward upon the present occasion, and assert that the use of Sarracenia purpurea for the cure of small-pox, and I may add of the entire family of the exanthemata in the Cullenian sense, and arising from specific contagious poison, is entirely due to my agency, in the month of April, 1861, several months antecedent to any notice of it by any other medical man. The professional administration of this marvellous vegetable for variola dates from the Halifax Visiting Dispensary, Nova Scotia, and from my hands

alone, and from no other ; and your widely circulated journal has the true and just version of the matter, in ascribing the professional demerits of this aspect of the Sarracenia problem to myself. The only co-operator with me in the matter is a layman, a gentleman of Irish family, and distinguished, which figured in the history of the second Charles of England, Mr. John Thomas Lane, Lane's Park, Tipperary, Ireland.

On the 17th of April, 1861, Mr. Lane brought a Mic-Mac squaw to me, with the root of the Sarracenia in her hand. Her testimony I have on oath that the medicine she brought was a secret with herself and old "Sally Paul," a centenarian, who had adopted her from childhood, thirty-seven years since, in Canada, where her protectress at the time was using the medicine, and among others had cured several soldiers in one of the regiments stationed in the garrison. Here, then, is the starting-point of the Sarracenia, after its long and silent slumber of so many centuries. Poor old Sally went to her rest a few months ago, and but for the provident action taken when the small-pox had just commenced a fatal onslaught upon the people of this province, it might still have slept on, perhaps for ever, in the night of ages, until the general wreck of all things here below. Mary Anne Ferris, the squaw who placed the medicine in my hands, gave her statement to me on oath, that Mr. Lane and myself were the two first white men to whom the secret had been divulged, and that Sally Paul was then curing the small-pox at Tangier, the present gold district of Nova Scotia, where it was raging.

A few days after I had occasion to try in it two cases, in which I at once recognized its wonderful characteristics,—its astonishing influence upon congestive ganglionic irritability, and all cerebral neuralgic development. I saw that its functional action was principally renal : but that by mercurial or antimonial influences, the tide of action might be made diaphoretic or cathartic at pleasure. There was no mistaking the specific power at the root of the remedial action ! The disease was as powerless in the grasp of the sarracenic agency as ever victim was in the coils of the anaconda, or equally resistlesss and terrible boa constrictor. Every painful manifestation of suffering disappeared in a few hours. I saw parents in agony at the utter hopelessness of the apparently dying child,—in one case of the severest pyrectic temperature, where the heat was sensible to the hand at a distance of two feet from the body, and the medical attendant had left the case as irrecoverable,—in this and in every instance of trial all around the sick bed became sensible of the astonishing powers of the Sarracenia in a few hours. Of course I did not allow the grass to grow under my feet ; but in these, my beneficent intentions, I was obstructed by a perfect hurricane of opposition from

my professional *confreres*, who could not endure that I should have such confidence in the unreliable statements and experience of a savage. Every day my position as medical officer of the institution became more precarious, until at length the governors of the dispensary plainly told me that I must abandon my public advocacy of the remedy, or give up my situation. My convictions upon the subject I utterly refused to abandon ; but the further use of the Sarracenia, after having witnessed its undoubted alexipharmic powers in about five-and-twenty cases, I was obliged to forego. Here, then, my hands were tied. I was not allowed to write about it in the press. One or two letters of mine had already appeared in the journals of this city. The corporation had been invited to have the medicine tested in an express establishment for the purpose, and that it should be divulged upon consideration of a reasonable compensation to the poor squaw. But all in vain. At the instigation of the Board of Health, they had set their faces against it, and thus the matter stood. Sally Paul's pretentions now, after the action of the dispensary, began to have some weight with white folk, and even with her own tribe, who in general mistrusted her. Her own people came flocking to her, and many were the applications from the city. Mr. Lane was distributing the medicine far and wide, whilst I was obliged to look on in silence. Judge then of my astonishment, months after this, upon Mr. Lane coming to me with the intelligence that Mr. Miles had gone up that very day, he was informed, to obtain the secret of the cure from Sally Paul, and that with a bribe of a few pounds he had obtained it. The next intimation I had of Mr. Mile's action in the matter was his letter to the Epidemiological Society, totally ignoring the dispensary, and claiming for himself the *primum mobile* of its professional announcement! My treatment of small-pox with Sarracenia commenced in April, 1861. Mr. Miles's letter to the Society appeared in November of the same year. At the time of my trials with it in April, Mr. Miles, an acquaintance of Mr. Lane, and in garrison here at the time, was daily meeting Mr. Lane, and asking him how Dr. Morris was getting on with the Sarracenia. Small-pox was at this very time in garrison, under Mr. Miles's inspection, and soldiers had died of it under Mr. Miles's own eyes, and under treatment to which Mr. Miles must have been a party. If this gentleman possessed any experience of the medicine, how is it that he was not using the medicine simultaneously with myself! He could not have used it in the garrison cases, for the soldiers had died. Had they died under treatment by Sarracenia, Mr. Miles must have known it. Had he known it, he could not have written that letter to the Epidemiological Society. A glance at Mr. Miles's communications to the *Lancet* (August 25th and October 18th,

1862,) shows us that he has no practical knowledge of the subject whatever. Dr. Richardson's case, quoted, corresponds precisely with the statements invariably given by myself in various quarters, and yet Mr. Miles arrogantly claims for himself all jurisdiction of originality and professional patronage in the proceedings.

Why, there is no complex mystery in the use of the Sarracenia. Nothing can be more simple. The most obvious and unmistakable feature of the Sarracenia, as to taste, is its decidedly "willow flavor," so like the "salicin" that any one would take its infusion for that of the alkaloid named. Whatever part of the Sarracenia imparts to the tonge this willow flavor may be relied upon as the cure for variola. The roots, young or old, all exhibit this flavor, as also the rootlets, rhizoma, radicals, and even the loose flocculi of the epidermis, that so easily separate from the plant by friction. I have used them all in my cases equally with success. A drachm of any such portions of the plant infused in a pint of water until reduced one-half, and a wine glassful given every three hours all through the disease, whatsoever the symptoms, is all that is necessary to be done. This treatment is sure to give a good account of the patient. Stronger doses than this would have a tendency to make young patients vomit, and reject the medicine at a time when not a moment should be lost. There is no mistaking the Sarracenia in its "habitat." Imagine half a dozen purplish-red, vegetable pouch-looking leaves, in shape like a young straight cow-horn, inverted and attached by the smaller end to a root not unlike the sarsaparilla ; the leaves or pouches disposed around the root in a whorl of six or more, and from the centre or axils of the leaves one or two rush-formed, glabrous scapes springing up, about eighteen inches, quite as smooth, hard, round, and dense as "the rush," but hollow and catheter-like ; imagine this "rush-like scape" to terminate in a flower, with a brownish, glossy calyx, three-lobed, a germ and stile, with stigma expanding over them, like a university cap, of fine terminal points at the margin ; the petals, of striated crimson, overlapping the expanded stigma upon its marginal incurvatures ; three concave, small bractæe, corresponding with the calyx in color, and in curvature, presenting in all an image or flower in contour quite mistakable at a few paces for a "camelia ;" attach a hood like a squaw's cap to the larger end of the cow-horn leaves aforesaid, and looking upwards to catch all moisture from the sky, and pass it into the recumbent horn ; let the horns have upon their margin a broad fringe each, and tapering away to the shank and axil of the leaf, or small end of the horn, like the squaw's leggings, and you have a sufficient idea of the Sarracenia plant as it grows in the bogs, that if you chance to fall in with, you never can mistake.

Any one who will compare my statements with the following language of Mr. Miles in the *Lancet*:—"It was during the last

outbreak of the disease among the Indian settlements in Nova Scotia that the decoction of the root achieved its greatest triumph; that the faith in its efficacy became wide-spread and general,"—will at once discover the real features of this question, as truth must ever represent it. It was precisely at this moment that H. M. S. St. George, with his Royal Highness Prince Alfred, arrived here from the W. I. station, when Mr. Lane, anxious for the son of our beloved sovereign, sent a package of the medicine on board to prevent any possible casualty from the disease. When first I saw Mr. Miles's letter to the Epidemiological Society, so many months after the Sarracenia had undergone its probation here, and the scourge had passed from it, I was disposed to consider it but a generous impulse of Mr. Miles to the *rescue* of one to whom he was an utter stranger; but Mr. Lane could not help thinking it an intention to *supplant*, as no reference was made to the initiatory action by me at the dispensary. The communications of Mr. Miles and his brother since then in the *Lancet* have completely enlightened me, and I am sorry to find the spirit of charity in this direction quite frozen within me.

The Sarracenia antidote, I have no doubt, is the providential agent to deal with the contagious element *en masse*,—to extinguish contagion by some specific disorganizing process in a way and by power utterly disproportionate in its infinitesimally minute concentrativeness, just as the fraction of vaccinia pervades from a needle's point the entire system. It is true that the variolous element, under Sarracenia, is expelled with accelerated current by the renal outlets, and is in this way eliminated from the system as "the saccharine" is in diabetes. But it is something more than this. This very urine itself should communicate variola were it all variolous; but the virus is gone, effete, and impotent, —the Sarracenia has extinguished it. I have no hesitation in pronouncing Sarracenia purpurea to be the remedy for variola, varicella, rubeola, lepra, psora. I have used it with unqualified success in these cases. It not only *relieves*, but it *extinguishes*, and, what is more, in any given instance, it is sure to emancipate from subsequent abnormal developments, as a general rule. In psora, lepra, and skin disease, I have little or no trouble, and I find a liberal use of chloride of calcium a very decided auxiliary and quickener of the sarracenic virtues in skin treatment.

It would be just as well to mention here that any person carrying with him the root of the Sarracenia may chew his way with perfect impunity through small-pox, wherever it may stand in his path. I sincerely hope it may be so with plague, Asiatic cholera, or any other scourge.—*Lancet, December* 6, 1862, *p.* 638.—*Braithwaite's Retrospect.*

[This extended article we have copied, with the view of calling

the attention of our readers who live in the interior, in proximity with the Aboriginal tribes, (of which fragments yet exist on this coast,) to the great advantages which they might confer upon our profession, were they to take pains to collect from these people the ideas of medicine, which, unknown to us, exist among them. To one conversant with our Materia Medica, it is well-known, that many of the most valuable agents we possess, have been brought to light by mere chance or accident, and owe their discovery, not to the researches of the learned, but were first impirically employed by the unlearned. It would be of great interest to know what indigenous plants are employed by the Indians, in the treatment of the diseases which prevail among them ; further, we should suggest for answer, by those who have facilities for doing so : Does Phthisis pulmonalis prevail among the Indians, and if so, what are their remedies against it? In case of fractures, do they use any mechanical appliances for their cure? As a rule, does longevity obtain among them? These, and many similar questions, which will readily suggest themselves, might be answered by some of our interior readers, particularly by some of the surgical officers of the military commands, which are stationed on our frontiers.—Editor.]

On the Treatment of Suspended Animation.

BY DR. BENJAMIN W. RICHARDSON, M. A., SENIOR PHYSICIAN TO THE ROYAL INFIRMARY FOR DISEASES OF THE CHEST.

[The writer includes under the head of suspended animation, only cases where life has been arrested by the suspension of that process of combination between oxygen and blood on which the calorification, and thereupon the animation, of the animal depends ; whenever any serious mechanical injury has been inflicted, whenever the blood has been disorganized, whenever any important organ has been subjected to antecedent morbid change, the case is excluded. The cases included are very numerous; there are embraced cases of strangulation and drowning, cases of death from arrest of oxidation by the inhalation of carbonic acid, chloroform, amylene vapour and similar volatile compounds ; cases where from shock, without structural injury, the chemistry of respiration has been suddenly arrested, includ-

ing cases of simple stun from a fall or blow, blow on the stomach, lightning stroke; and, lastly, cases where oxygenation is suppressed by the indirect action of extreme cold. It is singular that there are great differences in the amount of muscular irritability remaining longest after death from chloroform, and shortest after death from drowning.

Proceeding to the means to be employed for restoring animation, Dr. Richardson supposes a healthy man to lie before the reader, who has been subjected to one of the forms of death, to which reference has been made. His breathing has been stopped; we listen to the heart, it is silent; the animal fire is declining: What shall we do?]

Suppose we inflate his chest with air?

Presuming that there is a small column of blood extending from the right side of the heart to the left; presuming that there is some remaining action of the heart on both sides, we may by gentle insuffiation fan that action into more perfect action, but by rude shock we may also fan it out altogether; artificial respiration has done both these acts; the credit that attaches to it rests with the first of these, the discredit is hidden in the last. If the column of blood from the right to the left side is broken the inflation of the chest is useless; as well blow a coalless fire-grate as bloodless lungs. Yet, as it may happen that the column of blood is not absolutely broken, nor the action of the heart actually stopped, even though the respiration shall have failed, artificial respiration does sometimes do strange things.

The application of artificial respiration becomes extremely limited; it is of use only where there is still some circulation; it must be secondary to circulation, because natural respiration is so.

Artificial respiration, if it fails at first, if it does not catch the column of blood which may be crossing the pulmonic circuit, instead of being a means of restoring life, clenches death.

Artificial respiration does not depend for success in any case on the amount of air which, by some particular plan, can be supplied by it; artificial respiration cannot at any time supplement the worst attempt at natural respiration; artificial respiration performed by any method that disturbs the body is injurious to the feebly-acting heart; artificial respiration, if it is to be of service, is amply provided for, when, by any method, from ten to fifteen cubic inches of air, can be gently driven or drawn into the chest.

Let me be saved, therefore, from hurting any inventor's feel-

ings by an opinion on a point, which is entirely secondary in its meaning. I prefer those simple double-acting bellows, first made by John Hunter, to anything and everything ; they are portable, they are easily applied, they admit of graduation, and they are certain. If I wish to throw fifteen cubic inches of air into the chest, I can make sure of doing it, so I prefer the bellows for their certainty ; but I am not prejudiced, and if in any given case I had no bellows, I should have recourse to the next readiest means—Dr. Silvester's method.

[Dr. Richardson has tried a great number of experiments with galvanism, very interesting, but too long for insertion here ; we, however, give the general results.]

The results derivable from galvanism are negative in kind, but unhappily they are more than that. If they sometimes excite muscle to contraction, they also do not infrequently paralyze it at once, while they always exhaust its power with great rapidity. If, in an animal just dead, galvanism be applied, muscle after muscle may be paralyzed separately ; all the muscles on one side of the body may thus be bereft of their irritability, while the muscles of the other side, which have not been galvanized, retain theirs.

These phenomena, applicable to all muscles, are specially applicable to the heart. The heart, of all organs, loses most quickly its responses to galvanism, or responding to the current, is most quickly overpowered by it. These facts, first observed by Aldini, but not understood by him physiologically, I have confirmed by forty observations specially conducted.

I can stop the heart that is pulsating by the galvanic force, as readily as I can excite it by the same agent—aye, even more readily. I can wear out the excitability of the heart of one animal by gentle galvanism more quickly than the heart of another animal, similarly placed, shall wear out its own irritability by its own contractions. Hence, galvanism is a delicate remedy as applied to the heart.

[Shall we transfuse ? To obtain an answer to this important question, Dr. Richardson has performed many experiments on animals, but comes to the conclusion that it is a proceeding which is " not of much promise." With regard to the advisability of trying artificial circulation, he observes :]

If any plan could be devised, by which blood could be drawn over the pulmonic circuit without opening the blood-vessels, the difficulties of artificial respiration would be surmounted. Warmth to the surface, long continued, not intense, as in the hot-water bath, but gentle warmth—has this any power in the

direction stated? It dilates the capillaries and the skin reddens, but is it ever sufficient? I confess that in animals I have seen effects so singular from long-continued warmth, that I do not know, if we could understand all its bearings, to what it might not lead.

Some kittens were drowned in my house, and lay at the bottom of the water for two hours. I took one of these out of the water, wrapped it in a portion of flannel oil-cloth, and put it in my pocket with the intention of taking it to lecture, to illustrate the foramen ovals. The day was hot, and I had some distance to go before reaching the lecture theatre. I thought nothing of the kitten till I wanted it; putting my hand into my pocket to find it, I was astounded to discover movement, and on taking it out, it was breathing; in the course of a few hours it recovered perfectly.

These occurrences, in the inferior animals, are not uncommon; in the London news, I find the fact is generally known that animals drowned or strangled, and sent to the manure-heap for burial, often recover, even some hours after they have been placed there. Such an occurrence took place in a cat last year, in a livery-yard near my house.

Even while this paper was being completed, I received from Dr. Black, of Chesterfield, a history of a singular phenomenon, which occurred at the house of Mr. Thorpe, of Stavely. I will give Dr. Black's account:

"A short time ago he (Mr. Thorpe) ordered his groom to destroy a kitten a few days old. The man first nipped its neck tight for a short time, and afterwards threw it into a bucket of water, in which it was immersed two hours.

"He then, believing the kitten to be dead, buried it in a manure heap, and naturally expected to hear nothing more of it. Two days afterwards, Mr. Thorpe was passing the manure-heap, when his attention was arrested by the mewing of a kitten, apparently proceeding from the heap. The groom was fetched and questioned upon the death and burial of the kitten. He stated the above related facts, declared that the kitten was quite dead, when he took it out of the water, and that he buried it in the manure-heap. He now uncovered the place whence the mew of a kitten proceeded, and found the one which he had buried there two days before, living and able to walk!"

Unfortunately, up to the present time, these isolated but valuable facts cannot be reduced to exact formulæ by experiment.

I have tried the exposure of animals to warmth in baths of

different temperature, in sand, in moist warm straw, in moist warm air, but have never seen anything approaching to spontaneous recovery. Yet it deserves mention, that in one instance in a rabbit which was laid in sand at 100° Fahr., the mucular irritability of the intercostal mucles was present thirteen hours after death. It is also worthy of remark, that in all these cases, on inspecting the body, the right side of the heart was always found free of engorgement, and the left side and the arteries containing blood; conditions indicating obviously the transit of a pulmonic current.

And now, to what summary do all these researches and observed phenomena lead? Do they tell anything positive? I will state what they tell:

1. They indicate that artificial respiration can prove of no avail only while the heart is transmitting a pulmonic wave of blood, and that in the absence of this wave, artificial respiration is injurious to the lungs and fatal to the blood.

2. They indicate that if a current of blood can be made to traverse the arterial channels, the muscles of respiration, previously at rest, will resume their action; and that respiration will follow, as at birth.

3. They point out that the effect of gentle external warmth is to induce an arterial tide; and that in every inquiry in respect to re-animation, the most carefnl attention must be directed to the further elucidation of this one subject.

4. They point out that galvanism is a dangerous remedy in all cases; that its effects cannot be measured, and that while it may set up a temporary excitation, it wears out excitability.

But more than all, they indicate that between the time of so-called death, and the period of the coagulation of the blood, re-animation is a possible fact; that the same rule, being applied to the body at large, as is often applied to the finger or other part of the body removed by accident—namely, the re-establishment through it of a blood-current—the body would re-live as a whole as it does in part; in a word, they show that the old principle, however it may at present fall short of demonstration, is true: "that which is of the local is of the general."—*British and Foreign Medico-Chirurgical Review, April*, 1863, *p.* 490.—*Braithwaite's Retrospect.*

A Mode of Preventing Pitting in Small-Pox.

To the Editor of the Lancet—Sir: I am desirous of adding my testimony in favor of a mode of preventing pitting in small-pox,

not, I believe, in general use, and which, though spoken of in "Wilson on Skin Diseases," is either not mentioned or not laid stress on in our works on the general practice of physic.

I allude to the Arabian plan of pricking the pocks. I have tried it many times, and have never been disappointed in the result. Three of the cases especially abide in my memory, in which the patients were very fair, and two of them very pretty, and who all retained their fairness and beauty without the vestige of a scar.

My practice is to watch the progress of the papules, and on the fourth or fifth day, when I think the vesicles have nearly attained their full size, and before they become pustular, I cut off the apex of each vesicle with a lancet ; for I find it is not sufficient to merely prick the vesicle slightly, for the exuding lymph will dry and seal the vesicle, which thus may go on to the formation of pus. This procedure will not cause the least pain if done with a sharp lancet, and a light and steady hand—the summit of the vesicle only being cut, and the flat of the instrument held on the same plane as the skin. Having opened all the pockets, I let the patient continue to lie on his back, and place a small poultice (without a rag) on such parts as are much inflamed. When these little poultices have been on an hour or so, they should be removed, the places lightly sponged, and covered with sweet oil by means of a camel's-hair brush. On the following day, if the pocks are inflamed, and matter forming beneath the crusts, I open them, and poultice again. In this way the inflammation, suppuration, and ulceration or sloughing of the skin beneath the pock are cut short, and a scar prevented.

In the last case I had, the eruption was very abundant, and confluent in places. Still I confess I have happily had no really bad confluent case since I have used this treatment, though I had much experience of such in 1848 ; and I think it probable that if I had a case of low type, where the eruption was flattened, I should not prick the vesicles, till I had, by stimulating the patient, got the pocks to project more fully, for I should fear that the excitement and irritation of the operation might depress the invalid ; and it is even possible that the small discharge of fluid from the cuts, might drain away a fraction of the strength so desirable to retain. I should not be deterred, however, in a quite confluent case, if the eruption stood well out, and I think it as rational to try and cut short the inflammation of the skin in this disease, as to make incisions for prevention of suppuration and sloughing in cellulitis and other affections.

An advantage of this instrument over that of the application of nitrate of silver is, that it does not cause pain, or increase the febrile action, nor have I found it in any way interfere with favorable progress.

It may be objected that the progress is tedious, and exposes the operator to the risk of contagion; but by getting behind the patient as much as possible, and avoiding his breath, the latter danger may be lessened; or if the necessary time cannot be spared, I see no objection to an intelligent nurse being trusted, after instruction, to perform so trivial an operation.

I believe those who try this method, will find it far superior to the use of the mask, or unctuous preparations, though it may be combined with the plan of covering the face.

The application of a solution of caoutchouc in chloroform, lately recommended, I have not tried; but I imagine it must produce a most unpleasant feeling of constriction, and cannot certainly be more effectual than the foregoing in preventing disfigurement. I am, Sir, your obedient servant,

R. B. Painter, M. D.

Bridges-street, Covent-Garden, June, 1863. [*London Lancet.*

Circular No. 6.

Surgeon-General's Office, Washington, D. C., May 4, 1863.

I. From the reports of Medical Inspectors and the Sanitary reports to this office, it appears that the administration of calomel has so frequently been pushed to excess by military surgeons as to call for prompt steps by this office to correct this abuse; an abuse the melancholy effects of which, as officially reported, have exhibited themselves not only in innumerable cases of profuse salivation, but in the not infrequent occurrence of mercurial gangrene.

It seeming impossible in any other manner to properly restrict the use of this powerful agent, it is directed that it be struck from the supply-table, and that no further requisitions for this medicine be approved by Medical Directors. This is done with the more confidence, as modern pathology has proved the impropriety of the use of mercury in very many of those diseases in which it was formerly unfailingly administered.

II. The records of this office having conclusively proved that diseases prevalent in the army may be treated as efficiently without tartar emetic as therewith, and the fact of its remaining upon the supply-table being a tacit invitation to its use, tartar emetic is also struck from the supply-table of the army.

No doubt can exist that more harm has resulted from the misuse of both these agents in the treatment of disease, than benefit from their proper administration.

W. A. Hammond, Surgeon-General.

[For remarks on this Order, see Editor's Table.]

Case of Quinsy: with Suppuration, Opening of an Artery, Hemorrhage and Death.

BY J. C. REEVE, M. D., DAYTON, OHIO.

I was called to see this patient on Friday, the 20th of March last, and reached him about 9 P. M.. I found a young man of good general health and constitution, and of temperate habits, aged about 23 years. Two weeks before he had been attacked with inflammation of the left tonsil; on or about the preceding Saturday an abcess had burst internally, and on that day hemorrhage took place, and this had recurred some six or eight times since. The exact amount of loss could not be ascertained; "pints," and "quarts" figured largely, as usual, in the accounts of friends. This, however, was certain; it had gushed out profusely from mouth and nose, and he had fainted away every time it had occurred. His appearance showed plainly that the loss had been great; he was blanched, extremely weak, the pulse with the sharpness and quickness incident to cases of hemorrhage, but of fair strength. I examined the throat as as well as possible in a patient very loath to submit to any procedure whatever; he could not, or would not, open his mouth very wide. I saw, however, the left tonsil enlarged, blocking up about one-third of the passage,—saw several dimple-like depressions in it; no appearance of sloughing, nor opening like that of an abscess. There was some swelling externally, below and behind the angle of the jaw, and the meatus of the ear was filled with what appeared to be a clot of blood, and there had been a discharge of boody serum from this passage.

The treatment had consisted in the application of tannin and of a strong solution of nitrate of silver, by means of a probang, with muriated tincture of iron internally.

No bleeding point had ever been seen by the physician in attendance; the blow was profuse, and syncope came on so soon that there was only time to apply the solution, and the bleeding was stopped. My conclusion from these facts was, that the application had very little, if anything at all, to do with checking the hemorrhage; that the source of it was probably behind and below the tonsil, too distant to be reached by a probang in the condition of the parts; and that it stopped from syncope and the process of natural hæmostatics, rather than from the measures of art.

The course to pursue was plain: ligature of the carotid artery alone offered the patient safety, and this I advised, and advised it without delay. My advice was not accepted. The last bleeding had occurred at 11 o'clock of the previous night; so long a time as twenty-two hours had not before elapsed without a recurrence; this encouraged him; it was evident, too, that he placed great reliance on the application of nitrate of silver—"it had stopped it every time;" and added to this, he was exceedingly fearful of being hurt, and the females of the family set themselves firmly against any operative procedure. I was obliged to content myself with leaving at hand some of Monsell's solution of the persulphate of iron ready to apply, and in obedience to the wishes of others made an application of it then to the tonsil..

I saw him again in the morning. He had passed a good night, and felt encouraged that no further bleeding had occurred. I called the attention of his physician to his pulse, which was of course stronger; and his opinion was that it had never heretofore gained so much strength without the hemorrhage reappearing. I again explained to the patient the frail tenure to which he held his life, and urged the operation,—but in vain. I then recommended veratrum viride to keep the circulation down, and the application of the solution of iron, should the bleeding break out afresh, and took my leave. I was just about leaving the village, had not been absent from the house fifteen minutes, when a messenger came running to say that he was bleeding again. I was but a few minutes in reaching the house, but he had already fainted! I found him propped up in bed, his feet over the side, blood over the bed and clothing, and pouring from his mouth and nose! I made pressure over the carotid artery, placed his head low, held up one of his arms and one of his legs, and got the doctor to make an application of the solution. It was all useless, however; for a few minutes his life seemed trembling in the balance, and once I thought he was rallying,—but a brief period only was necessary to show that he was indeed dead.

Several cases similar to this are given in *Watson's Lectures*, but the rarity of their occurrence renders each one worthy of record; while few instances can ever be met with where life could be more easily preserved by the interference of our art.—*Cincinnati Lancet and Observer.*

Extirpation of the Parotid Gland.

BY DANIEL BRAINARD, M. D., PROF. OF SURGERY IN RUSH MEDICAL COLLEGE.

TIMOTHY BRADLEY, of Fond du Lac, of Wisconsin, aged 45 years, healthy, of good constitution, perceived, when he was 21 years of age, a tumor below the body of the lower jaw. This grew to the size of his "fist," without pain, and was removed in 1850 in Ireland.

About 1858 he perceived it returning in a small tumor behind the ramus of the jaw on the right side. It grew without pain until Jan. 1863, when it presented the appearance shown in the photographic figure. It then extended up to the zygomatic arch, and down to the middle of the neck, forward upon the side of the face, and backwards under the sterno-mastoid muscle, was detached, very moveable, but the skin was adherent to the surface.

Wednesday, Jan. 14, 1863, I removed it in presence of the Medical Class, of Rush Medical College, assisted by Prof. J. W. Freer.

Two incisions were made to embrace the adherent portion of the skin, which was then dissected up, before and behind. I then commenced separating it from below upwards with the finger. This was readily done till the back and upper part was reached, where it involved the external carotid and jugular vein, which were tied below and then divided. The dissection was then completed mostly with a blunt instrument. The upper end of the external carotid artery required ligature, and one branch below. The tumor in its growth had drawn the parotid gland out of its place so that it was not difficult to pass an instrument behind its upper part.

When the tumor was removed, there was a space extending from the articulation of the lower jaw below the corner of the Os-Hyoides. The styloid process, stylo-hyoid ligament, the external jugular vein and internal cerebral artery were exposed, and the space behind and within the ramus of the jaw was cleared.

Prof. Freer, for many years Prof. of Anatomy in the College, examined carefully, and could find no trace of the Parotid gland. The right side of the face was paralyzed.

On examination of the tumor, pieces of the gland in a healthy state were found around the upper edge, below this a considerable part seemed composed of the same tissue altered in structure, which was softened and redder than natural. At the lower part there was a softer granulated mass, which Dr. Freer examined with the microscope. He found no common cells, but rounded granules with traces of ducts.

Without assuming to decide positively as to the tissue in which this disease originated, it is certain that it involved the whole of the Parotid gland, except slight particles above.

To the naked eye the structure of it appeared to be the fibro plastic material. No doubt can, I think, exist as to the removal of the entire gland, which I have removed in two other instances, and the reports of which cases have been heretofore published in this Journal.

The time required to complete the operation was perhaps thirty minutes, The hæmorrhage was considerable, but by tying the external carotid, before dividing it, this was partly controlled. No accident happened to the patient, and in twenty days he returned home with the wound nearly healed.—*Chicago Medical Journal.*

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Sanitary Report---New San Diego Barracks, California.

BY ACTING ASSISTANT SURGEON D. B. HOFFMAN, U. S. A.

NEW SAN DIEGO BARRACKS are situated on the eastern shore of San Diego Bay, nine miles from its entrance, in latitude 32° 39′ 11″ N., longitude 119° 21′ 3″ W. The shape of the bay is not unlike the Greek letter  , divided through its middle, perpendicularly—the short disc representing the mouth, or entrance, and the extremity of the long arm the head. The bay is about twenty miles long, and, on an average, two and a half miles wide. Vessels, drawing 15 to 21 feet of water, can go up the main channel 12 miles, or 3 miles above the Barracks. Smaller craft can easily reach the head, where many fine fresh-water springs are ever bubbling up their refreshing streams. The eastern shore of the bay is generally low, rising slowly, as it recedes back, inland. The soil on this shore is fertile, and where not cultivated is covered with a dense growth of chapparal and luxuriant grass. The western shore is a narrow belt or spit of sand hills, except near the mouth of the bay, where it widens out, and forms what is called "The Island." This island is principally sand, but, in favorable years, good crops of grain have been produced on it. Where it is not cultivated a good growth of wood is flourishing. Considerable quantities of wood and grass can also be found scattered over the "spit" at intervals. The site of the Barracks is very handsome. It is a gentle plateau, sloping grad-

ually down to the beach. On the west are the waters of the bay and the broad blue ocean. On the east, a high and noble chain of mountains, whose tops are covered with fine forests of pine and oak, can be seen. The port buildings and officers' quarters, hospitals, etc., are located near the shore of the bay, and are large fine frame structures, with all the modern improvements, suitable to a warm and delightful climate. Everything, in this respect, could not be better for the health or comfort of the men and officers; and I have no hesitation in saying, that this is the only proper place on this coast for the General Hospital of this Department.

San Diego County extends across the southern extremity of the State of California, and contains about 13,000 square miles. A broad belt, lying along the coast, is adapted to agricultural, horticultural and grazing purposes. The Coast Range, with its numerous spurs, runs through the whole length of the county, and constitutes an extensive mountain district, well supplied with timber, and known to contain a great variety of minerals. There are also many beautiful valleys in this district, well adapted to the raising of wine, grain, cattle and sheep, which, at no distant day, must be settled by a happy and prosperous rural population. The Colorado Desert, level and shrubless, stretches eastward from the mountains to the Colorado River. It lies below the level of the Gulf of California, the waters of which are believed to have covered it at a former period.

The harbor of San Diego is one of the safest and most commodious on the coast. The range of mountains that runs diagonally through, about the centre of this county, from the northwest to the southeast, has a general elevation of from 2,800 to 4,000 feet above the level of the sea. The eastern slope is, for the most part, precipitous and rugged, while the western has a more plateau-like gentle declivity. The lower ranges are covered with various kinds of oak (*quercus alba, q. tinctoria, q. falseta,*) and other kinds of hard-wood trees, commonly found in countries of this latitude; while the summits of the more lofty piles have immense pines (*pinus palustris, p. abies*)

covering them, which, at no distant day, will be valuable for building homes and navies for this part of the world.

There are no rivers or lakes in the county of any size or note. In fact, the Rio Colorado of the West, which is the eastern boundary of the county, is the only prominent stream to be found of any size. There are several other streams that answer navigable purposes in the wet or rainy season, and, at this time, frequently interrupt all communication for weeks; but, during the summer or dry season, are completely absorbed by the extensive beds of silicious sand of which their bottoms are principally composed. To make up, however, for this great and necessary want of a country, we have thousands of *lagoons*, living springs and running rivulets, plentifully distributed all over that portion of the county west of the Desert. The *lagoons* are generally of good size and deep, affording a large supply of wholesome water for irrigation or stock, and seldom dry up. Many of the rivulets, especially in the mountain districts, are sufficiently large for mill purposes. The springs are large, and when protected by a curb, afford excellent and vol uminous supplies of stagnant, wholesome water.

INDIANS.—The Indians which inhabit this section of country, formerly evidently belonged to one tribe. The genuine name of that tribe, when the whites first visited this coast, was "Los Cayotes," and they recognized Juan Antonio, at least so says their history, as their chief. He then resided in the mountains north of Warner's Rancho, at a place called by them "Cayotes." This old chief's family still reside there, and one of his sons is the acknowledged chief of the tribe yet, bearing the same name. It is said, by the early Spanish writers, that the name of this tribe comes from the fact that these Indians, when first discovered, lived mostly in caves or burrows under ground, like the animal from which they take their name; and, I am told that, in the wild mountains, they still live in the same manner. This tribe, at the time of which I write, was probably much more numerous than at present. They scarcely number now, all told, four thousand. The Old Missions, established

here during the latter part of the last century by the Catholic Missionaries, attracted many of them away from their old haunts and hunting grounds. When once initiated at a Mission, as a neophyte and laborer, the influence of that, to the uneducated mind, attractive religion, and the easy mode of life which they led, wholly weaned them from their forest homes. The consequence was, that the once large tribe, acknowledging allegiance to one chief, was divided and broken up into many small tribes. Wherever there was a Pueblo or Mission, there would be found one of the small tribes located in the vicinity, in what they called the *rancheria*. When once settled in this manner, they appear to have renounced all allegiance to their old principal chief, as they chose a chief for themselves, who resided amongst them. But he, as a general thing, had little to do in their government; perhaps, now and then, they would apply to him, but oftener they would go to the civil authority or the priest of the Mission with their complaints, and for redress of their wrongs. Thus they became a disorganized and miserable people, who were slowly allured from one step to another downwards, until quietly subdued by the meanest of motives—mercenary gain—into beasts of burden, "hewers of wood and drawers of water;" for they were made more literally slaves, by the sycophantic priests who once "lorded" it over this country, than the most abject African negro that was ever heard of. Now and then, during this period, some of the more vigorous and active chiefs, ambitious to regenerate their race and retrieve it from the terrible thraldom into which it had been merged by superior but more brutal minds, would essay a revolt or revolution, on a small scale; but Spanish muskets and bayonets easily and quickly quelled them.

After the days of the Missions came another evil, greatly to the detriment of the poor Indian, and which well nigh exterminated them. This evil was the settlement of the country, over which they were used to roam without restraint, by the white man. With the advent of this predominant race came the precursor of the dissolution of the red children of the for-

est, in the shape of "fire-water," and those low, revolting diseases, known only to the low, dirty dregs of society,—rakes, harlots and libertines. At the present time there are but few of them who are not either drunkards, or diseased in such a way that life is but a curse to them. Those that are still living about the towns and missions have assumed civilized habits to such an extent that there is nothing peculiar or interesting about them. Those living in their old haunts, in a still semi-savage state, have many curious and singular customs, habits and traditional legends. Their habits of life are all very simple. They live in villages, often numbering many wigwams or huts. These are generally built by driving long poles in the ground, and bending them over, so as to form an arch; these are then thatched with straw all over, except a narrow hole in one end, which serves the purpose of a door. These villages are usually found near some stream, where there is a sufficient extent of good tillable land, for garden, agricultural or grazing purposes. They generally have a few head of horses, cattle and sheep, and frequently cultivate large fields of grain and fruit. Still they are somewhat nomadic in their habits, spending the summer in the mountains, and the winter on the coast. They also have a custom of coming down on the coast every year, at a certain time, for the purpose of taking their year's supply of fish. Instinct or experience has taught them that, at a certain season, millions of fish frequent the shore of the ocean, from some unknown cause, even to philosophers, and that, at that time, they are easily taken. Rude nets, or seins, manufactured from the tenacious bark of the "*tioñe*" tree, are generally used in taking them; and they are so expert and successful that the atmosphere is rendered pestiferous, for days at a time, in the vicinity of their fishing camps, from the refuse and surplusage, which they cannot cure before putrefaction takes place. This season does not generally last more than two weeks, at the end of which time both the fish and the Indians disappear from the coast for the year. In their conjugal relations they are like "Mormons." When a brave desires a

wife or wives, he, like a true *Yankee*, goes to the parents, and bargains for them, the same as he would go to a store for tobacco or whisky. The price is generally a horse, or the value of one, in something else. Their laws allow them to keep as many wives as they can support, and also permit them to separate, or voluntarily divorce themselves, whenever either party, from any cause whatever, becomes dissatisfied with the other. This, of course, renders their morals corrupt and bad. Fidelity is unknown amongst them, and they think it no sin to "cuckold" their husbands, if they divide the spoils with him. In fact, he is so low in this respect that he will frequently hunt a bargain of this character, that he may get a drink of rum thereby. They have many fêtes or festivals, or, as they call them in their language, "pow wows," during the year. These frequently end in bloody fights, when many are killed. One of these feasts, which I have never yet seen a description of, and which, I believe, is not practiced by any other known tribe, is of so extraordinary a character that I deem it worthy of description. As soon as the young female arrives at the age of puberty she is put, as it were, under guard of an old weman, who closely watches her until menstruation commences. As soon as this is noticed, the tocsin is sounded for a *tatamado* feast. It is obligatory upon the whole tribe to attend on this occasion. As soon as they get together, they first dig a round hole in the ground, large and deep enough to take the poor girl in up to her neck. The whole tribe, except the managers, during this time, are drinking, carousing, and dancing in a circle around the scene of operations. After the hole is finished, it is filled up with dry wood, fragrant leaves and bushes, in such a manner as to be lighted from the bottom. On the announcement that everything is ready, one of the old men of the tribe, a kind of prophet or priest, steps slowly forward toward the pile, with torch in hand, pronouncing, in a loud clear tone, an incantation, which, for sublimity and pathos, is scarcely ever equaled by our more accomplished but less natural divines. As soon as the old man is through, a rude chant is hummed by the whole assembly.

When this is closed, the torch is applied, and as the flames arise heavenwards, the whole circle, on bended knee and uplifted face, pour forth, in unison, a devout prayer for their future preservation from all evil. As soon as this ceremony is finished, the hole is filled or strewed over with fresh green fragrant leaves. The poor Indian girl is then placed, by force, in the hole, and covered, up to her neck, with the fresh earth just taken out. The heat left from the fire is frequently so intense as to make the poor thing writhe and howl with the most intense and burning pain for hours. No matter; the feast goes on, and the howl of the participants drowns that of the victim. She remains in this situation—without any food, or anything else but water, which is given to her frequently and freely, or she would die,—immovably fixed in this hot, seathing, vapor-producing hole for forty-eight hours. During all this time, dancing, singing and carousing of all kinds is kept up by the tribe around her. When she is taken out, of course she is more dead than alive, and she is taken by the old woman to a comfortable place, when she is restored and revived by the "medicine man" of the tribe. This is the signal for the breaking up of the feast, and all retire. Thus the mothers of the fair daughters of the forest "bring out," or notify to the world, that their daughters are marriageable. It is true that there is some difference between this method and the fashionable one now in vogue in bringing out a *belle* in New York; but when one reflects that the same end is obtained—a husband—by either process, it is extremely difficult, in the abstract, to realize the difference. The women, as a general thing, marry at an early age, while the men seldom do so before their twenty-fifth year. Like Zenobia, there does not appear to be much love on either side, and they say that there is no enjoyment in the whole affair, but that it is a necessity of nature for health and for the propagation of their species. But little information can be obtained in relation to their diseases. During the spring and autumn, fevers of different types prevail, to some extent, among them. I have seen them sick with the common

intermittent, bilious and continued fevers. Diseases of the chest, also, prevail to a considerable extent, during the winter months. The exanthematous diseases play sad havoc with them when they come along. Their filthy and exposed manner of living will not do for this class of diseases. Of remedies they have, or at least use, but few. Each Rancheria has a *sweat-house.* This is made by digging a large hole in the ground, and covering it over with timber, brush and earth, in the shape of a cone, making it air-tight, with the exception of a small hole in the top, for the escape of smoke. In this hole, which they dignify with the name of "*sweat-house,*" or *casa de sudor*, when anything is the matter with them, they keep a good fire, which keeps the place so warm that one who enters will, in a few moments, sweat terribly. After the patient has sweat sufficiently to satisfy their ideas of treatment, he strips off his clothing, and rushes out as if mad, and jumps into the river, lake, or some other place filled with cold water. As soon as this becomes insupportable, he jumps out and runs or jumps about, until reaction takes place. After this terrible ordeal, he drinks herb tea, etc., and if he is not cured, repeats the same dose every day, until he gets well or dies. This is the treatment for most of their dseases. Last winter one of them had the small pox: he tried this remedy. It did very well until he got into the cold water, where he died before he could get out. I have seen them come out of one of these *sweat-houses*, seething and sweating at every pore, in the winter time, when there was snow on the ground and ice along the margin of the river—and plunge into the cold water, as if it were nothing. How they can stand the sudden shock, I am unable to discover; but they do it with as much *nonchalance* as a Frenchman affects a duel. For Gonorrhœa they use a strong decoction of an herb that grows very plentifully here, and is called by the Spanish "chancel agua," and wild pigeon-manure, rolled up into pills, The decoction is a very bitter astringent, and may cure some sores, but that it fails in many, I have undeniable proof. In syphilis they use the actual cautery—a living

coal of fire applied to the chancer—and a decoction of an herb, said to be something like sarsaparilla, called rosia. It does not grow in this vicinity, and as I have never been able to get hold of any of it, I can say nothing about its medicinal virtues. It also frequently fails to cure this disease, and they have to get other aid or die. This completes the list of their medicines, if we omit the "charms," etc., which their "medicine men" alone know the value of, and use very profitably at times. The accouchement of the female is somewhat different from the usual mode practiced by other tribes. A few hours before the time arrives, she gets up and quietly walks off alone, as if nothing extraordinary was about to occur. In this way she deceives all, even her husband, and hides herself away in some secluded nook, near a stream or hole of water. At the foot of a small tree, which she can easily grasp with both hands, she prepares her "lying-in" couch, on which she lays down as soon as the labor pains come on. When the pain is on, she grasps the tree with both hands, thrown up backwards over her head, and pulls and strains with all her might, thus assisting each pain, until her accouchement is over. As soon as the child is born, the mother herself ties the naval-cord with a bit of buckskin string, severing it with a pair of sharp scissors, prepared for the occasion, after which the end is burned with a coal of fire; the child is then thrown into the water; if it rise to the surface and cries, it is taken out and cared for; if it sinks, there it remains, and is not even awarded an Indian burial. The affair being all over, she returns to her usual duties, just the same as if nothing had happened, so matter of fact are they in such matters. During the time which I had lived here I have never heard of one of these females dying from the effects of parturition. When any of them die they are generally respectfully buried; but the hut and all the effects of the deceased are burned. Even his favorite horse is sometimes killed and committed to the flames, to appease, as they say, their great grief.

MAMMALS.—Of the animal kingdom we have a very fair va-

riety. The grizzly bear (*ursus Americanus*); the mountain sheep (*ovis montana*); the black bear (*ursus Arctus*); the antelope (*cervus medius*); the deer (*cervus alphus*); the pole-cat (*mephitis plutimus*); the beaver (*castor fiber*); the wild-cat (*felis catis*); the otter (*lutra vulgaris*); the fox (*canis vulpus*); the badger (*mules vulgaris*); the hare (*lepus timidus*); the squirrel (*sciurus Europeus*), and cayotes innumerable abound here.

BIRDS.—The wild goose (*anas Canadiensis*); the mallard duck (*anas boschus*); the teal (*anas querquedula*); the curlew (*numenius longirostris*); the sage hen (*testas uropharranus*); the quail (*tetrao coturnix*); the turtle-dove (*columbana turtur*); the wing-dove (*c. palumbus*); the wild pigeon (*c. megretum*); the blue jay (*cyanæcrax ultramanus*); the pelican (*alea*); the swan (*cygnus Americanus*); the swallow (*hirundo urbica*); the sparrow hawk (*falco parvus*); the mottled owl (*scops Asio*); the robin (*turdus migratorius*); the snow bird (*junco hyemalis*); the meadow lark (*sturnella magna*); the raven (*corvus carnivorus*); the crow (*cervus Americanus*); the English snipe; the turkey buzzard (*cathartes aura*): together with the mocking-bird, the huming-bird, and a large variety of small birds, of which I have never as yet seen a descriptiou. Road-runners, or "runners of the road," abound here. They are a good-sized bird, and are very fleet. They live on reptiles principally, of which the *rattlesnake* appears to be their most luxurious dish, as they are frequently seen killing these dreaded monsters.

FISHES.—Our bay abounds with every variety of the most luxurious fish that are anywhere found in the ocean. I think the fish are better here than in San Francisco, and no one can say that is a bad fish market. The little mountain brooks are well filled with trout (*gila elegans*), mullet and minnows. In the winter season, whale are taken here "off the Heads," in largc numbers. Not less than one hundred thousand gallons of whale oil was made here last winter from this source.

REPTILES.—Of these we, like all warm countries, have a great variety. But, fortunately, the only dangerous species that is

found here is the rattlesnake, and they are fast disappearing. The chameleon, the horned toad, and several varieties of lizards are common. Scorpions are also plentiful, but they are not venomous, and their bite here is not considered more dangerous than the sting of a bee.

TREES.—Along the coast will be found the cottonwood, willow, aspen, oak, and two or three varieties of small hard-wood trees, the names of which I do not know. In the mountains and table-lands adjacent thereto, pine, fir, cedar and mountain laurel, with numerous other small trees, abound. The sugar-pine is also found here; and that genus which Gen. Fremont named *pinus Colorado*, from which the nut, called by the natives of this country, "Pinyon," is taken, is found here in great abundance. These nuts, with acorns, form a large portion of the food of the wild Indians. They also market many tons of them each year, in Los Angeles and this place, where they are considered the same as filberts, peanuts or almonds. Many people think them a great luxury, and prefer them to any other kind of nuts.

GEOLOGY.—There can scarcely be a doubt that the whole of this country is a region of volcanic origin. On the Desert, to the east of this place, there is at work, even to this day, volcanic action; hot water and mud are frequently ejected to the height of several feet; steam and other vapors are continually emitted from numerous springs in the ground. The mountains and ravines, especially where the rocks jut out and overhang, disclose strong evidence of igneous action, although the valleys and table-lands are of a sedimentary formation. The alternate mountain ranges, plains, valleys and table-lands into which the surface is divided, are the results of these opposite agencies. One-fourth of these lands can be made, by irrigation, valuable for agricultural and horticultural purposes. One-half is as good natural grazing land as there is in the world, and is particularly adapted, both in climate, food and range, to the raising of sheep, leaving only one-fourth of the whole surface as waste land. This is a much smaller proportion than many other pop-

ulous and prosperous countries have; and even large portions of this, which is now covered with a dense growth of chapparal, is composed of a rich and fertile soil, which could be reclaimed with much less labor than it takes in other countries to reclaim swamp and heavy timber tracts. The sterility of these lands is owing more to a want of moisture than poverty of soil. Experiments show that, with proper irrigation and cultivation, these lands are capable of growing excellent crops of cereals, and other produce, as well as fine grapes and fruit. Thermal springs abound all over the country, and one of them, situated on Warner's Rancho, is a great resort for invalids. Bathing in and drinking its water is said to cure rheumatism in all its varied forms, and cause sterile women to bear children. The country people believe religiously the latter statement, and, if one could rely on reports, there are some well authenticated cases to prove it. But, as I have never examined the matter, I am unable to speak truthfully in relation to the same. Both useful and precious metals exist here in limited quantities. Indications of gold, silver, copper, lead, tin, iron, platina and coal have been found in different sections of the county, and some of the gold mines have been worked profitably. Limestone, granite, hornblende, decomposed quartz and red sandstone, with now and then a ledge of marble, are frequently found in the mountain districts. In many places along the coast, millions of tons of pure white sand can be found, which will be, in time, valuable for building purposes, as it is the kind and quality sought after for making mortar.

METEOROLOGY AND CLIMATOLOGY.—Strictly speaking, we have but two seasons—the wet and dry. Usually, the wet season sets in about the 20th November, and ends on or about the 20th of April. This, in common parlance, is called the winter season, not because it is cold, but simply because it is wet, or a change from the summer season. During this time there usually falls about eight inches of rain; never any snow, except on the mountains, which are occasionally covered with it for a few days at a time. During the time that they are "snow-capped,"

the winds are very violent, cold and high, and, in consequence, the changes in the temperature are sudden and disagreeable. The summer is, generally, very equable. The heat, throughout the day, is steady, seldom rising above 80°, and the nights are always cool enough for winter bedding. Our climate, along the coast, is so very mild, healthy and equable that we seldom have a frost that does any damage, except, perhaps, now and then, to the more tender plants. Everything in the shape of vegetables and fruit ripens here without the least trouble or hindrance from this cause. In the mountains, of course, it is somewhat colder, but I believe it rarely freezes sufficiently to form ice, anywhere there, in the habitable altitudes. For health and pleasure there is probably not a better climate on the globe than we enjoy.

DISEASE.—For nearly two years the command stationed at this port has been so healthy that there has not been a natural death from disease. During this time, one man was shot for mutiny, and another was accidentally drowned while out sailing in a small boat on the bay. The primary diseases of this locality are fevers and rheumatism. Of the former, we occasionally have all of the different types; but I think, from my experience, the bilious-remittent type is more prevalent than any other. All fevers here are of the asthenic character, and, in most cases, readily, when attended to in time, yield to the usual remedies. Rheumatism seems to be indigenous to the soil, every one complaining of it, more or less. It is probably owing to the humidity of the atmosphere, along the coast, that causes this disease. However, it is seldom fatal, and usually quickly yields to ordinary treatment. Wearing flannel next to the skin, the year round, is a sure prophylactic. During the fall months, when fruit is largely eaten by the population of this county, diarrhœa and dysentery prevail; but it is generally of a mild type, and readily succumbs to treatment. Of the whole number of cases treated, more than two-thirds of them have been of a venereal character. This loathsome and disgusting disease is rendered prevalent by the pernicious intercourse of

the men with the dirty, filthy, low, drunken squaws, which infest the locality of the town and camp. Syphilis and gonorrhœa, contracted from these low Indian squaws, is always of the most virulent type, particularly gonorrhœa, which sometimes defies all treatment for months. I have treated twelve cases of syphilis with podophyllin, in the place of protiodide of mercury. In one case, salivation was produced. Seven of the twelve cases, including the one in which salivation was effected, yielded readily to the remedy, and apparently made good and satisfactory cures. The other five were not promptly affected by it, and I resorted to the old mercurial treatment for a cure. Mercury, used judiciously, has never, as yet, failed in my hands, of curing the worst cases, while podophyllin frequently has. I do not think that podophyllin can be relied on as a specific in this disease. I give ¼ of a grain twice a day, for three weeks; if, at the end of that time, no perceptible effect has been produced, I change to the old mercurial treatment. The last-mentioned diseases, together with intemperance. are the bane of the soldier's life at this post, as there is nothing else in this locality to cause sickness among them. Variola paid us a special visit last spring. Owing to good police arrangements, however, no cases of it got into town or camp. Many of the country people and Indians, living in some of the distant localities of this county, died with it, after which, with the advent of summer, it disappeared.

Introductory Lecture, delivered at the Opening of the Course of Lectures of the Medical Department of the University of the Pacific, Session of 1863—'64.

BY JOHN F. MORSE, M. D., PROFESSOR OF THE THEORY AND PRACTICE OF MEDICINE.

GENTLEMEN—The circumstances under which we meet to-day are thrillingly interesting and important, yet necessarily somewhat embarrassing, from the mutual solicitude which impinges

upon the minds of speaker and hearer. As pupils, mining after an intelligence that can be chrystalized into graceful and sovereign usefulness, you have a right to look with jealous eye and critical care into the promises of any change involving an experiment in teaching.

As a teacher, I feel the weight of a fearful responsibility bearing upon me, and yet I am compelled to acknowledge that the assurance of adequate ability yields no fullness of inspiration, and that something more than the apparitions of anxiety and failure darken a prospect too rashly incurred.

But, gentlemen, we are enacting a new scene in stirring times, and something of the martial spirit of the era may infuse itself into the peaceful realms of Medicine. Hence, with the consequences visibly portrayed, I declare to you, that I accept the critical and indurating maxim, that "Success is the surest and best test," not only of generalship, but of any kind of teaching. Therefore, if upon the peninsula of our Science, you find me, for one, sacrificing men, losing battles and changing base, let the authorities supersede me with a Pope even, and my murmurings shall not obstruct the pathway to a greater success.

Perhaps, in our relative position, the advantages may prove too predominantly upon my side. In two respects, I am quite sure my position will be more immediately profitable than yours. First, because the authority by which the position has been acquired enables me to accept a fee without presumption; and, second, because there is an immutable law by which a teacher learns more rapidly and profitably, when propagating information, than students can learn by being taught. Thus have I a double advantage, and although, in the first particular, I may not urge an inexorable demand, yet, in the latter advantage, I hope to demonstrate the tenacity and avarice of a miser.

Together we have met to engage in the process of Medical Education. A grand and glorious enterprize, not only on account of the sublimated principles which wisdom, and industry, and truth, and the purest humanity have transfused into the system, but because it takes men to achieve the objects of a call-

ing so ennobling in purpose, and yet so trying and dangerous in the labor it entails.

It may be discouraging, in the onset of your toils, to indulge in a bold, telescopic view of the absolute status of Medicine and Medical Education, as we find it photographed and shaded by public sentiment.

But when you became the votaries of Science, you forfeited the policy or right to propagate or perpetuate either errors or illusions that were susceptible of dissipation.

It would be, therefore, wrong for me to inspire you with the idea, that the domain of Medicine was an elysian field, or flower garden, in which labor, and besetments, and dangers were entirely displaced by the spirits of luxury, ease and contentment. The truth compels to the declaration that no profession is as completely beset with difficulties or overrun with inextinguishable monsters.

No muscular gentleman or Grecian hero can sweep from the purlieus of Medicine the hydra-headed beasts that surreptitiously steal away the food that belongs to the lineal descendants of Æsculapius and Hippocrates.

The evils that spring up and fatten upon our enshrined science of philanthropy, possess a life so peculiar, that through opposition they acquire strenghth, and from wounds the most marvellous powers of reproduction.

What were the twelve labors of Hercules? What he killed he destroyed. What we kill we perpetuate.

The Nemæan lion, which ravaged the Mycænian country, blighting life and destroying security, although more of a brute, was not half so bad a beast as the Hahnemann slander, which opposition warmed into life, and which, without it, would have been like Hercules in the fatal philter of Nessus.

Education is designed to so develope and discipline the mind as to adapt it to some important office in life; and it was, therefore, quite natural that some one should declare that

> "Education forms the common mind,
> Just as the twig is bent the tree 's inclined."

This quotation we use for the double purpose of declaring the force of education, and its inevitable results as illustrated by the signs of our progressive history.

With the poet we believe, without any time-serving reservation, that it is education that forms the common mind; that, *according to the education*, you will find the ability and the movement, not only of the man but of the masses.

If this be admitted as a fact, the importance of its application to Medicine needs no argument; for, of course, in proportion as the subjects of education are the designed subjects of responsibility, in such a proportion, by all old methods of reasoning, should the means of education be carefully applied.

By this rule, I conclude that the education of medical men is one of the most important, sound and sensible subjects of consideration that can occupy the attention of really rational beings.

I wish you to understand, however, that this opinion, perhaps indiscreetly expressed, is not designed as a tilt of irritation to the present received theories and practices upon this subject.

It would, perhaps, be better to consider this as an opinion, expressed in the abstract, and that our reflections appertaining to Medical Education, are really *post mortem;* that the subject itself, so far as it relates to a sound, sensible, exalted and sublime system of professional education, is, by popular voice, truly and especially dead.

In the abstract, at least, we may affirm, that the education of medical men is above all parallel in its comparative importance, so far as it refers to the physical and social interests of life and society. No man in his senses will deny this as an abstract proposition. And how sublimely, how like the spirit of philanthropic heroism in philosophy does the literature of Ancient Medicine speak upon this all-important question. It imparts the thrills of romance, and makes one almost discontented with the age of *improvement*, in which men and women are born with such self-maturing intellects, that capacity and fancy are co.extensive and co-equal, and the facility for exchange of occupation so complete, that, whereas, Mr. Smith, who was yes-

terday shoeing the horses of an eminent physician, is to-day writing prescriptions of relief upon the very altars of one of the most complex professions that Art and Science ever constructed.

Thus, irresistibly, we glide off into digressive reference to the progressive present, and when we would lose ourselves in a contemplation of the philosophical grandeur that surrounded old-fashioned theories of Medical Education, our very senses are confused with the clatter of machinery, the blow-pipes and galvanic-batteries, waltzing-furniture, steam-presses and hydraulic forces, by which the system of making physicians is so much simplified in this heroic age of utility and progress.

But if we cannot practically follow in contemplation the glorious LIGHTS, the gorgeous and life-giving LUMINARIES, who beautify the horizon of Ancient Medicine with inextinguishable radiance, we can, and may plunge ourselves into the romance of a theory, which progressive enlightenment has almost declared impracticable, useless and unnessessary.

Borrowing, therefore, the license of romantic literature, let us declare, with vehement emphasis, that

"Poeta naseitur non fit,"

cannot, and never will be applied, except by asses, to medical men. Nature, not study, may possibly make a poet, but it can never make a physician. Nothing but study, persistent and perpetual, aided by kindly endowments of nature, can make a proper representative of the divine, God-inspired pursuit of *Medicine.*

The student of Medicine ought, at the beginning, to be the embodiment of a moral code of ethics which would incline him to all the stern and inflexible virtues of human life. He should be ambitious, yet scrupulous; confiding; yet excelling all in secretiveness; impetuously kind in feeling, yet conservatiely cool and strong in deliberative judgment; generous and prodigal of attentions, yet almost infinite in his discernment of proprieties; supreme and invincible in moral tact, yet an abhorrer of

mean and unnecessary dissimulation; irresistible in the spirit of analytical inquiry, yet adroit in preventing disclosures which are not essential to the subject of his investigation; a mantle of charity to the weaknesses and vices of society, yet an uncompromising vindicator of chastity, virtue and honor; abiding in firmness, assiduous in study, untiring in zeal, self-sacrificingly constant to the stern and often embittered mandates of heart-warming, soul-stirring philanthropy. With such native qualifications, he should be subjected to a primary education, that would impart the greatest amount of mental vigor and really useful information.

In the accomplishment of his purpose, I would urge no exceptions to the prevailing system of education, in the ordinary schools and universities of the nation,—unless it were to respectfully suggest, that if Hebrew and Greek were superceded by German, French and Spanish, we would take a step in progress, which, in my opinion, would result in endless benefit to Medical Students.

This stage of education passed, and the student then commences a career of study, which is to qualify him for the sacred and gallant guardianship of the citadels of human life—that boon of mortality, which is so intensely cherished when in danger, and so miserably appreciated when apparently resting in security.

With such objects, and such responsibilities in view, what course of care and system of discipline should we resort to in achieving the highest standard of qualifications? In my opinion, the students should enter the offices of experienced and established practitioners of medicine, whose libraries afford them good opportunities of study, and whose business give them the daily means of acquiring familiarity with the details of practice. From the first to the last day of student-life and preceptorship, there should be a daily recurring and ever-varying clinical illustration of the *theories*, *principles*, *maxims* and *manners* of medical men.

Not a mere reciprocal interest between student and preceptor, but that generous, sound and sensible community and

neighborhood interest, which prompts a father and mother, when accumulating and transmitting the elements of usefulness and protection to their cherished, heart-worshipped offspring.

The student should have the opportunity of witnessing the investigation of cases, the evolving of symptoms, of hearing diagnoses, of examining prescriptions, or putting up medicines; of assisting in operations, of performing minor surgery; of nursing particular cases; and, in surgery, as soon as possible, to be inducted into a familiar knowledge of the responsibilities of his profession. This cannot be done, except by a common-sense co-operation upon the part of those who make up the patronage of medical preceptorships.

When the student has passed through the incipient stage of his study, then, we believe, he can be immensely benefited by varying the process of teaching; and this can best be done by his attending a regular course of oral instructions in some college or university of medicine, in which the really great and absolutely practical principles of the profession are being continually reiterated and varied by eminent, conscientious and learned men of the important calling.

In these institutions, everything should be done that is within the bounds of possibility, to open and enlarge the area of absolute clinical instruction and observation. The universities of medicine, besides the inestimable advantages they have of demonstrating many important branches of the profession, have, at the same time, a glorious and salutary effect in evoking the ambition of students, and giving tone, beauty and grandeur to the great objects of their profession.

Two full courses of lectures in these institutions, with a properly demonstrated advancement in medical knowledge, should entitle a man to an endorsement of rank and character, which would not only be a guaranty to the public, but which would be, at the same time, a well-spring of satisfaction in the retrospection of after-life and practice.

With the people of the U. States, nothing is more repugnant than a monopoly of office and rank. It may do for steamboats

and railroads, but it cannot be tolerated as an arrogant dictation as to who shall be the honorable—the titled noblemen of the day.

In this respect we claim the distinction of contending for the largest liberty to the largest number This is indeed a distinction which the people have acquired by gradual experiment, until it has become universal and irresistible.

In looking over the statutes of the different States, one is struck with the visible and insidious similarity of progress which has been made in the legislative protection of our profession.

At first, the almost uniform rule was to restrict the practice of Medicine to the few who had been regularly educated by old and established methods of qualifying men for practice.

Soon, in the progress of improvement, these inhibiting statutes were so amended, as to open the door to that class of diffident and innocent doctors, whose system of practice was confined to the *simple* use of roots and herbs,—or, to accommodate the more reckless group of men who were ready to engraft an innovation upon regular Medicine, through the medium of steam and cayenne pepper ; or, peradventure, to make room for those intellectual gentlemen, whose inspiring medium of diagnosis consisted in the color, odor and taste of urinary excrements ; or to secure that gigantic stride in progress which sprang, sugar-coated and Minerva-like, from the maniac brain of Hahnemann, and which, by opposition, grew into a monster more omnipotently infamous than all of the evils that succumbed to the giant arm of Hercules.

These statutory changes constitute a great feature in American legislative Medicine. The abominable shackles which had, too long trammelled the independence of public sentiment, had, at last, yielded to the invincible modern Geryon of Medical Science. The Spirit of Emancipation had entered the legistative heart of our country, and written upon the broken tablets of Ancient Medicine the classic modern adage of "Bowels loose and fancy free."

From this period, legislative bodies, so far as Medicine was concerned, became so entirely fancy-ridden, that any uniform legislative policy for the protection of Medicine was entirely out of the question.

Some few antiquated but vanquished sovereign representatives, still clamored for the prerogatives of calomel and jalap, some for steam and pepper, some for roots and herbs, some for dietetic confinement to grass and vegetables, some to Indian specifics, some to the suggestive indications of urinal secretions, some to Hahnemannic confectionaries, some to chrono-thermal hypotheses, some to clairvoyance, some to spiritual mediums, and some to the unaided unction of faith in Nature. These are the legislative aids of our sovereign States, under the progressive pressure of a manifest destiny.

And as the legislatures are but the reflex of popular will, moulding sentiment into law, and incorporating the popular mind in statutory axioms, the profession of Medicine, like all other sciences, must accept the destiny, and learn to glory in an age of universal and reciprocal intelligence, by which modern genius has opened railroad communication to the empyreal sphere, and through the aid of which, every man, woman and child can afford cabin passage to the hill of fame and the temple of Science.

Medicine, popularly considered, is now the subject of fancy, liberty and universal equality. The age is one of fancy, caprice and imagination. Go where you will, come when you may, look out upon society from whatsoever point of view, and the prospect is always the same.

There was a time, but thanks to manifest destiny and enlightened progress, almost forgotten now, when the old system of medical education imparted a most unjust and monopolizing importance to the title of Doctor. Then the simple enunciation of this appellative of rank, would not fail to elicit from all within its hearing tokens of special respect and personal homage, unbecoming to the genius and age of our country, and which, if permitted, could not fail to chafe and irritate that spi-

rit of equality, that, to enlightened society, is as soothing and pleasant as emollient poultices to carbuncles and boils.

The title of Doctor, heretofore monopolized by a few educated men, is now used in a more liberal and generic sense. It has increased in function without diminution of lustre. The only inconvenience under the new regime, is the variety of occupation and characters that respond to the term. In ancient times, when one called for a *doctor*, he was answered only by a single class of men, whose lives were devoted to the occupation of relieving the sick, and whose education had been unwarrantably and stupidly devoted to that single calling.

At the present time, when the term doctor is called, it evokes the involuntary attention of gentlemen inspired with the necessary capacity for making bread and cooking potatoes, or sable votaries of Science, who pass soup at dinner ; of the errand-boy of a drug store, of any spontaneous vender of medicines, of some self-instructed tooth extractor or bunion extirpator, of some extemporaneous attendant upon the maladies of quadrupeds in general, of some learned individual to whom has been assigned the intricate duty of doctoring laws, or some ambitious subject of theology, who would not hesitate to engage in the questionable propriety of doctoring divinity, or of that murderous group of wretches who make up the despicable and rotten purlieus of empyricism, under the guidance of the Sangrados and Hornbrooks of the modern age of improvement in the character and system of Medical Education.

This is the condition which has resulted from the operation of American manifest destiny, from the preponderant fondness of the American people for office and titles, and from the immense comparative importance of evanescent show and dollar-making, over the claims of intelligence, good health and human existence.

This is the system of medical education, or rather the fruits of a medical education, which is rampant in popularity in the nineteenth century.

Under the influence of such popular characteristics, I acknowl-

edge, with painful sincerity, that there is more encouragement, from social sentiment and support, awarded to infamous ignorance, to stupid and unalterable impudence and recklessness: that there is greater fortune, more quickly acquired, by the Augean slaughterers of human life, than by the disciplined, studious and eminent laborers in the field of legitimate medicine, which the Almighty has opened by a key of science, and which, in the cultivation of ages, has become as perfect, as salutary and glorious, as any occupation of the mind of man.

But, gentlemen, money obtained in a learned profession by clap-trap, or rank acquired by imposture, has no fascination in the eye of Science, or the humanity of the heart.

To earnest, soul-inspired, legitimatized students of Medicine these defects of society are not depressing agencies; on the contrary, they are exhaustless sources of stimulation, firing the heart and inflaming the mind with an insatiable ambition for that kind of mental power, that quality of real scientific leverage, that scope of stolid, over-looking philosophy which rears its subjects to an elevation of an unqualified fame, honor and glory.

Fortunes luckily or rapidly acquired are almost always stupidly managed and speedily lost; positions illegitimately obtained are but popular guillotines in abeyance, for the slow and steady torture of men and women, whose brains have much of blossom and little of fruit; rank hypocritically achieved is a crown of thorns worn upon the heart instead of chaplets, emerald and glorious, upon the brows of merit. Great character, grand usefulness, electrical reputation, praise that never dies in echo, conscience that never agitates, honor and ability which, like the diamond, gleam most under the severest attrition,—these are the exclusive heritances of bold aspiration, untiring industry, and the magic power of expanded and expanding intelligence.

Intelligence, which no man gets by intuition, which cannot be acquired in a day, or month or year, which is within the reach of any man, who wears, in affiliation with his desires, a heart of bravery and a will of iron.

What was the beginning of John Hunter, of Sir Benjamin Brodie, of Nathan Smith, of Daniel Drake?

We are told by the biographer of John Hunter, that the most patient and laborious efforts were made to teach him a knowledge of the Latin language, but it proved impossible to invest him with a rudimentary understanding of it. And again, after persistent struggles to make him a good English scholar, it is affirmed that the ploughboy and sheep-tender of his father's farm surpassed him in reading, writing and cyphering. Yet, when Providence placed him in his brother's dissecting-room, and put in his hands a scalpel and subject, the manacles of a giant's mind were broken, and an intellectual force exhibited which never was surpassed in the history of man.

Dr. Nathan Smith, we are told, was reared an unsophisticated country boy, with a limited education, and whose irrepressible genius first found employment in stealthily breaking the legs of his father's lambs and sheep, and then humanely offering to patiently mend them. And yet, with all his disadvantages, he reared himself into an immortality as enduring as the history of his country.

A friend assures me that Sir Benjamin Brodie entered his profession with the burdens of poverty and obscurity upon him —that, when commencing practice, he rented a pent-up room on the fourth story, and from this he wrought his way down to the understanding of society, and from thence to a baronetcy and glory of an almost unsurpassable grandeur.

And of Daniel Drake, who was poor and untutored, and who has placed our profession and country under everlasting obligation, his biographer says: "Thus, it will be seen that his alma mater was the forest; his teacher, nature; his class-mates, birds, squirrels and wild-flowers."

Along the pathways through which they traveled steadily on to fame and imperishable glory, there was, for years, no ray of inspiration, which is not now beaming, with benignant and wooing encouragement, upon your aspirations. What they achieved, you can achieve. What they accomplished, you can accomplish.

Not by wishes, not by unproductive, passive or indolent desires, but by earnest labor; by tireless enquiry; by bold investigation; by struggling memory; by stumbles and recoveries; by conceits and mortifications, by the aches and pains and throes and agony, through which only is true greatness and lasting merit ever born into existence.

The greater the defects in prompt and assisting sympathy, the more impervious to merit the perceptions of surrounding observers; the oftener heroic energy is sent back to obscurity, to silently bewail, and, perchance, to weep over the injustice of a perverse and cruel prejudice, the more glorious, purified and incomparable is the final chrystallization of success.

The imperfections of society to which we have alluded, which bear so heavily upon the profession of Medicine, upon all science and eminence, that cannot be purchased with money, or conciliated by the adventitious aid of some form of spiritualism: these defects and weaknesses of mankind, which are forever peering after some open carriage-way to fame, some level and direct road to super-eminence and knowledge, cannot sully the true glory that fires the heart, clears the intellect, and hallows the pathway, death and memory of the really great and good and learned men of our noble profession. No! no! The title of Doctor may be applied to all the Cryptogamia that ever sprouted from dung-hill quacks or fog-ridden muck and mole empyricism; it may be poured forth upon the masses from water-fountains, or clairvoyance, or table-thumping; it may become a by-word and popular reproach, hissed and hooted, dragged in the dirt, or contumeliously spat upon, and yet it will sit, like a diadem of imperishable fame, upon the brows of every man who makes himself a zealous and efficient worker in the benevolent and unrequited Science.

The great heart that becomes entranced with the beautiful and balmy smiles of Medicine,—the mind that mingles in rapture with principles of a Science that was born in philanthropy, that comes to us freighted with accumulated wisdom, which bears the imprints of immemorial good-neighborhood and

uncorruptible philosophy,—the generous soul that derives its lessons of duty, more from the divinity of the calling, than from the sordid compensations that follow the application of its powers of relief, cannot fail to be contented and happy here, and, in my opinion, will acquire treasure and rank in heaven, which shall not be lost amid the shadows of death nor the gloom of the grave.

Duality of Consciousness.

BY THE EDITOR.

In the practice of Medicine, phenomena are often presenting themselves to the observation of the physician, which serve to remind him of how very little there is really known in reference to the intimate or more delicate organization of the human body, and especially of its psychical nature. If, in the normal healthy state of the body, there is much to excite our admiration in the action of the mental powers, even still more wonderful and mysterious are some of the phenomena of the mind as exhibited in the body while laboring under the destroying agency of disease.

The following case is one of those incomprehensible phases of mental pathology, of which instances, though some have occasionally been seen and recorded, are exceedingly rare. A patient was admitted into the wards of the St. Mary's Hospital for treatment for Phthisis Pulmonalis. The disease within itself presented nothing remarkable, and finally terminated fatally. Several weeks, however, previous to the man's death, his mind was constantly annoyed by a most singular delusion. He imagined that he was constantly accompanied by another man, who was, at all times, beside him, and, as he thought, was a sharer and participant in all which he did or suffered. For example, in taking his meddicine, he thought that his friend always swallowed a half of his dose, and hence, when his solution of hypophosphites of soda and lime failed to benefit him, he would impute it to the circumstance that he himself had had but half of the amount ordered. Likewise, when he ate, he conceived that his friend ate and drank half of

his meal. At all times, when questioned in reference to the matter, he said that he was well aware that there was no one by him, but still the idea was so deeply impressed on his mind that it appeared to be a reality, except when his attention was specially directed to it, when he knew well that it was a mere delusion. Often, during the night, he would hold a conversation with this second person ;—on asking a question, finding that he received no answer, he would become quite petulant or irritated. The patient was quite sane and intelligent upon all subjects, and even, it might be said, on this, since he knew that this second person, or "friend," as he called him, was wholly imaginary. A remarkable circumstance, in respect to his friend, was that, a short time preceding his death, he felt that he was forsaken by him—a fact which he interpreted as foreboding his dissolution ;—his apprehensions were true, as he died a few hours afterwards.

This case may be classified with those singular instances of duality of identity, which have occasionally fallen under the eye of the mental philosopher ;—to what encephalic lesion such disorder might be referred, it remains for the future histologist of the brain to determine.

New Remedy for Boils, &c.

TINCTURE of Iodine, *double* strength, of the formula given in the United States Dispensary, applied thoroughly to boils, bunions and carbuncles, will cut short the suppurative stages more than one-half, as well as relieve the patient of all pain. All of the feverish symptoms, with alternate agues, chills and unpleasant feelings in the same, that are met with in delicate females and other persons, are relieved almost entirely by the first application. The soothing action of this remedy appears to be on the principle of absorption, *i. e.* the exosmose theory of Dutrochet. The quantity of matter is also much smaller when this remedy is used than under other treatment. D. B. HOFFMAN.

San Diego, Cal., Oct. 14, 1863.

Singular Case of Injury to Posterior Wall of Pharynx.---Recovery.

DRS S. HEAP: T. H. WARDLEWORTH.

ON the evening of May 21st, Dr. Heap was summoued, in a great hurry, to see a child, which had fallen from a cart, whilst playing thereon. The child had in its hand a stick, about 18 inches long, and half an inch in diameter, which, during its fall, had entered the mouth, and passed in an oblique direction, grazing the tonsil of the right side, and passing backwards, entered the posterior wall of the fauces, making its exit between the sterno-cleido mastoideus and trapezius muscles, but nearer to the insertion of the latter muscle. The symptoms and treatment were as follows: Laryngitis with irritative fever were manifest, commencing with rigors, hoarse voice, husky and spasmodic cough, the respiration difficult and somewhat sonorous; the fauces around the wound were more or less thickened and inflamed; the epipglottis suffered in a similar degree; pulse hard, full, and about 120; face flushed, with hot skin, and other usual symptoms of laryngitis.

Treatment.—Tartar emetic was prescribed in nauseating doses, with full doses of the tincture of hyoscyamus on the first day, and warm fomentations applied externally.

May 2d.—There is a manifest improvement in every respect; the inflammatory symptoms still continue, but are more modified; breathing and cough much reduced; the wound is doing well. To continue the treatment.

May 3d.—The patient appears to be still improving, and the laryngeal symptoms are ameliorated.

May 4th.—The treatment is still being continued, and I have no doubt but what suppuration or an abscess will form externally. To continue the use of fomentations.

May 5th, 6th and 7th.—Still progressing favorably.

May 8th.—Fluctuation is evidently perceptible on the right side of the back part of neck. Ordered linseed meal poultices, to be applied four to five times daily.

May 9th.—The abscess was opened this morning, and about four ounces of pus escaped. The patient was put on a nourishing diet, with port wine and cod-liver oil, the child being of a strumous diathesis.

May 10th.—This morning there is almost a total disappearance of laryngeal symptoms, and the opening shows a tendency to heal; the contents not being entirely evacuated, a tent was placed in the orifice.

May 11th.—There is scarcely, if any, fluctuation perceptible, and a quantity of matter, in fact nearly all, having escaped during the night, it was deemed advisable to permit the opening to heal, which was accordingly dressed with ungt. simplex.

May 12th.—There is this morning every improvement that could possibly be desired; the wound appears to heal very kindly, and the constitutional symptoms have totally disappeared. The patient is still continuing to partake of a nourishing diet, with cod-liver oil and wine.

May 13th.—This morning Dr. Heap received the pleasing intelligence that the infant's parents deemed it unnecessary for further medical attendance.

The few remarks that I have to offer on this case will not, I trust, occupy too much space in your valuable journal, for I have no doubt but what our professional brethren in tho Far West will agree with our opinion, that this is an interesting and peculiar case. I only wish it had fallen into abler hands than mine to have reported it; but, however, I have stated precisely how it occurred, and carefully recorded its treatment, although rather hurriedly, for want of sufficient time to do so. It is quite evident that, had the stick inclined one-quarter of an inch more towards the left angle of the mouth, the opposite extremity would undoubtedly have penetrated the right tonsil, and, in all probability, it would have punctured the internal carotid artery. And, again, the fact of acute laryngitis setting in, is rather an unusual result of injuries to the pharynx. Probably the strumous nature of the child's constitution might have had a tendency to produce the laryngitis, as I have frequently seen, in a great number of cases of injuries to the throat, and where the patient has been of a strumous diatheses, either pulmonary or laryngeal mischief, but more of the former, that is, congestion and inflammation of the lungs, and in a few cases laryngitis. From what has already been remarked about this rather unusual case, it will appear that the external wound healed remarkably kindly; but I am fully convinced, and

perfectly agree with the opinion of Dr. Heap, that, had not suppuration taken place, and the abscess pointed externally, that the probabilities are, death would have inevitably ensued. One remarkable feature in the case is, that there was a total absence of cerebral symptoms; in fact, the child was entirely sensible throughout, which is not often the case where a fall of some feet has taken place, and more especially in this case, as the head came in contact with the ground, incurring the liability of very severe puncture to the skull.

Rochdale, England, Sept. 26, 1863.

Salt as a Necessity in Food.

I SEE that Headland, in his work on the Action of Medcines, says that Salt is actually necessary as an article of food to the human economy. I am constrained, very much against my will, to doubt this high authority in this respect, from the following circumstance: While I was on my route across the Plains, in the summer of 1849, it frequently so happened that the wild Indians of that country visited us in camp. On many occasions, I myself have offered them some surplus article of food left by us after our meals. Soups and meats, cooked in our usual way and seasoned with salt, they would invariably refuse, after tasting, saying, in their own language, that it was not good. Of the same kind of meats, cooked without salt, they would always eat heartily and with a gusto. Bread, hard bread, crackers, etc., they would also eat. But anything that they could taste salt in, they invariably refused. There can be no mistake about this, for I have tried them myself—frequently when they looked furiously hungry,—and they would never partake of the least thing that had salt in it in sufficient quantity to be tasted. It may be necessary to the civilized races, from habit or custom; but that it is actually required for health, or that the omission of it from the food, causes bad con-

sequences, and vitiates the blood, &c., is, I think, erroneous. A more athletic, hearty, stout and robust class of men cannot be found in the world than these very Indians of whom I am writing, who never use this article in any shape. Many of them are more than six feet high, others of medium size, and they will endure more hardship, stand more fatigue, have better lungs, suffer less from sickness, live longer, on a general average, than the white race, who have all conveniences. I may be mistaken, but I am of the opinion that salt is not a necessary requisite to a good natural state of health, *i. e.* such a state of health as a farmer, who "eats to live," should have. Should this matter ever be thoroughly investigated, I think it will be found that the real cause of this necessity for salt is from our unhealthiness rather than from our healthiness. In other bands that we saw, it is an article of medicine rather than an article of food.

D. B. HOFFMAN.

San Diego, Cal., October 14, 1863.

Fungous Growths Probably Cause "Camp Measles."

To Prof. L. C. Lane M. D., Editor San Francisco Medical Press:

WITHIN the past three weeks, I have had under my care, as Medical Officer at this Post, six cases of *Rubeola*, or "Measles," occurring among some of the enlisted men of the 1st Cal. Cavalry Vols., now stationed here; the cause of which I think worthy of note, at least what I deem to be the probable cause. My reasons for communicating the facts to you, are, that the causes to which I attribute these cases, I have never seen assigned, in any medical work which I have read, until I came across "Surgeon General Hammond's work on Hygiene," in which are reported some "*Researches and Experiments,*" *made by* "*Dr. Salisbury of Ohio,*" *upon the* "*Morbific Influence of some of the Fungi.*"

It is therefore not the simple occurrence of the disease which I purpose reporting, but the mystery, which, to my mind, at first seemed to envelop its visitation in Camp, for it was not then known to be, nor is now, prevalent, in the community in this vicinity.

When the first case presented itself, I instituted diligent inquiries, to ascertain the cause or origin of its appearance in Camp, but my researches were fruitless and unsatisfactory, and not a little annoying, as it is natural to any one who seeks to reason from cause to effect, and *vice versa*. Particularly so, would it be to a medical man, who is obliged to resort to that system of reasoning in all his professional labors.

The first case which presented itself to me was that of a private soldier, æt. 35, who had never had the disease before. He had not been outside of Camp for four weeks prior to the day he was taken, neither had he been exposed to the influence of contagion through any visitor to the Camp. On the evening of the same day on which the above case was presented to me, another soldier presented himself with it. Eight days subsequently three more were taken with it, and two days after that another, making in all six.

I do not deem it necessary to enter into a detail of the course, type or treatment of the cases, as they were simple, and uncomplicated, and yielded readily to an antiphlogistic treatment. Two have been returned to duty for ten days, the others are at present entirely convalescent.

That the last five cases were produced by contagion from the first, may be so ; that I shall not discuss. The cause of the first case, was, as before stated, to my mind, shrouded in darkness, and I was forced to console myself with the opinion that it was "*sporadic.*"

I basked myself in this semi-happy conclusion, until a day or two since, while reading the very excellent work of "*Surgeon-General Hammond on Hygiene,*" I found that "*Dr. Salisbury of Ohio, in his researches and experiments, had conclusively proved, that a disease characterized with all the phenomena of "Measles,"* could be produced by inoculation from the "*fungous growths which attach themselves to wheat-straw in a mouldy condition.*" I am now of the opinion that the true cause which produced at least the first, if not all the six cases which have come under my care, is the old straw used by the troops for bedding. Many of the men lie on the same straw for months at a time, which, though in sacks, are laid on the bare ground. This is, of

course, productive of mouldiness in the straw, and, in fact, fungous growths. Now, if the remarks advanced by Dr. Salisbury are correct, and they certainly are supported by stated facts which seem incontrovertible, I do not entertain the least doubt but that the first case which occurred here, is due to a mouldy condition of the straw upon which the subject slept.

Each enlisted man is allowed by the Government twelve pounds of straw per month, for bedding ; and not for this reason only. but for general sanitary measures, he should be obliged to entirely change the straw in his bed-sack monthly.

I devoted great care and attention to the cases above alluded to, but could not distinguish any perceptible difference between them and those said to be produced by specific contagion.

If the statements above recorded are proved by ample and continued experience to be correct, many valuable points in thc ætiology of diseases will undoubtedly accrue, both for the honor and satisfaction of the medical profession, as well as for the benefit of the human family in general.

No doubt many causes of diseases, now hidden and unaccountable, will be brought to light by inquiring and persevering minds in this vast domain of scientific investigations.

My professional duties will not allow me to delve into an elaborate disquisition upon this subject, and I must, therefore, content myself with the simple narration of the facts stated, leaving the field of investigation to those who can command more leisure time.

In conclusion, I express the hope that these few disconnected remarks may suggest further investigations and observations on the part of those directly interested in the honor, fame and success of the medical profession. Very respectfully yours,

J. E. KUNKLER, Asst. Surgeon 1st Cav. C. V.

Camp Stanford, Stockton, Cal., Nov. 16, 1863.

Interesting Case of Medical Jurisprudence, in which the Right to a Large Estate depended upon the Fact of the Wife's bearing a Living Child; Decision of Mr. Blake, Judge of the Probate Court, that the Child was Born Alive, together with the Evidence and Authorities on which the Opinion was based.

OPINION OF THE COURT.

In the Probate Court of the City and County of San Francisco—In the matter of the Petition of HENRIETTA M. GARWOOD for Letters of Administration of the Estate of JOSEPH M. GARWOOD, deceased.

THE petition is in the usual form, and if its allegations have been sustained by the testimony, its prayer should be granted. The application for letters is contested upon the alleged ground that the child, named, Joseph M. Garwood, was not born alive.

Joseph S. Garwood was a resident of this county, the husband of the petitioner, and the son of Joseph Garwood, who is the contesant. Joseph S. Garwood died on the 22d day of February last, and administration of his estate was granted by this Court to his widow, the petitioner. On the 18th day of May, A. D. 1863, the petitioner gave birth to a child, the offspring of her marriage with Joseph S. Garwood. If this child was born alive, it had an interest in the estate of its father.

From the testimony on the hearing the following facts appear: Mrs. Garwood was confined on the 18th day of May last. Her labor was long and severe. The physician found her, at one o'clock in the morning, "with strong labor pains upon her," and she was delivered between 3 and 4 o'clock in the afternoon of the same day. Within an hour after the arrival of the physician, the head of the child rested at a point, from which it was not dislodged by the natural process. Medicine was administered, but failed of the purpose intended, and the head was delivered about 3 o'clock P. M., by means of forceps. The delivery of the head was half an hour in advance of the delivery of the body. Fifteen minutes after the delivery of its head, the child breathed, "drew 4 or 5 breaths," and struggled violently, which, in the opinion of the physician, increased the pains, which subsequently expelled it from the body "in probably not less than ten minutes." During this period the shoulders and chest were so compressed that breathing was impossible. After the delivery of the body, the child did not breathe, but there was circulation between the child and mother through the umbilical cord, the beating of the child's heart, and muscular movement of the extremities, the hands and feet. The muscular movements continued a very short time, immediately after the delivery of the body. The umbilical cord was severed about 15 minutes after the delivery of the body, and the heart beat after the severance two or three minutes, ceasing gradually, which was the last action or movement of any part of the child's system.

Efforts were made to resuscitate the child, such as sprinkling it with cold water, slapping it with the hand, rolling it, artificial breathing, and all the usual methods. This was before the severance of the cord. After the severance, little was done, except putting it into warm water, supplying heat and inflating the lungs. "There was no response to the inflation of the lungs." The child never cried. It should be added, that it appeared from the testimony of the petitioner that her general health and that of her husband were good ; that she first discovered indications of fœtal life in December, 1862, namely motions, slight at first, but which continued at intervals with increased power, to the time of delivery. Her own testimony and that of the physician showed that the period of gestation was the full term.

Was this child born alive ?

Before attempting to find an answer to this question, it may be well to consider for a moment the proposition that to inherit or transmit rights to other, it is necessary that a child should be born alive.

Bouvier, in his Institutes, says : "Birth is the act of being wholly brought into the world, the fact of having acquirred an existence independent of one's mother. But unless the child is born alive, it is not a birth, but a miscarriage. The consequence is that such child neither acquires nor transmits to others any rights."

In Taylor's *Medical Jurisprudence*, edition of 1856, the rule is stated as follows : "A child which is born alive, or has come entirely into the world in a living state, may by English law inherit and transmit property to others, even although its death has immediately, and perhaps from morbid causes, necessarily followed its birth. Should the child be born dead, whether it died in the womb or during the act of birth, it does not acquire any civil rights, for it is not regarded as a life in being unless it manifests signs of life after it is entirely born." Pp. 426—7.

The work last cited refers to the opinion of Dr. Locock and some others, "that partial birth, provided the child be living, should suffice to confer the same rights on the offspring as the proof of entire birth," and maintains that it is not in accordance with the law. I quote again : "However reasonable, medically speaking, this view may appear, a medical jurist must shape his evidence according to what the law demands. It has been elsewhere stated that our judges have distinctly laid down the law that no child can be considered to be born until the whole of its body has come entirely into the world. * * * Supposing this child to have died before its body was entirely extruded, it could not be said, even medically, that it was born alive ; and certainly it could not be considered, according to the present state of the case, to have acquired the rights of a child born living. The reasonableness of the opinion, that partial birth should suffice for all

the legal purposes of entire birth, is an entirely distinct question, and one over which the medical witness has no sort of control." P. 427.

The case supposed by Dr. Taylor is precisely the case put by Dr. Locock, to which reference was made by the petitioner's counsel, but the conclusion is entirely different. I cannot find that the opinion of Dr. Locock is supported by any legal authority. What Dr. Locock is as authority, I am not advised. He was many years ago the first of the fashionable accoucheurs of the British metropolis, and Physician Accoucheur to her Majesty, and more recently President of the Royal Medical and Chirurgical Society, but I doubt if his opinion, in any matter of medical jurisprudence, is entitled to greater weight than that of Dr. Taylor, and certainly cannot be received as law in opposition to the current of English and American authority.

Considering it, then, as settled, that, to acquire the right to inherit and transmit property, the child must be born alive—that is, must be alive after a complete delivery—we might next attempt a definition of life. But is any definition necessary? Is it within the capacity of any man to give us a definition which could aid us in our inquiries? We know life by its manifestations, and not otherwise. If a child has just come into the world, and has not breathed, cried or moved, there is naturally an anxious inquiry on the part of all present as to its possessing life. No one, whether ignorant or learned, stops to inquire what life is, and doubtless the most ignorant and the most learned are equally intelligent in regard to it. But the child cries, and all know there is life. They do not see life, they do not hear it—the sound is not life—but all recognize the crying as a sure sign of life. It is not, in every instance, so easy to determine what are signs of life, but we always judge of life from acts or circumstances which seem to us to be indications of it.

We are then to look at the acts or manifestations of life in the case of the child, named Joseph M. Garwood, after its delivery, and determine from them, as well as we can, whether it was born alive.

In cases analogous to this, crying has always been considered the best or most satisfactory evidence of live birth, and at an early day in the history of our law was deemed an indispensable test. This was the doctrine of Ganvil and Bracton. Littleton, however, seems to have doubted whether it was necessary to prove that the child cried. The rule, as laid down in *Dyer's Reports*, is that it is sufficient, "although the issue be not heard to cry, so it can be known that it hath life, for it may be that the issue is dumb." In Paine's case, reported by Lord Coke, the rule is stated in nearly the same words as in Dyer. (1 Greenleaf's Cruise, p. 157, § 16; Dyer, 25; Paine's case, 8 Coke's R., 34.)

Blackstone says : "The issue must be born alive. Some have a notion that it must be heard to cry ; but this is a mistake. Crying, indeed, it is the strongest evidence of its being born alive ; but it is not the only evidence." Taylor says : "The visible respiration of a child after its birth, or as it may be manifested by its crying, is an undoubted sign of its having been born alive."

That crying or breathing is sufficient evidence of live birth is unquestionable. But this child never cried, nor, so far as could be discovered, did it breathe after its birth.

According to Coke "motion, stirring and the like," are proof that the child was born alive. Taylor says : "The pulsation of a child's heart, or even the spasmodic twitching of any of the muscles of the body, is regarded as a satisfactory proof of live birth." Wharton and Stillé say : "Every spontaneous movement is an evidence of life." The last named writers do not probably mean that every such movement is a sufficient evidence of life, for they add : "To what degree these must be carried to constitute evidence of life before a court of law, it is not for us to determine."

That motion of any part of a human body ordinarily indicates life will not be questioned. That every kind of motion does so seems to be questioned by good authority. In Fish *vs.* Palmer, decided in the Court of Exchequer at Westminster Hall, in 1806, the question was whether a certain child was born alive. It appeared from the testimony that the attending physician (deceased at the time of the trial) had declared an hour before the birth that the child was alive ; that it did not cry or move, nor show any symptoms of life, except that upon being put into warm water, there twice appeared a twitching and tremulous motion of the lips. Of the physicians examined as witnesses, two agreed that this child was alive after its birth, while one gave it as his opinion that it was not alive. Upon this testimony the jury found that the child was born alive.

This case can be entitled to but little authority as a precedent. So far as we can learn, it has no place in any volume of reported cases. We do not know what instruction was given the jury by the court. All we can infer is that the court considered the testimony competent, and that the jury considered it sufficient. The case would seem to be entitled to no more consideration than was given it by the character of the witnesses. If the two physicians were correct in their opinions, the verdict was right ; if the other was correct, the verdict was wrong.

Of the recent writers on medical jurisprudence, Dr. Taylor approves the case of Fish *vs.* Palmer. Referring to it, he says : "It cannot be admitted physiologically that any tremulous motion in the muscles could ever take place spontaneously in a dead

body ; and the spasmodic motion of the lips differs only in degree from the active motion of a leg or an arm." Tay. Med. Ju. 429.

"Again, it has been objected to this view of the case, that the motion described may have been the mere remains of muscular irritability, and not a sign of actual life. I am unable to perceive the force of this objection. Irritability, as manifested by spontaneous motion, is not not a property of dead matter, and the remains of irritability must physiologically speaking, be regarded as the remains of life or of a vital power in the muscles" Dr. Taylor, however, refers to a case stated by M. Marc, "somewhat similar, but in which the medical opinions were opposed to his views." I find the names of some other writers whose views coincide with those of Dr. Taylor, but how far their opinions are entitled to respect, I cannot learn. Tay. Med. Ju., p. 429.

On the contrary, it is said of that case in *Beck's Medical Jurisprudence*, 12 ed. vol. i., p. 415 : "The proofs of life relied on are equivocal. It has been suggested, and I think with truth, that the convulsive motions merely show that the muscular fibre has not yet lost its contractility. Still-born infants, or those who die instantly on being delivered, are not unfrequently observed to open their mouth, and extend their arms or legs. May not these be merely the relaxation of a contracted muscle, or the stimulus of the atmospheric air on a body unaccustomed to it ?" And in support of this dissenting opinion, the author quotes or refers to the statements of other medical writers of the highest authority.

In the *Cyclopædia of Practical Medicine* is an article on "Infanticide," favorably referred to in a note to Chitty's *Medical Jurisprudence*, from which I shall, at the expense of some repetition, quote more than is pertinent to the point under immediate consideration, but not more than is pertinent to the general question : "It may be proper to make a few remarks as to the meaning of the term 'born alive.' This is a question applicable not to infanticide only, but to other cases. According to the English law, when a man marries a woman, seized of an estate of inheritance, and has by her issue born alive, which was capable of inheriting her estate, in such case he shall, on the death of his wife, hold the lands for his life as *tenant by the courtesy* of England. It has, consequently, been a point of moment for the husband to show that the child was born alive ; and the authorities have, with singular infelicity, attempted to define what shall be regarded as evidences of this condition. According to Blackstone, 'some have a notion that it must be heard to cry, but this is a mistake. Crying, indeed, is the strongest evidence of its being born alive, but it is not the only evidence.' According to Coke, 'if it be born alive, it is sufficient though it be not heard to cry, *for perad-*

venture it may be born dumb. It must be proved that the issue was alive ; for *mortuus exitus non est exitus :* so, as the crying is but a proof that the child was born alive, and so is motion, stirring, and the like.' It need scarcely, by the way, be said, that the deaf and dumb cry at the moment of birth, the same as other children. The *natural* cry is effected by them as well as by the infant that possesses all its senses. It is the *acquired voice* alone which they are incapable of attaining. Still this blunder of Lord Coke does not materially concern the present inquiry ; not so, however, the latitudinarian definition contained in the latter part of the sentence cited by him. In a case that was tried before the Court of Exchequer in England, about 40 years ago, the jury agreed that a child was born alive, because, although when immersed in a warm bath immediately after birth, it did not cry or move, or show any symptom of life,' yet, according to the testimony of two females—the nurse and the cook—there twice appeared a twitching and tremulous motion of the lips ; and this was sufficient to make it fall under Lord Coke's definition. It is manifest, as elsewhere remarked, that granting such motion to have actually occurred, it was, of itself, totally insufficient to establish the existence of vitality. On the application of appropriate stimuli, the muscles of a body may be thrown inte contraction for hours after cessation of respiration. Instead, therefore, of referring the irritability or contractility to the existence of life at the time, it must be regarded simply as evidence that the parts had previously and recently formed portions of a living system."

It seems to me that the weight of authority is adverse to the decision in the case of Fish *vs.* Palmer. Indeed, it seems to me that the most common observation of the bodies of animals recently killed, must be sufficient to show that there is a "twitching and tremulous motion," which is not an indication of present, though it doubtless is of recent life.

I think the rule laid down by Wharton and Stillé, that "every spontaneous movement is an evidence of life," is best sustained by such English and American authority as we are favored with. I suppose this includes every voluntary movement and every natural action of any part of that internal organism, self-acting so far as relates to ourselves, by which "we live, and move, and have our being," every action of any part of the human system which is the result of "its own impulse, energy or natural law, without external force." It excludes every muscular movement which comes not through the will, or which is not the result of its own impulse or natural law, but is caused by some extraneous force, acting directly and ultimately upon the muscular system, whether that force be electricity, or cold, or the atmosphere, or any other external agency by which the muscles of the human

body may be affected. It excludes every movement or action which, from any cause, may be manifested in a body from which life has ever so recently, and from whatever cause, departed.

Before testing, by this rule, the facts which appear in this case, it may be well to look for a moment at the testimony of the physicians who were examined on the hearing. There were two—Dr. Whitney, who attended Mrs. Garwood during her confinement, and Dr. Gibbons. Both were of the opinion that the child was born alive. Dr. Whitney spoke of the circulation between the child and the mother through the umbilical cord, the beating of the child's heart, and the muscular movement of the extremities, as evidences of life, but he did not testify as to the force or conclusiveness of any one of these facts, by itself considered, nor did Dr. Gibbons. I regret that the testimony is not more specific. That it is not, is not, of course, the fault of the witnesses, and I am far from saying that it is the fault of any one. I only say that, as it was intended to enlighten one almost entirely ignorant of the deductions to be drawn from the principal facts, if it had shown these with more particularity, it would be more satisfactory.

Tested by the rule before stated, I am of the opinion that the muscular movement of the extremities shown in this case does not show that the child was born alive. In the absence of any testimony upon this point, I cannot infer that this motion was spontaneous, and my opinion is that it was not.

I am not sufficiently informed to enable me to determine whether the fact of the circulation between the mother and child, can be tested by this rule. I know the attending physician considered it an evidence of life, but evidence is a very indefinite term. I am entirely without knowledge of the importance which ought to be attached to this fact.

The beating of the heart is a fact of another character. That it is ordinarily satisfactory evidence of life, we know, independent of the testimony of physicians. The fact of the beating of the heart being once established, it would seem incumbent upon those who would deny the inference which naturally follows, to show that, in the particular case, the action is not spontaneous, is not "the result of its own impulse, energy or natural law." There was no examination for the special purpose of illustrating this point, and though a portion of the testimony of Dr, Gibbons, as it appears on my minutes, might throw some doubt upon it, I do not suppose, from the general tenor of his testimony, that he intended to say that the beating of the heart might go on in the absence of life. I am not unaware that cases have occurred in which physicians of the highest eminence have considered the beating of the heart as no proof of the presence of life, and I am not free from suspicion that in the instance in question, the real cause may be something

else than cotemporaneous vitality; but a court could hardly declare this, independent of testimony.

In connection with the fact of the beating of the child's heart, and as giving character to it, I think the general testimony of the physicians as to the child's being born alive, the testimony of the petitioner as to her uniform good health and the indications of fœtal life continuing from an early period to the birth of the child after the full period of gestation, and the testimony of the attending physician as to the manifestations of life between the delivery of the head and of the body, may well be considered. I do not mean that any manifestations of life before a complete delivery can establish the fact of live birth, but it would seem that such manifestations might give increased significance to any movement in the system subsequent to delivery.

All the circumstances considered, my conclusion is, that, in the case in question, it should be held that the beating of the heart was spontaneous, and that the child was born alive.

I think the conclusion I have announced is in accordance with the intimations, dicta and decisions of the English Courts, in civil cases, since the 28th year of Henry VIII., the date of the case before cited from Dyer, and also in accordance with the views of a majority of English and American writers on medical jurisprudence. It must, however, be confessed that there are very few cases to guide us. Indeed, it is hardly too much to say that there is not a case, English or American, in which it can, with certainty, be said, that the questions involved in this case have been considered and determined, nor one which can very much aid us by its analogies. The case in Dyer, if case it can be called, is the mere announcement of an opinion. There are no names or facts given Doubtless there were both persons and facts connected with the case, but we are ignorant of them. Paine's case, reported by Lord Coke, gives us what would now be considered mere dicta as to any other evidence than crying being sufficient to prove live birth, for in that case, "to remove all scruples, it was found that the child was heard to cry." Of later cases, I have only found two, Fish *vs.* Palmer, before referred to, and Llewellyn *vs.* Gardiner *et al.*, decided in 1854, though, doubtless, there are others. In the last named case, the only question was whether the child cried, and it was found that it did. As a precedent the case is unimportant. The opinions of writers on medical jurisprudence, are by no means uniform, and are not always satisfactory. Cases of this character seem to have been investigated much more frequently, and with much greater research and learning, in France and Germany, than in this country or in England. I am satisfied that in a French Court it would not be held that this child was born alive. I do not forget that in France, proof of respiration is required to establish the fact of live birth, but independent of this it is believed that the

French medical jurists would hold, that the child in question, was not born alive. They manage such matters better there than here. Questions of this character are, sometimes at least, referred by the Courts to their most eminent physicians, and the result is as liberal and enlightened as it can be rendered by all the learning of modern times. I have, however, in the determination of this case, felt bound by what seemed to me the weight of English and American authority. I have not endeavored to establish a new rule—I have only desired to find the rule already establised. If this case should be carried to the Supreme Court, it may be determined upon more liberal principles. That tribunal may regard it in the light of continental learning. It may re-establish the rule as laid down in Glanvil and Bracton, and as it has ever stood in the Scotch law, and make crying the only sufficient test of live birth, a rule recommended by its simplicity and certainty, and, as it is said, by sound physiological reasons. There is, in the way of the old rule, less than might be supposed, only a few centuries, and a few decisions and opinions, all of which, the decisions and opinions, are founded on an idea, now known to be false, namely: that a child born dumb could not cry. However this may be, I am glad this case is of such a character that any error here can be effectually remedied on appeal.

Before closing, I shall briefly refer to a few cases, English and French, which seem at variance with my conclusion in this case, and which long made me doubt, and which still leave me in some doubt of its correctness.

In Rex *vs.* Enoch and Pulley, (5 Car. & P., 539,) in which the defendants were charged with murder of a child, Mr. Justice Parke held that "there must have been an independent circulation in the child, or the child cannot be considered as alive for this purpose," or, in other words, without an independent circulation it cannot be considered so far born alive that it is murder to kill it. The same rule was laid down in several subsequent cases of a similar character. Now I do not know that anything more is required to establish live-birth in cases of infanticide than in cases of inheritance. If, however, this rule should be applied in this case, I could not determine from the testimony that an independent circulation in the child had been established. It may have been established, and may be clear enough to one capable of making the proper deductions from the facts proven, but to no other person. I do not, however, allow the rule as declared in the cases referred to in this connection, to affect the determination of this, because I doubted whether it was a well settled rule, and because I could not find that it had been anywhere recognized as applicable to civil cases. (9 Car. & P., 764, 1 Car. & M., 650, Deane's Med. Ju., p. 140.)

A case is stated in Beck's *Medical Jurisprudence*, (12th edition, vol. i., pp. 419, 420, 421), which I shall condense here : "In 1834, a female in France, supposed to be eight months advanced in pregnancy, was seized with convulsions and died. About a quarter of an hour after her death a child was extracted by Dr. Carbaret, by the Cæsarian operation. This physician swore that he saw the chest and ribs move; that there was pulsation in the umbilical cord, and also at its base, after it was cut off, and that on laying his hand on the region of the heart, he felt it beating. The body was put into a warm bath, and immediately on immersion the right hand was raised toward the head, and a slight respiration ensued. This testimony was confirmed by several female witnesses. The question was put to several physicians, whether the child had lived. Velpeau gave an affirmative answer. Orfila, Dubois, Pelletan and others were of a contrary opinion. The same question, with another, was finally referred to Drs. Marjolin, Roux and Marc. They were of the opinion that the motion of the arm was mechanical, owing to the stimulus of immersion acting on the remains of fœtal life, and so with respect to what Dr. Carbaret considered to be respiration, and, in fine, they found that *all the indications might be referred to the remains of fœtal life.*" From the similarity between the facts in this French case, and the case of the child of the petitioner, the conclusion arrived at in the former by so many physicians of the greatest learning and experience, might seem to be entitled to control our conclusion in the latter. I will not say that the same conclusion might not be proper in our Courts upon the same testimony, but I doubt if a Court could properly make the same deductions from the same general fact, unaided by the testimony of experts. Beside this, the French medical jurists seem to make a distinction between uterine and extra-uterine life, which appears to have been intimately connected with the result arrived at in the case last cited, but which I think has never been recognized by the Courts of this country or England, and not generally by our medical jurists. Whatever physiological reasons may exist for this distinction, our law seems to regard life, present in the body after birth, as suffiicient in this class of cases, whether that life is uterine or extra-uterine.

Reviews and Notices.

A Practical Treatise on the Diseases of the Heart and Great Vessels, including the Principles of Physical Diagnosis. By Walter Hayle Walshe, M. D., Fellow of the Royal College of Physicians, &c. A new American from the third revised and much enlarged London edition. Philadelphia: Blanchard & Lea. San Francisco: A. Roman & Co. 1862.

This last edition of the above-named work is from the pen of one of the most gifted of English writers upon Medicine. We used a former edition of this work some years ago, when connected with one of the New York Hospitals, as our text-book in the investigation of cardiac diseases; we were then struck with the varied evidences of extended investigation with which the work was replete, so that, in no instance in which we were at a loss in respect to diagnosis, did we not find "Walshe," as he was then styled by our confreres, fully ample for throwing light on all the obscure features of the case. In subsequent experience, we have found this work as a most trustworthy and valuable guide in this often obscure department of Medicine. The present work is a revised edition of the former one, and is somewhat larger than that.

The work, as it now appears, embodies the experience of many years' observation, expressed in a style which is the quintessence of conciseness,—the author not hesitating to coin or compound words, after the manner of the Germans, where he can secure brevity and perspicuousness by so doing,—through all of which are caught gleams of a conscientiousness and candor of statement and a sentiment of respect for the ideas of those who hold contrary opinions, which ever do high credit to an author.

In cases of obscurity, where, as not unfrequently happens in Pathology, and especially in that section of it pertaining to dis-

eases of the heart, a great number of conflicting symptoms present themselves, the reader of this work will not unfrequently be struck with the acumen displayed by the author, in the nicety and accuracy of his diagnosis of that which is organic; so in his therapeia, in his advice to shun the violent measures of high stimulation and extreme antiphlogistic treatment, and to adopt the golden mean between the two, his discrimination is so patent, as to secure, at once, the conviction of the reader of its correctness.

PRINCIPLES AND PRACTICE OF OPHTHALMIC MEDICINE AND SURGERY. By T. WHARTON JONES, F. R. S. Third American edition. Philadelphia: Blanchard & Lea. 1863. To be obtained in this city from Messrs. Roman & Co.

For the treatment of diseases of the eye we know of no work which contains the same amount of information in the same compass; we especially recommend the book to the American physician and medical student, who are desirous of keeping pace with all the recent advancements in this department of Surgery; and, in this respect, we particularly recommend the chapter on Cataract.

A TREATISE ON HYGIENE, WITH SPECIAL REFERENCE TO THE MILITARY SERVICE. By WM. H. HAMMOND, Surgeon General of U. S. Army. Philadelphia: J. B. Lippincott & Co. For sale by A. Roman & Co., San Francisco.

This work is well worthy perusal and a place in the library of the physicians and surgeons of our country, as it emanates from one of our first medical writers, and will compare favorably with any of his former works.

Notice to Medical Students.

I PROPOSE, In April next, to take some two or three medical students, who will be furnished with lodging, text-books and tuition, at the rate of two hundred dollars per year ;—in the pursuit of their studies, the students will have the aid of skeletons and dried anatomical preparations ;—likewise, duringa part of the year, they will have the benefit of clinical instruction in practical Medicine and Surgery.

L. C. LANE, M. D.,
Professor of Anatomy.

Editorial Change.

WE beg leave to announce to our readers, that, after this number, the editorial supervision of the MEDICAL PRESS will be transferred to DRS. R. B. COLE and H. GIBBONS ;—under the charge of these capable and competent gentlemen we not only wish, but predict for the journal a fortunate career ; our duties as Surgeon of the Board of Enrolment for the Southern District of California, added to the duties of a constantly increasing practice, occupy so much of our time as to prevent us from devoting that labor to the PRESS which a medical periodical requires.

To those of our subscribers who are yet in arrears for the PRESS, we would say, that settlement for the same to the present number, inclusive, will be made to us.

In conclusion, we will bid to our readers but a partial adieu, as we hope, through the pages of the PRESS, to occasionally greet them as a contributor.