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COLORADO MEDICINE

PUBLISHED BY THE COLORADO STATE MEDICAL SOCIETY.

VOL. I.

DENVER, FEBRUARY, 1904.

No. 4

LEADING ARTICLES

RATIONAL SURGERY OF THE NOSE AND THROAT.

Many years ago surgery was practiced in so radical a manner that in the natural course of events a healthy reaction set in, giving us what has since been known as conservative surgery. As each new operation or system of operations is evolved, extremes in both directions govern our practice for a short time; but eventually these extremes are replaced by a rationalism and a conservatism, which points out the true middle path.

Surgical operations are but the means to an end. They are simply methods of treatment, and must depend upon a true conception of pathology and etiology and upon the results of former practices.

Before the time of cocaine, nasal operations were comparatively few. Affections of the nose and pharynx were also less well understood. The results of treatment then in vogue were so unsatisfactory and discouraging that surgical methods, resulting in a few instances in most brilliant cures, were hailed with delight and enthusiasm.

Cocaine and later adrenalin were the means not only of enabling us to make more accurate diagnoses, but also of making operations more easy and consequently more frequent. From time to time a warning cry has been heard; but rarely has this received much consideration, largely because of the attractiveness of the field of operation, as well as of the frequency with which anomalies may be seen in the nose and throat. To these anatomical abnormalities may be attributed symptoms, which upon closer investiga-

tion are found to be due to other causes. Again, no symptoms whatever may be the result of such abnormalities, their discovery having been purely the result of an incidental examination. Such abnormalities are frequently seen in the tonsils, the nasal septum or the turbinates. The patient is made aware of the condition existing and operation is advised. If the operation is performed dangerous complications to the extent even of threatening the patient's life, may be incurred, or there may result destruction of functioning structures and a train of symptoms which did not exist before. If the operation is not performed a phobia is established in the individual, making his life more or less a burden.

There are very few noses or throats which may be considered absolutely and anatomically normal. The late Harrison Allen, noted as a rhinologist and anthropologist, stated that fully 95 per cent of mankind possess noses at variance with normal anatomical ideas. It is well known that the nose is not even placed in the center of the face. Many deflected septa, or septa with crests or spurs, may be seen daily. The normal tonsil is rarely found except in the new born, becoming rapidly hyperplastic as the individual grows. Should all of these variations from the anatomically correct be subjected to surgical operations?

Rational surgery depends upon a careful study of subjective symptoms augmented and confirmed by objective signs. One may discredit much of a patient's statement concerning his woes, for the surgeon's duty is to eliminate the patient's miscomprehension of his condition, and by careful judgment to determine the true dependence of effect upon cause. Before

undertaking an operation be sure, beyond reasonable doubt, that the obvious condition is responsible for certain well-defined symptoms. This, of course, does not apply to exploratory operations, a notable example of which in rhinology is puncture of the antrum of Highmore. The mere existence of a septal spur is no excuse for operating unless a dependent symptom can be determined. The mere enlargement of the tonsils is no excuse for their removal unless symptoms are produced by them. The removal of the inferior turbinate is a favorite operation for nasal stenosis, which upon closer investigation will be found to be due to vaso-motor swelling, the cause for which may be found in constitutional conditions or in reflex irritation from the middle turbinate.

It is well, however, to give the patient the benefit of the doubt in all obscure conditions; and by operating, approach as nearly as possible towards what we may consider perfect anatomical conditions. Calm and careful judgment of the surgeon should never be warped, nor should the pendulum swing too far in either direction. ROBERT LEVY.

THE SMALL MEDICAL SOCIETY.

The size of a medical society may indicate somewhat its strength and importance. From the standpoint of the society, growth is a good sign. The more members brought to join it, the wider its influence, the larger the number benefited by it.

But from the standpoint of the individual member who goes into a medical society to learn something, or for the opportunity of seeing things from other men's points of view, the benefit is not at all proportioned to the size of the society.

What any one of us can hear, does not depend on how many others are listen-

ing to the same speaker. What one can understand or what new ideas will be awakened in him, depends but little on how many others are present. In any well-conducted meeting, there can be but a single speaker at a time. For the purpose of the member who is learning anything, one speaker and one hearer constitute the active participants, even in the largest gatherings. In many respects the ideal conditions for learning exist only when there are but two present. So that there can be question and immediate answer, and the speaker's words can be addressed exactly to the thought of that particular hearer. One might wonder why any one should prefer to listen in a large medical gathering rather than in a small one.

Of course if one goes to a medical meeting solely for the benevolent purpose of instructing his fellow members, or for the less benevolent purpose of advertising his skill in some specialty, or to hear himself talk, or to get his name in the papers: the larger the meeting he can get to listen to him the better. But the mass of those who go to medical meetings are listeners. Even of those who talk, fewer can do so in the larger meetings. This has led to the breaking up of the largest medical gatherings into "sections," and always with increased interest and benefit.

In view of these facts there should be no hesitation about organizing a County Medical Society because its membership would be small. When physicians will not do so, or will not attend their County Medical Society because its meetings are small, they do not understand the value of contact with others of their profession. They do not realize that modern medicine has been built up by the contact of one mind with another. A vital difference between the physician and the quack, is that one recognizes the importance of working with his fellows, while the other does not. EDWARD JACKSON.

ORIGINAL PAPERS

SHALL WE ABANDON THE USE OF ANTITOXIN?

By F. E. WAXHAM, M. D., DENVER.

Knowing that there are many who are prejudiced against the use of antitoxin, and of some whose prejudices are so great as to prohibit its use entirely in their practice, and knowing personally of two cases ending fatally immediately after its employment, I am prompted to ask if these prejudices are well founded, and are we justified in abandoning a remedy that has been considered almost a specific in the treatment of one of the formerly most dreaded diseases of early life. If this paper may be the means of convincing those who have lost confidence in the remedy, or if it may increase the confidence of those who use it with fear and trembling, it will have accomplished its purpose and justified the effort.

The opponents of antitoxin still refer to the fatal results that occurred in St. Louis from its use. These cases, however, may be dismissed with a word. The antitoxin was not at fault, but the method and carelessness in its preparation. Antitoxin should not be held responsible on account of errors in its manufacture. Place the blame where it belongs.

Of more serious and convincing import are those cases coming under personal knowledge where no suspicion exists, as to the purity of the preparation, and where death or alarming symptoms have immediately developed after its administration. The following case occurred in the practice of a colleague, and speaks for itself. The history is taken from the hospital records:

O. P. W., a university student, male, white, age 21 years, an asthmatic, and in Colorado for health, which had been restored.

Entered the hospital at 9:10 a. m., September 24, 1902, with a mild form of diphtheria. The following directions were given:

Calomel gr. $\frac{1}{8}$ every hour until bowels move, followed by citrate of magnesia Phenacetin gr. viiss and caffein cit. gr. i, every three hours. A carbolic and iron mixture to be used as a gargle every hour, and cold compresses to the throat every half hour. Sponge bath when temperature reaches $102\frac{1}{2}^{\circ}$ or more. These directions were rigidly carried out for 33 hours, when the patient not having improved, antitoxin was given at 6 p. m., September 25, 1902. The patient was extremely nervous and apprehensive. Two thousand units injected below the scapula. Injection given deep into muscles. There was a feeling of uneasiness at once, complained of a tingling sensation in hands and feet. Breathing labored and a severe struggle for breath, no pulse at the wrist, became extremely cyanosed and died immediately.

If we might be excused for criticising we might object to the use of seven and a half grains of phenacetin every three hours and also to the frequent medication which may have added to the depression and exhaustion of the patient, and yet death in this case was undoubtedly due to the injection, possibly from entering a blood vessel and possibly from nervous shock. Cases are recorded where patients have suddenly expired from the shock of an ordinary hypodermic injection, and in this case I believe that it was the injection and not the antitoxin that killed. Had the syringe been filled with distilled water I believe the result would have been the same.

January 9, 1902, I was called by a colleague to do an intubation upon a child two years old suffering from laryngeal diphtheria. The operation gave entire relief. Upon my advice 2,000 units antitoxin were given without unpleasant

symptoms. The next morning, although the patient was doing remarkably well, I advised a repetition of the dose, as is my custom. My colleague, acting upon this advice, gave it. Within a very few minutes after the injection the patient became pulseless at the wrist, covered with cold perspiration, unconscious and moribund. I was hurriedly called and removed the tube, hoping that there might have been obstruction below it, which proved not to be the case. The tube was replaced and the patient freely stimulated. In the evening the tube was again removed, although there was no evidence of obstruction. As respiration was now easy, although the patient was still in collapse, the tube was not replaced and the laryngeal stenosis did not return. Notwithstanding the most vigorous stimulation the child did not regain consciousness and died the next morning.

A colleague reports to me two cases where patients, children, passed from a satisfactory condition into collapse within a very few minutes after the administration of antitoxin and died within twenty-four hours, without regaining consciousness.

The serum reactions and the eruptions are not infrequently met with, and while sometimes causing considerable distress, need hardly be considered a bar to the administration of a remedy of such undoubted benefit.

Personally I have never met with serious consequences from the administration of antitoxin, outside the occasional eruptions and febrile reactions, and the question arises regarding the fatal results as to whether they were not accidental and avoidable. However, for the sake of argument let us grant that the four deaths quoted were directly due to the use of antitoxin, and that the patients would have survived had it not been given. We must base our conclusions not only on personal but on recorded cases as well. The

literature on the subject of the antitoxin treatment of diphtheria is simply immense, and appalling to the collector of statistics. The recorded cases are so voluminous as to be almost beyond collection by ordinary methods. However, a somewhat careful research through the literature does not reveal a single well recorded case of death clearly attributable to the administration of antitoxin. A most remarkable reduction in mortality of the disease is everywhere reported, and a few cuttings from the literature of the subject may here be of interest and of profit.

Geffrier, P. and Rozet, E. Diphtheria, Antitoxin Treatment of. *Arch. de med. des enf.* February, 1902. Recommend for mild cases of diphtheria, antitoxin serum. Had 309 cases, mortality lowered from 28 per cent to 6.47 per cent. This includes 137 laryngeal cases of which 104 were operated.

Richardiere, Paris. *Rev. mens. des melaires de lenfaun*, 1900, Vol. 18, p. 407-08. Author treated at the Hospital Trousseau, in Paris, 1,778 cases of diphtheria. Bacteriological examination confirmed in every case the diagnosis. Of these 1,778, 280 died, or 15.7 per cent. Treatment consisted in injections of Roux's serum (10 cc. up to 1 year, 20 cc. above 2 years). Local treatment: Lavage of the throat with solutions of calcium permanganate 1:4000. No internal treatment in simple cases.

There were no grave accidents imputable to the serum. Eruptions occurred in 198 cases in from 2 to 15 days after injection of serum. These eruptions represented five different types (simple or mixed, scarlatiniform, urticarian, roseola, purpuric; erythematous, polymorphic.) These eruptions were accompanied by a rise in the temperature from 1 to 1½ degrees. The two principal causes of death were: toxicity and broncho-pneumonia. Intubation is very seldom the cause of death.

Turner, A. Jefferis, *British M. J.*, November 18, 1899, page 1,409. Hospital for Sick Children in Brisbane. The diphtheria mortality of the three principal Australian colonies for the past 15 years. The average mortality during the 11 years of the pre-antitoxin period in these colonies was 44.3 per 100,000 mean population, during the four antitoxin years 18.7 per 100,000, being considerably less than one-half the preceding. In a population of nearly three millions this represents a saving during the four years of about 3,000 lives. He says that the only objection to giving an unnecessarily large dose is the cost, as there need be no fear in giving an overdose.

Jump, Henry D., Philadelphia. Duration of immunity by diphtheria antitoxin. (*Philadelphia Medical Journal*, 1902, Vol. 9, pages 69, 71, January 11, 1902). He believes that all persons exposed to diphtheria should be given from 250 to 500 units, according to age, and that this immunity will last for at least three weeks. He says that diphtheria antitoxin is practically harmless.

Morrill, Gordon. *Boston Medical and Surgical Journal*, March 3, 1898, Vol. 138, p. 193-195.) Treated 1,808 children in the Charity Hospital, Boston, with from 150 to 250 units of antitoxin every 28 days after diphtheria appeared in the wards. One hundred to 250 units, according to age of child, will confer immunity for 10 days, no matter how severe the exposure; 250 units for a child of two years, up to 500 for one of 8 or over, will do the same for 21 days. No harm will result from the treatment in a vast majority of cases of sick children, and probably in no case of a healthy child, provided the serum is up to the present standard of purity.

Baginskij ("Nothnagel's System") reports 1,500 cases in hospital and private practice. The fall of mortality under

serum treatment has been from 41 per cent to 8 per cent or 9 per cent.

Mirinescu (Bucharest) in *Spitalul*, 1902, No. 9, states that the mortality, since the introduction of the antitoxin, was lowered from 42.45 per cent to 14 per cent of a yearly average of 600 patients.

McCallom, John H., Boston. A plea for larger doses of antitoxin in the treatment of diphtheria. (*Boston Medical and Surgical Journal*, 1900, Vol. 163, p. 627-632.) He recommends a minimum initial dose of from 4,000 to 6,000 units, and in serious cases this is to be repeated at four-hour intervals until the symptoms are controlled. In many instances he uses 60,000 to 70,000 units. Before the advent of antitoxin the death rate of diphtheria in Boston varied from 30 per cent to 50 per cent. In the Boston City Hospital the rate previous to 1895 was 46 per cent. Other hospitals give 40 per cent and 50 per cent.

In Bayeux's comprehensive work on diphtheria the death rate is given as 55 per cent before antitoxin, and 16 per cent since the advent of this agent. The rate of 16 per cent is based upon an analysis of more than 200,000 cases. Bayeux in his work also makes the statement that not a single death has been scientifically demonstrated to be due to the use of serum.

In the five years that the South Department, Boston City Hospital, has been in operation, August 31, 1895, to August 31, 1900, during which time 7,657 patients were treated, the percentage of mortality was 12.9. In London hospitals, before antitoxin, 30.30 per cent; with antitoxin, 18.4 per cent.

It is generally concluded that laryngeal diphtheria is a very serious disease, and that in operative cases, intubation and tracheotomy, the death rate is very high, being in pre-antitoxin days from 75 per cent to 87 per cent. Since antitoxin has

been in use it has fallen very materially. In 313 cases of tracheotomy in the Asylums' Board Hospitals of London the percentage was 38.

In the Willard Parker Hospital, New York City, according to Dr. W. H. Park, there were 737 cases of intubation treated from 1895 to February, 1900, with a per cent of mortality of 63. In the last two years the rate was 52 per cent. In the Municipal Hospital of Philadelphia the rate in 165 cases was 58.78 per cent. At the South Department, Boston City Hospital, during 1899, there were 192 intubation cases treated, mortality 34 per cent, as compared with a percentage of mortality of 46 in 1898.

From a clinical observation of nearly 8,000 cases of diphtheria the following conclusions are justifiable:

That since large doses of antitoxin have been given the death rate has been materially reduced.

That no injurious effect has followed the use of the serum.

That to arrive at the most satisfactory results in the treatment of diphtheria, antitoxin should be given at the earliest possible moment in the course of the disease.

Stewart, Arthur H. M. Sudden syncope occurring after the injection of antitoxin in cases of diphtheria. (*British Medical Journal*, 1902, April 26, Vol. 1, page 1,025.) Two sisters, about the age of puberty, severe attack of diphtheria with high temperature, albuminuria, enlarged glands at the angles of the jaw, in addition to the usual throat signs. Each one received 1,500 units of antitoxin, one died when removed to the hospital, from a sudden attack of syncope. The other sister was in the same condition, that is extremely collapsed, and only brought around with the greatest difficulty.

Piekema, R. Results of the Therapeutic and Preventive Use of Antitoxin Diphtheria Serum in Utrecht. (*Disserbation*,

Utrecht, 1900.) Author collected statistics from 150 Dutch physicians concerning the results of antitoxin in diphtheria from 1895-1900. Number of cases 1,732, mortality 208, or 11.9 per cent. Tracheotomy was performed in 369 cases and intubation was performed in 28 cases; of these 112 died, or 28.2 per cent.

Felix, J., Bucharest (Roumania) gives the following statistics in the *Medical Periodical Spitalul*, 1902, No. 5, of serum therapy in diphtheria. Eighty-three per cent of the diphtheria patients were treated with antitoxin. The mortality, which was formerly 41 per cent to 63 per cent, was lowered to 12 per cent since 1895, with the introduction of this treatment.

Park, Wm. H., New York. The quantity of diphtheria antitoxin required in the treatment of diphtheria. (*Archives of Pediatrics*, 1900, Vol. 17, p. 723-27.) He cannot agree with Dr. McCollom in regard to the necessity of from 40,000 to 60,000 units in the very bad cases, nevertheless his results certainly encourage to give all the antitoxin that one thinks indicated. It is better to give too much rather than too little. In very mild cases Dr. Park gives 1,000 to 1,500 units for the first dose; in severe cases, 4,000 to 5,000 units for the first dose; in moderately severe cases, 2,000 to 3,000 units for the first dose; and in laryngeal cases, 2,000 to 5,000 units.

Prophylactic injections (see *Revue mens. des mal. de leufana*, 1901, Vol. 19, p. 335-36). At a meeting of the *Societe de Pediatria*, Paris, June 11, 1901, Ausset advocated prophylactic treatment; also Barbier Netter collected 32,484 observations of prophylactic injections with only 6 per cent of failures. Of the same opinion were Drs. Comby and Sevestre. The following resolution was adopted by this society: "Preventive inoculations present no serious dangers and confer immunity in the great majority of cases for some weeks, and in families in which sci-

entific surveillance cannot be exercised.”
 Wenner, O., Zurich. Results of treatment of diphtheria since the introduction of antitoxin in the Children’s Hospital in Zurich. (Arch. f. Kinderh, 1899, Vol. 27, p. 73-107.)

	Pre-Antitoxin. Baer. 1874-1891.	Paperna 1891-1894.	Antitoxin. Wenner. 1894-1898.
Cases.....	690	149	432
Deaths.....	302	60	41
Mortality...	43.8 per cent.	40.3 per cent.	10.18 per cent.

cases of laryngeal stenosis from the same cause. Just a few extracts will illustrate.

Laryngeal cases, operation (intubation, tracheotomy), Olsberg, G. and Heimann, S., Berlin, Germany. (Arch. F. Kinderh, 1902, Vol. 33, p. 98-120.) Statistics of the Kaiser and Kaiserin Fred-eric Hospital for Children, on the operative treatment of diphtheritic laryngeal stenosis, table I.

TABLE I.

	Total	Died	Operated Intub. & Tracheal	Died	Primary Tracheotomy	Died	Intub. with secondary Tracheotomy	Died	Secondary Tracheotomy	Died	Intub.	Died	
From Aug. to Dec.	{ 1890. } { 1891. } { 1892. }	307 316	95 48	99 112	68 85	81 94	55 74	18 18	13 11	12 14	9 9	6 4	4 2
Year of introduction of anti-toxin treatment	{ 1893... } { 1894... } { 1896... } { 1897... } { 1898... } { 1899... } { 1900... }	426 535 319 304 404 334 387	178 60 49 53 46 42 56	147 98 57 46 89 68 81	117 32 15 14 34 23 32	85 16 8 9 14 4 24	74 14 5 7 10 3 16	62 82 45 37 75 64 64	43 18 10 7 24 20 16	35 10 11 10 31 25 39	31 7 8 6 19 18 13	27 72 37 27 44 39 25	12 11 1 0 5 2 3

This shows plainly the great value of antitoxin.

Of the 139 operated cases: Primary intubations, 102, died 13, or 12.7 per cent; and secondary intubations 37, died 14, or 40.4 per cent.

LARYNGEAL DIPHTHERIA, OPERATION.

Great as has been the reduction in the

Treatment with serum in 1894 created a revolution, as seen in the above statistics.

In 1894 the northern part of Berlin was ravaged by diphtheria, and the authors give the following statistics showing the treatment of diphtheria with or without serum, table II.

TABLE II.

	Total	Stenosis	Primary Tracheotomy	Primary Intubation	Secondary Tracheotomy	Deaths
Without Serum	174	88	82 died 54	6 died 4	15 died 7	65 73.86 per cent.
With Serum.....	525	107	41 died 25	54 died 2	12 died 9	36 37.89 per cent.

mortality as a result of the administration of antitoxin in pharyngeal diphtheria, yet its utility is equally marked in operative

Turner, A. Jefferis. Treatment of Diphtheria (British M. J., December 30, 1899, p. 1,788.) Children’s Hospital in

Brisbane, Australia:

- 1889-'94 1. Pre-antitoxin 303, died 128, 42.2 per cent.
- 1895-'99 2. Antitoxin 317, died 40, 12.6 per cent.
 - (a) Laryngeal cases.
- 1891-'94 1. Pre-antitoxin 147, died 87, 59.2 per cent.
- 1895-'99 2. Antitoxin 177, died 33, 18.6 per cent.
 - (b) Operation cases (intubation, tracheotomous or both).
- 1889-'94 1. Pre-antitoxin 166, died 109, 65.7 per cent.
- 1895-'99 2. Antitoxin 109, died 31, 28.4 per cent.

Siegert, F. Tracheotomy and intubation in diphtheria since the antitoxin treatment. (*Arch. F. Kinderh.*, 1902, XXXIII, 372-397.) Statistics of 90 hospitals, 1895-1900.

	<i>Operated.</i>	<i>Died.</i>	<i>Pr. Ct.</i>
1895	4,379	1,582	36.13
1896	3,704	1,295	34.96
1897	3,564	1,223	34.32
1898	3,768	1,304	34.61
1899	3,822	1,287	33.67
1900	3,378	1,062	31.20
	<hr/>	<hr/>	
	22,615	7,753	34.28

The mortality preceding the treatment of antitoxin serum was for 1890-1893 in 60 hospitals, 60.38 per cent.

I would here present a record of my cases in private practice which shows even a more remarkable reduction in mortality than do the records in hospital practice.

Pre-antitoxin period, without serum. Operative cases of laryngeal stenosis (intubation) 500. Recoveries 177, or 35.4 per cent. Mortality 64.6 per cent.

Antitoxin period, with serum. Operative cases (intubation) 121. Recoveries 102, or 85 per cent. Mortality 15 per cent.

The cases since the use of antitoxin

were exactly of the same type and character as those in the pre-antitoxin period. They were in no way selected and represent every case that I have operated upon whether favorable or unfavorable. Many might have been very properly excluded from the report, as they were moribund and unconscious when operated upon and no antitoxin given previously. Notable among these cases was one treated by Christian Science for a number of days until the diphtheritic membrane had extended through the bronchi, and the patient was moribund before the operation was done, and antitoxin given; and yet the fatal result is charged up against antitoxin. I sincerely believe that had antitoxin been given early and repeatedly the fatal results would have been averted in the majority, if not in all, of the fatal cases.

The life-saving power of antitoxin can hardly be estimated. Since its introduction in 1895 it may be safely said that not less than 100,000 lives have been saved by this remedy alone throughout the world.

Admitting that antitoxin was the cause of death, which is doubtful, in the four cases reported, would these few deaths outweigh the thousands that have been saved by its use? The hypodermic needle has been the cause of many a death and yet do we abandon its use? Opium is a remedy that has caused many deaths, but could we practice medicine to-day without it? Abdominal section has caused many deaths, and yet would it not be malpractice and the height of absurdity to condemn this operation? Vaccination has occasionally in times past caused death, but who with a sane mind would to-day advocate its abandonment? And so with the giving of antitoxin, we must not, we cannot condemn it when it has proven such a power for good. I would therefore conclude that the prejudices on the part of many against the use of antitoxin is not justified. If given early in

full doses and repeatedly it will seldom fail to act as a specific. It is one of the greatest boons given to humanity during the nineteenth century.

THERAPEUTICS OF WHOOPING COUGH.

BY J. TRACY MELVIN, M. D.,
SAGUACHE.

I have often thought that there is a lack in many of our society meetings of that frank interchange of experience regarding the common so-called minor complaints which make up the vast bulk of the general practitioner's work, which might have a value even greater than that of a report upon the most formidable surgical proceeding. It is not, therefore, my intention to review the excessively voluminous literature which has already been presented to us upon this subject, but merely to report in brief my own experience in striving to relieve this malady.

Several times in my experience I have encountered slight epidemics of whooping cough; and had, I thought, acquired some slight ability to treat it, but was easily drifting into the prevailing opinion which characterized it as one of the minor ailments of childhood, until I was rudely awakened last year by a severe epidemic breaking out in my practice, with a death rate which startled me and led to a more serious study of it.

I confess to a great surprise, when statistics showed that in the city of London, for instance, one-fourth of all deaths in children under five years came from this cause, and that it annually caused about 2.5 per cent of the total mortality both in the United States and in England, and further to discover that from 25 to 30 per cent of all reported cases in patients under one year were fatal, under any form of treatment; and that in 1880 in the United States there were over 11,000 deaths from whooping cough, as against 16,000 from scarlet fever, all of

which was to me sufficient evidence that I was not dealing with a trivial disorder by any means.

The German proverb, that "whooping cough lasts until it stops," is unfortunately the common opinion of the public, and to a great extent of the profession. And, to be honest about it, we must confess that the average treatment used or advised by our authorities is of so little service in either lessening the distress or shortening the attack, that we are not surprised that many cases of severe whooping cough are never even brought to a physician. The fact, too, that it is not considered to be a disease sufficiently serious, although known to be exceedingly contagious, to even require reporting to health authorities, or to necessitate the child's absence from school if it can possibly go, confirms its classification in the popular mind as "trivial."

This absence of quarantine, isolation or even restraint is not a serious matter for children of school age; but it becomes a most serious matter when the disease is conveyed, as it is almost sure to be, to homes where there are infant children, among whom the mortality is so severe.

This popular idea, too, of its trivial nature, together with its prolonged course, makes it very difficult in private practice to control our patients sufficiently to either check the spread of the infection or to accurately observe the effects of our treatment during the various stages of the sickness. The vast number of therapeutic measures which from time to time have been advocated as palliative or curative in this affection doubtless often originate in this imperfect observation or the assumption that the remedy was effective when given during the natural decadence of the attack.

It is manifestly impossible in the average case to administer remedies at frequent intervals by day and night for a period of thirty days or more to an active

child who is not seriously sick; so when parents at length weary of coming around for more medicine we often assume that the case has improved under our treatment, when in fact perhaps we have merely confirmed the parent in his already formed opinion that no treatment has any real effect in these cases. It is a matter of never-ending surprise to me that our large institutions where conditions may be controlled throughout, practically never give the profession authoritative conclusions regarding the value of any definite treatment in any disease, with the possible exception of typhoid fever.

My own series of cases in this epidemic of whooping cough numbered 158 patients, of whom eight died. I also signed death certificates in eight other cases where no physician had been employed and the history was clearly of this trouble. From careful inquiry I should estimate there were not less than fifty additional cases that recovered without professional consultation in my territory.

In nearly every fatal case the cause of death seemed to be merely the strangling of the infant by the mucus during an ordinary paroxysm of coughing, accompanied perhaps by a spasm of the glottis. In this way death occurred repeatedly in infants who apparently were not severely sick. In only two cases did bronchopneumonia occur as the fatal complication.

Of my own cases 36 were infants under one year, with 8 deaths. Forty-eight more were under five years and 69 more under eighteen years. Eighteen cases were over eighteen years, three being over seventy years. This would seem to show a marked susceptibility on the part of nurslings, and that even old age was not an exclusive factor in immunity.

The average duration from the beginning of the cough until its cessation in 12 wholly untreated cases was 45 days, and I will confess that the majority of

my own cases went to the same limit, although a respectable minority were very much shorter, for which perhaps the treatment should have some credit.

In casting about for suggestions in the line of effective treatment I was early disgusted to see the great number of vile compounds in archaic combinations, which are presented to us, not only in our standard text-books, but also in our most advanced alleged up-to-date journals. Mixtures containing alum, quinine, chestnut leaves, bromoform, carbolic acid, assafœtida, creosote, and others which are so freely advised in liquid combinations, may be at times of value. But few parents could dose their children with them daily for a month, and their routine administration is not justified by their results.

I was, however, beguiled by the very flattering reports which have recently appeared in many journals advocating the thorough and prolonged administration of calcium sulphide in this trouble, on the theory that sulphuretted hydrogen excreted by the breath and mucus was inimical to the bacterial cause. I tried this most thoroughly in 56 cases, and failed either to abort the attack, or mitigate the paroxysm.

I tried in several cases by administering it to the mother to prevent the nursing from being attacked or to mitigate its severity. Although the drug was proven present in the milk it failed me in aborting any case, although in several cases of older children the disease ran a much shorter course.

Peroxide of hydrogen was another remedy which I thought should be a rational one, but neither internally nor by spray did it appear to be of distinct benefit. Belladonna and hyoscyamus pushed to tolerance perhaps controlled the paroxysms to some extent; but, although used in some 40 cases, were seldom of real benefit, as it appeared to me. Heroin

was also used as palliative in some 25 cases. The results were not at all satisfactory, in young children especially, as they seemed to strangle much more alarmingly than without it. I mention these failures merely as examples of many others and because they served to eliminate from my work quite a list of agents that had been seemingly successful in other hands.

Fifty-one of my cases received antipyrine for a longer or shorter period, and each case appeared to receive marked relief in the number and severity of the paroxysms. In fact, I consider this remedy to be almost the only internal agent whose effects were sufficiently constant and pronounced to justify its claim as a real remedy in this affection; and yet its well known depressant effects make it unwise and unsafe to use in any routine way, or for the long period during which it is indicated, without careful watching.

The use of a 4 per cent spray of this same agent appeared to be quite efficient in lessening the number of the paroxysms in the ten cases where it was so used, thereby obviating the need of giving so much internally. Cocaine used in this same way and also internally as advised by several authors, was not in my experience of the same value. This leads me to believe that there is some other virtue in antipyrine beyond a local anesthesia.

The popular use of a widely advertised cresoline compound by inhalation which seemed in many cases to give very satisfactory results, led me late in the epidemic to try the use of creosote, pure carbolic acid and crude carbolic acid, by vaporizing from a heated surface and keeping the air loaded with the agent. This furnished a more or less constant medication and from the crude or impure carbolic acid I obtained very marked results. Two infants especially who were severely attacked made easy recoveries

after I began its use. In every case where it was used it appeared to shorten the duration of the disease from one to two or three weeks. I shall certainly use it more extensively and with much confidence in the future. Its unpleasant, clinging odor is a slight drawback, and the possibility of toxic effects must be borne in mind.

Formaldehyde has also been highly recommended by many recent writers, to be used in this same way, keeping the air of the living and sleeping rooms evenly charged with just as much as the eyes will tolerate without smarting too badly. This I used as the main treatment in 14 cases, all of whom recovered in from 22 to 26 days and were not severe.

These two last mentioned agents have the advantage of being constantly at work day and night while the child is in the house, and yet producing no disturbance of the stomach or other organs while being administered. With the hope that possibly infection might be restrained to some extent in the school rooms, I had the floors sprinkled each night toward the last of the epidemic with diluted formalin and used the formaldehyde generator in each room once a week. The morning airing made the room livable to the scholars, but enough gas remained during the day to give continuous inhalations; and the teachers were all positive that the paroxysms of coughing were very much less severe among the children after that plan was adopted, and no harm apparently resulted, although I have questioned the wisdom of submitting 200 children, taken at random, to the continuous inhalation of this gas for eight hours a day, even if it be quite dilute.

The conclusions, then, which I have drawn from this epidemic for my future guidance are: First, to depend upon antipyrine to palliate symptoms where necessary in older children.

Second, to depend upon crude carbolic acid with its contained cresol vaporized

in the room constantly in all cases among small children and infants.

Third, to use formaldehyde in the same way at night, and in the day when practical, with older patients.

In this way I think that the severity of the symptoms can be greatly ameliorated and the duration of the attack materially shortened in the large majority of cases, and without adding further discomfort or punishment to the patient.

Discussion.

Dr. Stuver: I desire to congratulate Dr. Melvin on his valuable, practical paper, also to corroborate the good results obtained from the use of antipyrine. In what way antipyrine acts I cannot say; but judging from the beneficial results obtained by its use in chorea, I think it possibly lessens the irritation of the motor centers of the brain and relieves the spasmodic action found in whooping cough by that sort of action on the nervous system. With regard to its debilitating and depressing effects, I nearly always use it combined with small doses of digitalis. Tincture or fluid extract of digitalis combined with antipyrine will sustain the heart and correct that tendency to depression. As the doctor has indicated, I have found it to be by far the most effective medicinal agent in the treatment of whooping cough. Many years ago I tried burning sulphur in the room. Burn sulphur in the room early in the day, let the room air out to a certain extent, and then have the child sleep in the room at night. I found in the case of my own family when my children had the whooping cough very severely, that it exerted quite a marked effect; the paroxysms were not nearly so severe after I resorted to the sulphur treatment as they had been before.

Dr. Sol Kahn: In the case of a disease which has been treated as ineffectively as whooping cough of course we all have our specifics and we all have our favorite modes of treatment. But in listening to the doctor's line of treatment, I find he overlooked one thing which I have used to some extent quite effectively, and that is bromoform. Bromoform with some cases acts rapidly and very effectively. I have seen the disease apparently cut short, at least the severe paroxysms did not seem to appear with some children who took bromoform. With others brom-

oform seems to have no effect whatever. The statement which the doctor made in his paper, that the public, and I think the medical profession to some extent, do not regard whooping cough with sufficient seriousness to isolate the cases is undoubtedly true. Now the doctor says he had them use formalin in the school room and the teachers informed him that the paroxysms of cough did not seem quite so great. I think there should be no paroxysms of coughing in the school room. When the paroxysms appear the child should disappear. We probably could censure the State Board to some extent for not informing us better on these subjects. They suppose we know what to do in reference to permitting children to go to school, which ones, and how long we should isolate them, and how long they should be quarantined. But we have no regulations governing the local or the state boards of health and we are at sea as to what we are to do, and must use our own judgment. My judgment is that we should never permit a child with whooping cough to attend school.

Dr. Lindsay: The most important factor in reducing the mortality in whooping cough is the protection of children under five years of age. According to statistics 80 per cent of all deaths from whooping cough are under five years of age. These children need not necessarily be exposed; they are not going to school and it is not necessary for them to be exposed. It seems to me if you want to cut off eight-tenths of the mortality the proper way is to protect the first five years of the patient's life.

Dr. Maddox: I would like to ask the doctor what his reason is for using the crude carbolic acid instead of vapo-cresoline? It is a proprietary article I believe, but it is an excellent ingredient for vaporizing, and I have thought in several cases that I had obtained excellent results from it. I believe it contains creolin or carbolic acid.

Dr. Higgins: For about eight or ten years past I have been using this method of treating whooping cough, the vaporizing of crude carbolic acid, especially the vapo-cresoline, and have come to think that if taken early enough very little, if any other, medication is required. The paroxysms lessen in number very materially. In addition to this I have used belladonna quite largely, and antipyrin especially at night. I believe if we take these cases early, that the use of the belladonna, the vaporization of the cresoline at night, and so far

as it is possible an open air treatment of the cases during the day, will be found to be satisfactory. Not only do we get the ordinary effect of good air, but we get freedom from constant reinfection by treating the cases in the open air. If these epidemics occur in cold weather, then it is important to avoid exposure under such conditions as will tend to increase the bronchitis. This is always present to a marked degree. But, having this in mind, having the patients out upon sunny porches, I think is of very great assistance in the treatment of these cases.

Dr. J. W. Smith: I wish to compliment the essayist for presenting such a practical paper on such a practical subject. Of course we have all tried various things in whooping cough. I have used antipyrin in my practice quite extensively, and I find quite a little advantage by combining strychnia with it in doses suitable to the age. There is another thing that I have used with very satisfactory results, i. e., the inhalation of a solution of formaldehyde, by the use of the following arrangement: At the houses we generally find those fruit jars that will hold about a pint. I procure a large stopper, which will be from two to three inches in diameter, which I perforate with two holes. Through one I put a glass tube that don't come quite to the surface of the solution, consisting of about 40 per cent of formaldehyde. The other tube is put through the other hole but not reaching the surface of the fluid mentioned. I would bend it over a spirit lamp, and to the end attach about a foot or a foot and a half of rubber hose so that the child could inhale the vapor from the formaldehyde. I have had rather excellent results from it.

Dr. Melvin: In regard to bromoform, which was first brought forward some twenty years ago, it is, as the doctor says, wonderfully efficacious in a few cases. But the vileness of the taste and the repugnance which the patients have to it after it has been given a few times is one of its insuperable objections. In regard to dismissing school when whooping cough breaks out in the community—if the pupils had been dismissed from our schools there wouldn't have been any school in that community all winter. I think perhaps it would have been a good plan if we had done so. I heartily favor the suggestion that our State Board of Health give us some authoritative directions in regard to handling such an epidemic as this. If it is considered best

to close the schools entirely it should be done. The matter was considered in my own case and I advocated the closing of the schools. As the doctor said, the place for the children is out of doors in the day time, but if they are going to climb over the fence and see other children, the contagion will spread anyway. If the protection which every infant child should have is given by the parent under the direction of the physician, and if every effort is made by the physician to warn the parents of the great danger which there is in permitting infected children to come into the vicinity of infants especially, the mortality would be very much lessened. The question of protecting the infants of every family from whooping cough is one of the most important of all the questions in connection with this disease, one of the vital ones because it is overlooked, because parents will not recognize the importance of it and because they will disregard the suggestion of the physician; and the physician must put it down as a law that other children must be sent away from home, that isolation must be so far as practicable enforced. In regard to my preference for crude carbolic acid rather than vapo-cresoline, I would simply acknowledge my unalterable opposition to proprietary remedies of all kinds. Vapo-cresoline is a proprietary remedy, the exact composition of which is kept private. Yet we all know it is nothing more nor less than our old friend crude carbolic acid which sells for a dollar a gallon, while the vapo-cresoline sells under that name for many times that price.

THE RESULTS OF X-RAY TREATMENT.

BY SAMUEL BERESFORD CHILDS, M. D.,
OF DENVER.

Within the past two years many valuable reports have been made on the efficacy of the X-ray in the treatment of various lesions of the body. As time elapses and we can watch the subsequent course of our cases we are able to draw conclusions which will help place X-ray therapy upon a definite basis. Like every new remedy, much has been claimed for the X-ray, some of which doubtless time will not substantiate. But anyone who has taken the pains to observe the results

obtained by various operators in the cases reported must be convinced that the X-rays have a very beneficial influence upon certain diseased structures.

In this paper I have gone into as little detail as possible in the relation of the cases that I have to report, but have summarized some of the results that I have obtained and drawn observations and conclusions therefrom.

Epithelioma: In a paper read before the Denver and Arapahoe County Medical Society, October 7, 1902, I reported six cases of epithelioma, either entirely cured or well under way toward recovery. Of these cases one remains cured after sixteen months, one after eleven months, one after twelve months, one after eight months, and one which was cured in July, 1902, had shown no sign of recurrence after four months, and has not been heard from since. The sixth case, an epithelioma of the lower lip, in which I reported the ulcer as healed, but leaving some induration, stopped treatment before the induration had disappeared and in a short time there was a recurrence in this area. This case has not returned for further treatment, but I understand the growth has extended rapidly. In this connection I wish to emphasize the necessity of treating these epitheliomata of the lip very persistently until all signs of induration have disappeared. I have treated several such cases, and find that the ulcer may heal rapidly, but the induration generally disappears only after several interrupted series of treatments.

In addition to these I will report seven cases which have been healed after respectively eleven, nine, six, four, three, two and one months. Of these thirteen cases, three involved the lower lip, one the lower eyelid, two the nose, five the face, one the neck, and one the tongue.

Carcinoma: Seven cases, six of which were inoperable. Areas affected were the spine, jaw, face, rectum, uterus and

tongue. The X-ray brought relief of pain and lessened the discharge when present in all but one, this being an extensive and very rapid growing carcinoma of the jaw, which soon involved the parotid gland, and doubtless the facial nerve as well. Progress of the disease was checked in none of these six inoperable cases. The remaining case was a recurrent carcinoma of the breast, and presented in the scar area an irregular deep ulcer, about one inch and a half in greatest diameter. The patient would not consent to an operation. The ulcer healed in about two months, after forty-three treatments had been given, and remains so at present, although only a short time has elapsed since recovery.

Sarcoma: One case of small rounded sarcoma of surgical neck of humerus. Operation was advised, but patient refused. Area was treated for one month. Occasionally there was relief from pain for one or two days, but on the whole the anodyne effect of the rays was a failure, especially during the last two weeks of treatment. The rays had no effect in checking the growth. Patient finally consented to operative procedures, and an interscapulo-thoracic amputation was performed by Dr. C. A. Powers. The rays have been used persistently since the operation, as a prophylactic measure against the return of the trouble.

Epulis: One case of four years' duration. Tumor the size of a cherry was dependent from gum of upper jaw near incisor teeth; the pendulous part was removed by a ligature. The base received thirteen treatments. Recovery. No recurrence in four months.

Rodent Ulcer: Four cases; two in early stage, with translucent, irregular, yellowish nodules, with center covered by scab, one involving the cheek, the other the surface behind the ear. Area involved was about the size of a dime in each. Both

were cured and have remained so, one for seven months, the other for three months. Of the two other cases, one was inoperable, had persisted for twenty years, involving an area of two inches in diameter, over the left malar prominence, and extending into the outer canthus. It was deeply ulcerated, and surrounded by a raised cartilaginous rim; the lower eyelid was much indurated and could not be everted. The cartilaginous rim was curetted away and the entire area treated for nearly three months, sixty-five treatments being given. The improvement has been marked, and at present the area is nearly healed, a small serous scab covering the center. The induration has left the lower lid.

The fourth case presented an ulcer one inch and a quarter in greatest diameter, with the characteristic raised edge, and was located mainly behind the left ear but extended also below and in front of the ear. It had persisted for ten years, and had been operated upon once. This case proved very obstinate in healing, requiring about five months of treatment. After three months' cessation of the treatments there was a recurrence near the lower margin of the scar. I am at present treating this area, and signs of healing are present. Possibly this recurrence might have been prevented, if a wider area had been exposed in the original treatments, although the opening in the mask covered an area well outside of the raised edge.

Tubercular Glands: Sufficient time has elapsed since treatment of six cases of tubercular glands of the neck to enable me to estimate some of the effects of the X-ray in this condition. We all know from observation that it is the nature of tubercular glands to increase or diminish in size alternately from time to time without any treatment. It is hardly to be expected, however, that a case which is improving without treatment should present

itself for any expensive operation or remedy. Hence we may infer, as was the fact, that the glands in these cases that I report, were enlarging, and some of them quite rapidly. Furthermore, the enlarged masses of glands had been present in four cases for several years. In one case the glands had been removed from the anterior and posterior triangles of one side of the neck by two separate operations. Of the six cases, five were treated more or less successfully, and one was a failure.

The case of failure was in a boy, four years of age, who was sent to me by Dr. Bonney. A mass of glands had developed below the angle of the jaw, had grown rapidly, and at the time of beginning treatment, both Dr. Bonney and I suspected that the glands had commenced to break down. This case was treated for two and one-half weeks, receiving twelve treatments, but the mass increased in size and at the end of this time the case was referred for operation to Dr. C. A. Powers, who removed the glands and found suppuration, as had been suspected. In the remaining five cases the glands have been reduced in size. In one case the mass, which was of the size of a lemon, disappeared, and a small fibrous thickening beneath the sterno-mastoid muscle marks the original site. In another case the glands were much reduced, and have remained comparatively insignificant in size for the past sixteen months. This case I reported to the Denver and Arapahoe Medical Society one year ago. In the three other cases, marked subsidence of the masses has been noted, which has so far been permanent, covering periods of several months each.

Tubercular Joints: I have treated one case of tubercular knee joint, for a period of about one year, one hundred and twenty-five treatments having been given. The case was of long standing, the knee was much swollen, very tender to touch and painful. This case was referred to

me by Dr. Packard, who had applied a cast to the knee, and a hip splint with perineal strap some nine months before sending the case for X-ray treatment. The splint and cast have been worn ever since, the cast being removed at each treatment. The following changes have been noticed in this case: There has been a gain of twenty pounds in weight, the swelling at the knee has been much reduced, pain has been relieved and the tenderness has largely disappeared.

Hodgkin's Disease: I reported a case of this disease to the Denver and Arapahoe Medical Society one year ago. My report then showed a diminution in the circumference of the neck at the level of the clavicle of two and one-fourth inches. This case, the history of which was given in the (New York) Medical News for January 24, 1903, has not been treated since December 17, 1902, and has not had any return of the trouble. Indeed, the glands have continued to decrease in size, and the patient feels well.

I have another case of Hodgkin's disease, at present under treatment, in which improvement is taking place as shown by the diminution in the glandular enlargements, which involved both sides of the neck and the groins.

Lupus Erythematosus: Three cases. I have not been able to keep track of two of these cases. The third, a very extensive affection of both cheeks, ears and nose, has remained cured for eleven months.

Acne Rosacea: I will report three cases, one of these with a well marked hypertrophic condition, the end of the nose being enlarged at least twice its normal size. This has been greatly reduced by the rays, has lost much of its redness, the upper surface being nearly normal in color, while the alæ are still somewhat red. The original condition had persisted for more than twenty years. I expect to treat the area again in a short

time, but the improvement that I have reported in this case has persisted for four months. The other two cases presented the usual appearance of this trouble, after it has persisted for several years. Both cases were cured, and have remained so, one for six, the other for four months.

Without entering into the details of the cases, I will state that I have had marked success with the rays in the treatment of *acne vulgaris*, *senile keratosis*, and *chronic localized eczema*; the technique that I have employed in the various cases has been that recommended by Pusey of Chicago, which is fully described in his recent work on the Roentgen Ray in Therapeutics.

We are indebted to the researches of Kibbe, Scholtz, Pusey, Stewart and others for our knowledge of the changes which take place in the cellular structure of tissues exposed to the X-rays. All are practically agreed that in both normal and pathological structures the X-ray produces a degeneration of the cell bodies, followed soon by an inflammatory reaction with development of new blood vessels and their distention with leucocytes, which pass into and around the degenerated cells, completing their destruction, and lastly, causes connective tissue to replace these degenerated cells. The pathological tissue forming the different growths grouped under the general head of cancer is composed of cells of relatively low vitality, which experience teaches us break down easily. Hence we see that we can attribute a selective action of the X-ray to these embryonic cells and also why it is that by the aid of the rays we can break up the structural arrangement of these cells and cause their disintegration and absorption without impairment of the vitality of the normal tissue. If the intensity of the rays is too great or too long continued, we get the breaking down of the normal elements as well and

the production of gangrene. This is an unfortunate accident and one which very rarely happens at the present time in the hands of an experienced operator.

It can be readily seen that in using the X-rays in the treatment of disease, we are dealing with a very powerful agent, capable of doing a vast amount of good when skillfully applied, but fraught with danger to the patient when used by the inexperienced and to the operator when long continued in experimentation. In the successful use of the rays we must have learned thoroughly by experience the intensity and quality of light which is best adapted to each individual case, also the proper distance of the light from the surface, and the length of the exposure required. The X-ray operator sails between Scylla and Charybdis, for too weak a light will not produce results, and may even act as a stimulus to the growth, while too strong a light, vigorously applied to an extensive surface where a large amount of tissue is liable to be broken down, may overwhelm the system with a fatal toxemia.

Although it is possible to heal some of the lesions without producing a dermatitis, my experience leads me to believe that when the healing process has been established by a well-marked dermatitis, recovery takes place more quickly, and there is less danger of a recurrence.

With operable deep malignant growths, the results reported by many X-ray operators do not justify us in temporizing with the X-rays. It is a well established fact, that the sooner these growths are thoroughly removed by the knife, the better the chance of complete eradication from the system. The time for the X-ray is after the operation, as a prophylactic measure; and at the present time it is the consensus of surgeons and X-ray operators that the sooner and more persistently the rays are used after such an oper-

ation, the better are the chances for non-recurrence of the growth.

In malignant disease of the internal organs, the results have not been sufficient to warrant us in the belief that the rays, with our present technique, can effect a cure. We have been able to relieve the pain to a marked degree, in cancer of the cervix and rectum, but have not been able permanently to check the progress of the disease.

The application of the rays, although painless in itself, has a marked anodyne effect in the majority of cases. I have had three cases in which I failed in this respect, however, and in each of the three the disease either involved a nerve trunk, or pressed upon a large plexus of nerves. In broken down suppurating masses the rays have a tendency to stimulate the casting off of sloughs, to diminish the discharge, and greatly to modify the odor. This, with the relief of pain, certainly commends its use in this class of cases.

Sufficient time has not elapsed since the first cases of malignant disease were successfully treated to warrant us in applying to them anything but the term, symptomatically cured, and it is in this sense that I have used the word in this paper. When surgeons report recurrences of carcinoma, ten years after operation, we feel that there is no definite time limit for this disease. Realizing, however, that it will require several years to establish a just judgment on the value of the X-ray as a remedial agent in certain malignant forms of disease, and that even then we can only arrive at its correct status after a careful synopsis of the results or failures reported by many different operators, I have endeavored to draw a few conclusions from my own experience, and that reported by others.

CONCLUSIONS.

First: The therapeutic field of greatest usefulness of the X-ray is with super-

ficial epitheliomata, rodent ulcer and lupus vulgaris, when the area involved is conspicuous, as on the face or neck, and where a comestic result is particularly to be desired.

Second: Healing by the X-ray leaves the smallest and least perceptible scar, for, when properly applied, it destroys only diseased tissue, and particularly commends itself for use in those localities where it is undesirable to sacrifice the surrounding tissues.

Third: The X-ray is very efficacious in many obstinate cases which have resisted the ordinary methods of treatment, such as acne rosacea, chronic localized patches of eczema and psoriasis, lupus erythematosus, and kindred skin diseases.

Fourth: The results in tubercular glands, when no suppurating focus is present, are encouraging, and the enlarged masses of glands in Hodgkin's disease appear to be susceptible to the treatment.

Fifth: The X-ray should not be employed in any operable, deep malignant growth, with two exceptions: 1st, as pointed out by Coley, where a surgical operation would sacrifice an extremity, and even in this case, the value of the X-ray is uncertain, and is determined by a few weeks' trial; 2nd, as mentioned by Pusey, with a view to limiting the operation by checking the growth, when immediate operation is inadvisable.

Sixth: The X-ray may be of service even in inoperable malignant growths by relieving pain, diminishing discharges, and lessening their offensiveness, and in many cases life may be prolonged in comparative comfort for a considerable period of time. Furthermore, from these apparently hopeless cases, a number of remarkable improvements and a few recoveries have been reported.

Seventh: The X-ray should be used as a prophylactic against return, after all

operations for the removal of deep malignant growths.

Eighth: The area of exposure should be wide, and the intensity and quality of the rays should be adapted to each case.

Discussion.

Dr. Stover: I regret I did not hear the opening part of this excellent paper, but from the portion I did hear I see that the doctor's experience coincides almost exactly with my own. In epithelioma of the skin I agree entirely with him that our results are practically assured. I do not feel hesitation any more in promising a "cure" as nearly as one is able to promise cure for anything. In these cases of course time is required to tell how they are going to turn out; but I feel that we are always able to heal them over and to remove the diseased tissue and get rid of the induration that is underneath and around them. If recurrence does take place it is very easy to "ray" them some more; while if an operation has been done and the tissue has been sacrificed the patient is certainly not in as good condition to stand a recurrence as if the "ray" treatment had been used.

I have until recently declined to treat those cases where there was involvement of the glands. But I am now treating one case in which there is gland involvement—an epithelioma of the lip with the involvement of the gland under the chin. I am somewhat in doubt about this gland really being infected. The patient had been using some very irritating lotions, pastes, and so on, "on his own hook," with the result that this gland swelled up very suddenly, rather than slowly as we would expect. I told him I would treat him for a month experimentally; if the gland does not decrease very fast then I shall recommend removal of the diseased tissue and extirpation of all the glands. But in most of the cases, the ordinary cases that we get, we can promise a "cure;" and there is the one place where I have advised the ray rather than surgery. In another patient—an epithelioma of the nipple, with considerable induration beneath it, and with a gland near the edge of the breast distinctly palpable—who absolutely refused operation after I refused the ray, I considered I was justified in using the ray. The result was that the ulceration healed up very nicely, and at the end of something like a year of treatment the rather large indurated area is practically gone. The gland itself disappeared

some time ago and there are no signs of any other. Those are practically the only cases where I have ever seen anything like a result in glandular involvement.

I have treated a number of cases of malignant disease of the tonsil with involvement of the glands of the neck, and the result in every one so far has been death—possibly due to the fact that most of them could not open their mouths wide enough to insert a tube which would place the rays directly on the growth. We are hoping to get these tubes with a very small prolongation so that the ray is produced at the end of the prolongation; and in that way we may be enabled to apply it direct to the growth, and may perhaps expect somewhat better results. I have treated a number of cases of recurrent carcinoma of the uterus, several of them having died and several of them are under treatment. I think that in two that I am treating now I can see a distinct diminution of the size of the growth. There has been a lessening and a stoppage of the hemorrhage, and an entire change in the discharge, which has in one of the cases entirely lost its odor. But I do not feel that these are very promising cases.

I have one case of sarcoma of the nostril in which I have used the ray for a while, with the result of arresting the growth, and then switched over to radium. But this is not a completed case. In another case of sarcoma, where the clavicle has been removed for sarcoma, there was a recurrence in the neighborhood which got well. At the last time I saw the patient it was perfectly well, and that was some months ago and I have not heard anything from it since. I have tried the X-ray in one case of goiter. Dr. Campbell of Chicago reported that during his treatment of a case of acne a goiter disappeared; so at the patient's solicitation I tried it but failed to do anything but slightly reduce it, so far. As my practice is limited to radio-diagnosis and treatment, I have opportunity for experiment in many new conditions, and hope later to make a report to you of some interesting work in this line.

Dr. Powers: The therapeutic value of the X-ray is, as Dr. Childs very well says, as yet undetermined. The measure is on trial, and such papers as this, and such as are being put forth by Dr. Pusey of Chicago, and other men, will aid very much in determining its definite place. I am entirely in accord with Dr. Childs and Dr. Stover when they say that

the word "cure" in malignant disease should not at this time be used. We may give, as Dr. Childs does, the condition at the end of a certain number of months, saying that not enough time has gone by to enable us to state whether the cases are permanently cured. We know that in operative work the lowest limit of time which we can place is three years, and that unfortunately a certain percentage of our operative cases relapse after that time.

I have watched these cases of Dr. Childs with the greatest possible interest. We are convinced that the X-ray, suitably employed, can heal over a large percentage of cases of superficial epithelioma. What it can do for the more important class of deep seated carcinoma we do not know as yet. That it relieves pain we do know. That it prolongs life in a considerable percentage of cases I am inclined to believe. I am as yet unfamiliar with any authentic case of deep seated carcinoma which has been relieved for a considerable length of time. By that I mean perhaps a year and a half or two years. My practice is this: After operating for carcinoma or for sarcoma I send the patient to Dr. Childs and have him given the benefit of the X-ray as long as Dr. Childs sees fit to use it. In many cases I believe it has been of material benefit. I can recall one case of cancer of the breast which was operated perhaps eighteen months ago, in which at the time of operation I felt the prognosis to be very bad. I felt that relapse was probable within nine or twelve months. If I remember rightly that patient has now gone some fifteen or eighteen months without relapse. I think that it is our duty to give this agent wide employment, and as years go by we shall be better able to determine its exact place.

Dr. Childs: Not having time to explain the word "cured," which I used in one or two of the cases mentioned, I make this statement, which Dr. Powers has practically taken out of my mouth, that sufficient time has not elapsed since the first cases were successfully treated to warrant us in using anything but the term "symptomatically cured" in them; and it was in this sense that I have used the word in the paper.

THE RECTAL SYPHON.

By R. W. CORWIN, M. D., PUEBLO.
Ralph Winnington Leftwich, M. D.,
of London, has recently written a little

book entitled "On Syphonage and Hydraulic Pressure in the Large Intestine, With Their Bearing Upon the Treatment of Constipation, Appendicitis, etc." The anatomy, physiology and physics of the large intestine are thoroughly described and the action of the intestine cleverly demonstrated by post-mortem and other methods.

When we call to mind the anatomy of this portion of the intestine, remembering the anus is lower than any other portion of the gut when one is in a standing or sitting position, we at once realize that the large intestine is a natural syphon, and when the intestinal syphon is set in action, nature and physic does the rest.

But there are times and conditions when the natural syphon or large intestine cannot do unaided all that is desired, and artificial assistance is required. Physic may fail, and enemata give no relief. Especially is this true where a patient has a tender and distended abdomen, obstruction due to pressure, gas or otherwise, and the condition of the patient necessitating a horizontal or elevated hip or lowered head position.

To aid nature under these and other conditions I suggest a very simple device, namely, a rectal syphon. It may be likened to a stomach tube, but larger and with appropriate rectal attachments for inserting the tube beyond the sphincters, dilating the bowel and reaching the sigmoid flexure when demanded.

After placing the tube in position the distal end is elevated, the selected enema introduced and the filled tube lowered below the level of the patient, the amount of difference in elevation between patient and outlet of tube depending upon the amount of suction required. Where a bed is low or near the floor the tube may be lowered through a window to increase the force. The principle of the syphon is known to every physician, but I have not known of its application in this con-

nection. The rectal tube is frequently employed, but I do not think as a syphon.

No doubt damage may be done by using too much force, but here, as elsewhere in our profession, judgment is demanded on the part of the operator. Feces may obstruct the tube, but that difficulty is easily overcome; the size of the tube that may be employed is of advantage in this connection. Through the kindness of Dr. W. T. H. Baker, superintendent of the Minnequa Hospital, and Dr. C. E. Smith and Dr. Wm. Senger, also of the hospital, who have assisted me in demonstrating the usefulness of the rectal syphon, I can speak of its practicability.

When the pelvic organs are inflamed or the peritoneum sensitive, it is often with the greatest difficulty and suffering the bowels are made to move by the usual methods. Almost impossible is it for some to force a movement of the bowels when in a horizontal position. The rectal syphon overcomes all these difficulties and does it without effort or discomfort to the patient.

This simple adaptation of old methods to new means, increasing Dr. Leftwich's idea of syphonage, I believe will be found feasible, benefiting the patient and assisting the doctor.

Discussion.

Dr. Spivak: I was greatly interested in this paper before I heard it because the title itself brought to my mind the "Colonic Siphonage," a little booklet of Leftwich, which I read about two weeks ago. It is certainly very ingenious on the part of Dr. Corwin to devise this measure. I have tried several times to use siphonage for purposes of examining the intestines. This was introduced by Boas some five or six years ago in the first edition of his book on diseases of the intestines, in which he uses siphonage for the purpose of examining the fecal matter and other materials in the intestines. I have tried it several times, but I did not succeed every time to siphon out the contents of the intestines. It takes quite a good deal of shoving the tube up and down until the water is made to go back. It seems as if the intestine catches the tube and pre-

vents the flow of the water backward. I have thought always that the rectal tubes that are now on the market were not sufficiently large, and that is the reason why the water does not flow backward. It is necessary, I think, to have the calibre of a tube perhaps three or four times the size that is now on the market. Although the time is very short, I would like to ask Dr. Corwin to indicate in a few words what kind of tubes he uses, as I do not always succeed in bringing a flow backward.

Dr. Corwin: I will answer that question by simply saying that the simplest tube I have used is the ordinary stomach tube. You have found objections to it simply because the tube was small, the colon will collapse round about the tube and interfere with the backward flow. But if you will use a larger tube I believe you will have no difficulty, at least in most cases. There may be cases where you will not get the result, but I have not yet found them. I have often used it in cases where there was paralysis from lead poisoning and it has succeeded there; and if it succeeds there it will be apt to succeed in any case except where there is absolute obstruction.

A TREATMENT OF TUBERCULAR ULCERATIONS OF THE REC- TUM AND PERI-ANAL REGION.

By D. P. MAYHEW, A. M., M. D.,
COLORADO SPRINGS.

Although the series of cases of tubercular ulceration of the rectum and perianal region so far treated by the method I wish to present is a short one, yet the fact that every case has been cured and that in a shorter time than by any other I have seen employed, prompts me to recount it in the hope that it may excite discussion, and that perhaps in the future I may get reports of its value in the hands of others. As we are all aware, ulcerations of this character are stubborn and anything which bids fair to have value is welcome.

Another reason for the paper is to call attention to lesions that many times are overlooked in the course of the routine examination by the physician in charge.

At least one of my cases had been so missed. The examination of the rectum is apparently so disagreeable a procedure that many of us are tempted to slight it, and only when our attention is particularly called to it do we give it that scrutiny which it deserves. The fact that there may be considerable lesions of the rectum of tubercular origin with the production of very slight subjective symptoms, or none at all, contributes to this tendency. Yet the existence of such lesions must have an unfavorable influence on the health of the patient, and if, as is usually the case, it is but one of many manifestations of tubercular disease, it may be just the additional weight which will turn the balance against ultimate recovery.

A brief outline of the etiology, pathology and symptomatology may not be amiss. It has been shown that ulcerations of this type may result from a primary infection of the parts. Straus of St. Louis reported such cases at the last meeting of the A. M. A., but in the great majority of cases they are secondary to infections of other localities. In such cases the determining cause is to be found in a lessened local resistance due to hemorrhoids, catarrh of the rectal mucosa of either the hypertrophic or the atrophic form, fistulas or the scars of wounds of operation. To such areas of decreased resistance the bacilli may be brought by the blood stream or by way of the current of the alimentary canal. An actual solution of continuity of the tissues does not seem to be necessary, though of course it would facilitate the entrance of the germ.

In a short paper like this we may consider together the ulcerations of the rectum and the region immediately outside; the more so as they are frequently combined in the same individual, or even may be fused into one lesion extending on both sides of the muco-cutaneous border.

The ulcerations of both show the same general characteristics. They are irregularly oval in shape, are surrounded by a greater or less area of induration, are shallow with undetermined edges, and a base that is slightly raised in the center. They show no tendency to confine themselves either to the rugæ of the bowel or to the sulci between, but spread impartially over both. When they are in the anus this point will help to differentiate them from non-tubercular ulcerations. They are covered with a grayish yellow secretion, which on being washed away discloses pale granulations studded with shot-like tubercles. These can be scraped out with difficulty and are found to consist of caseous material with a few tubercle bacilli. In my cases the granulations of the peri-anal ulcers were much paler than those of the rectum. In the latter situation they were of a light red color and were surrounded by hypertrophic mucous membrane of a deep red.

Here, as in tubercular infections of other localities, the organism attempts to protect itself against the invasion and to that end builds beneath the affected area a barrier of scar tissue. This is thin, but is seen on curetting as a tough, glistening membrane which limits the action of the sharp spoon, and which might be mistaken for the shiny surface of tense mucous membrane.

The microscope shows nothing especially characteristic of rectal ulceration. Tubercle bacilli may be demonstrated in the discharge or more readily in scrapings from the ulcers. Excised portions hardened and sectioned show the usual changes of tuberculous tissue. Some of the sections I have made have been particularly rich in giant cells.

Another form of ulceration due to the bacillus of tuberculosis which affects this region is the lupoid. This is comparatively rare. It causes great destruction of tissue, and from the descriptions which

one reads must be a truly frightful disorder. I have never seen such a case, and have no means of knowing if it will respond to treatment or not.

The symptoms of the disorder may be very slight indeed, the patient's attention being finally directed to the parts by the soiling of the underclothing from the discharges in the case of the external ulceration, or, in the case of the internal, by the appearance of more or less blood in the stools. Rectal ulceration may cause pain in the back, diarrhœa or frequent desire for defecation, etc., as do other forms of ulceration, but frequently there is no sensation beyond the feeling after a movement that there is something still in the rectum. The bowels may move and the parts be handled in the cleaning process without any pain whatsoever. The hemorrhages are usually slight, the blood as a rule being fresh but somewhat tarry. There is always mucus in the bowel and therefore in the stools. The ulcerations themselves are almost always painless, and this is true even when they extend through the sphincter and are caught in its grip. It is difficult to explain this feature, but it is possibly due to intoxication of the nerve endings. It is usually explained on the ground of the atonic condition of the sphincter, or the supposed fact that the fibrous layer beneath the ulcer prevents the involvement of the nerves in a perineuritis.

Neither the fibrous membrane beneath the ulcer nor the slight induration which is present is appreciable on palpation, and as the ulcer is shallow, nothing can be made out by the exploring finger. The diagnosis rests, therefore, on vision. A sight of the lesion may be obtained by means of any of the speculæ, valvular or tubular, but I prefer, for those which are situated in the lower three inches, the ordinary non-fenestrated bivalve, aided by a laryngoscopic mirror. An especially good view is obtained in this way. Un-

less the ulcer is very large it can be seen plainly throughout its whole extent, which cannot always be done with the proctoscope, as the lower portions of the rectum immediately above the sphincter, when ballooned, are seen with difficulty, and when not ballooned, but viewed as they collapse over the end of the tube, are wrinkled in such a way that lesions may be concealed in the folds.

The course of the disease is progressive, larger and larger areas becoming involved until the morbid processes here and elsewhere bring life to a close. Even with treatment, a few days more than desired in the interval between seances may see a very marked increase in the size.

The treatment of the condition should be directed to the increase of the resisting power of the tissues and to the destruction of the local infection. For the first purpose those means which are of value in other tubercular affections are to be used; nutritious diet, regulated exercise or rest in bed, according to the case, tonics and out-of-door life. As the local lesion is usually but one manifestation of the trouble, we must be guided in respect to the general treatment by the aspect of the case as a whole, and select those measures which will be of most benefit to the entire organism.

In the treatment of the local condition have been employed all of the means used for ulcers in general. Caustics, the actual or the galvanic cautery, the curette, excision and many medicaments, among which methylene blue seems to hold a high place. I have, however, hit upon a method which has given me very good results, and the report of which constitutes the real reason for this paper.

Treatment: The diagnosis being made, the ulcer is painted with a saturated solution of trichloroacetic acid, care being taken not to allow it to spread over the healthy tissue. The next day this is repeated, and after waiting a few minutes

for the acid to act the pellicle of tissue which has been destroyed is removed with the curette. This is easily done and without much pain, no anæsthetic being required. The pellicle peels off from the undestroyed tissues much as the skin will peel from a ripe peach, leaving behind it tissue which is unaffected by the acid. This is repeated if necessary until the shining fibrous layer underlying the ulcer is reached. The overlying edges are destroyed by the acid, and at the next seance will be found to have disappeared. In this way we can be sure of removing nearly all the diseased tissue without destroying the barriers which Nature has set up, and without carrying into unaffected tissues, living germs to infect them, as the use of the curette alone is liable to do.

The ulcer cleaned up in this way is dusted with one of the iodine-containing powders, and, if external to the anus is covered with a dry pad well dusted with the same powder. The patient should be seen at least every other day, as a longer period will allow the morbid process time to start again. At the next seance in many cases will be seen the floor of the ulcer covered with healthy granulations, and the mucous membrane or the skin starting in to cover the edges. If this is so the acid need not be repeated, a simple painting with Lugol's solution and redusting with the iodine-containing powder being all that is necessary. This painting does not seem to have any bad effect on the growth of mucous membrane over the granulations and helps to keep in check the bacillary increase. As often, however, as the ulcer looks unhealthy and the granulations show signs of breaking down the acid and the curette should be employed.

In cases of ulceration within the rectum the treatment of the ulcer itself should be supplemented by treatment of the rectal mucosa, which is almost always catarrhal.

For this purpose I am in the habit of instructing the patient in the use of the rectal irrigator, through which is employed the fluid extract of krameria made freshly after the formula recommended by Tuttle. This is to be used twice daily in the proportion of one and one-half ounces to the pint of hot water, and should be followed by a drachm of 5-10 per cent protargol, which is to be left in the gut.

The bowels should be kept open, and if not contraindicated by other conditions, the patient should recline most of the day, better in bed.

Under this treatment the ulcer is converted into a simple one, and with this change is apt to come an increase of irritability and pain. The patients are apt to complain of the increased soreness and of painful defecation if the ulcer is within the grasp of the sphincter. This is really a sign of increased health, and should rather encourage us than otherwise. It is gratifying to note the rapidity with which the mucous membrane grows in from the edges. A rectal ulcer the size of a dollar has been healed in three weeks.

The first case treated in this way was as follows: W. M. M., referred to me by Dr. Gildea in October, 1901. History of pulmonary and laryngeal infection. Had an abscess in ischio-rectal fossa which I opened. It did well for awhile, but when nearly closed there developed an ulcerated condition of the skin surrounding the small sinus remaining. Tubercle bacilli were demonstrated in the discharges, and a bit of tissue excised and sectioned showed beautiful giant cells. Both the sinus and the ulcer were treated with the trichloroacetic acid and curette, then with the dry dusting powder. The ulcer promptly healed and the sinus was closed, not by granulations springing up from the bottom and filling it, but by the skin, after having covered in the ulcer, growing down into the sinus and paving

it, leaving behind a pit of at least a quarter inch in depth. This has remained well since December, 1901.

Case II, Mrs. G., referred by Dr. Gildea April 2, 1903. History of pulmonary infection. Complained of a rather severe hemorrhage at time of bowel movement. Examination through speculum revealed a large ulcer the size of a dollar on right side of rectum. It was oval in shape, undermined edges and raised center, rose red in color, without induration about it. The surrounding mucosa was hypertrophic, of deep red color. A few dilated veins, hardly amounting to hemorrhoids were visible. Cured, and some of the material subjected to microscopical examination. Tubercle bacilli found. Treatment followed as outlined. On 23rd of the month discharged cured and has remained well so far as rectum is concerned ever since.

Case III, Mr. G., referred by Dr. Solly, May 1, 1903. History of pulmonary and laryngeal tuberculosis. Had had an operation for fistula-in-ano some time previously with good results. In scar of this operation, about an inch from anus, there was a breaking down of tissues resulting in a small sinus running under the skin and parallel to it, around the mouth of which was an ulcer the size of a dime. Tubercle bacilli found in the discharges. Sinus was opened freely, the ulcer and the opened sinus treated as outlined, and on the 24th of the month he was discharged cured. On July 15, 1903, he returned, having had blood in the stools, no backache or diarrhoea. Examination showed a hypertrophic proctitis and a small tubercular ulcer. This, under the treatment, was healed by August 18, and remained well until just before his death from pulmonary tuberculosis in the latter part of September.

Case IV, Mr. B., referred by Dr. Gildea, June 2, 1903. History of tuberculosis of lungs. Complained of blood in

the stools. No backache, daily movements of bowels. Examination showed a red hypertrophic mucosa in rectum and a small ulceration, the size of a bean, about an inch above sphincter which showed tubercle bacilli. Treated as outlined and the fourth day after, ulcer was healed. Took daily irrigations of krameria for a time and has had no trouble since.

Case V, Mr. G. R., referred by Dr. Gildea, July 10, 1903. History of pulmonary and laryngeal tuberculosis. Complained of soiled underclothing; no pain; bowels regular. An ulcer the size of a 50-cent piece was found, external to anus, its edge touching the muco-cutaneous border. At this point was a submucous fistula marked by a guardian pile. The fistula extended about an inch and a half up the rectum, but did not connect with the gut. Tubercle bacilli were found in discharges. The ulcer was painted with the trichloroacetic acid and an applicator wound with cotton and dipped in the acid was run up the fistula. Next day the mucous membrane over the latter had given way and instead of a fistula was an open ulcer. This at first gave no pain. Treated in the usual way, it soon became painful, but although the patient was not regular in attendance at the office, by August 15 was healed. A few days later, August 28, he returned with a new ulceration in another spot. This rapidly spread until it was the size of a 5-cent piece. This breaking down was coincident with an awakening of the laryngeal infection. Under treatment, in spite of the fact that the disease started to burrow along the rectum, the ulcer has done well and today is nearly healed.

These cases, though few in number, suggest that we have in this method an efficient means of combatting the disorder, and I hope in the future to be able to

report a greater number with the same gratifying outcome.

Discussion.

Dr. J. W. Smith: I think Dr. Mayhew should be complimented upon his excellent paper. The main feature, of course, is the diagnosis between simple ulcer of the rectum, tubercular ulcer and cancer. When it is ascertained to be tuberculous, if we can discharge our patient practically cured by such easy treatment, Dr. Mayhew should be thanked for presenting a paper like this to the society.

Dr. Powers: The paper is very interesting to me. I have never been able to heal over a tubercular ulcer of the rectum the size of a dollar in three weeks, and I am glad to know of this method. I shall certainly make use of it. We all know how very obstinate these tubercular ulcerations are, how they tend to break down after healing, how they go on progressively and often result in cicatricial contraction of the rectum. If time allowed I am sure Dr. Mayhew would have spoken of the care which we must exercise in watching these patients afterward to see that strictures do not follow, or that a stricture is kept open. There is a type of tubular ulceration of the rectum which is most distressing, a diffuse ulceration extending from just within the anus up to the gut circumferentially. In one case I have been able, by deflecting the fecal flow through an inguinal colostomy, to bring about, after the lapse of several months, a definite healing, the patient coming out with a cicatricial contraction admitting about a No. 8 Wales Bougie. This was some four or five years ago. The woman has been obliged to pass the bougie every two or three weeks since. I repeat that I feel indebted to Dr. Mayhew and I hope to do better with these cases in the future than in the past.

Dr. Mayhew: I have very little to add to what I have said already. Of course, the cases are too few to say that one can get the same results in every case as I have got in these five reported. The one case of the large ulcer which was healed in three weeks was an exceptional case, and I may never meet another one that will heal as quickly as that. I have been very much gratified with this method, and I hope whoever does use it will communicate with me and give me the results of his treatment.

PUERPERAL INFECTION.

BY CLARENCE L. WHEATON, M. D.,
DENVER.

There is no subject in medicine of greater importance to its practitioners than puerperal septicemia, or, as termed by some writers, puerperal infection.

By the latter expression we understand this morbid process to be a systemic affection dependent upon infection by various micro-organisms during labor or the lying-in period. It is, indeed, probable that this formidable type of disease dates back to the time whence the memory of man runneth not to the contrary. Galen, Hippocrates and Avicenna, among the earliest writers, referred to the diseases; but not until the middle of the eighteenth century did Strother introduce the English term, "puerperal fever."

Our acquisition of knowledge of the causes and nature of puerperal infection is, however, of comparatively recent date. More of scientific value has been contributed to this subject during the past six years than ever before.

Relative to the etiology of the disease, we are indebted to Semelweis of the Vienna Lying-in Hospital, who, in 1849, contributed several able monographs to the literature of medicine, covering his observations in the lying-in wards. Semelweis' conclusions were that puerperal infection was a wound infection due to the introduction of septic material by the examining finger. He therefore obliged every assistant to thoroughly disinfect his hands previous to examining women, and the mortality in the lying-in wards of the Vienna Hospital fell from 10 per cent to 1 per cent. Semelweis fortunately had the courage of his convictions, notwithstanding the fact that his observations were made before the development of bacteriology. He staunchly supported the theories he advanced in the

face of much adverse criticism at the hands of the skeptics.

In 1846 that brilliant scholar, Oliver Wendell Holmes, published his paper entitled "The Contagiousness of Puerperal Fever." Holmes' paper will ever remain a classic in medical literature, and the principles therein enunciated stand, as irrevocable truths a credit to his genius. So the researches of these men, conducted along rational lines, have been a stimulus to further and more recent investigation of this subject.

Modern bacteriological research has demonstrated that in women dead from puerperal fever, the streptococcus pyogenes is the predominating micro-organism; and I believe that it is generally conceded that in all types of puerperal fever it is the direct causative agent. We are indebted to Pasteur, Doleris, Frankel, Lorimer, Winckel, Doderlein and Widal for their researches and contributions to the bacteriology of the affection. Bruger, in 1888, reported autopsies upon seven cases of puerperal infection, and in five demonstrated the presence of the staphylococcus aureus. Kronig cultivated the gonococcus in 50 out of 179 cases in which there was a marked febrile disturbance following labor, none of the cases reported resulting in death.

Klebs-Loeffler bacilli have been cultivated from diphtheritic membrane in the vagina. Infection with the colon bacillus has been observed by many reliable investigators. It will be observed, then, that all the well known pyogenic organisms are factors in the etiology of puerperal infection, including many putrefactive organisms. Kronig reported his findings in the bacteriological examination of 179 cases of puerperal endometritis, the pyogenic group comprised 79 cases, in 75 of which the infecting agent was the streptococcus and in 4 the staphylococcus. In 50 cases he demonstrated the presence of the gonococcus, and in 43 of the 50 sap-

remic cases he was able to demonstrate organisms not grown on the usual culture media, 32 of which were anaerobic.

With such an invading host, it is not to be wondered at that grave constitutional disturbance should follow the absorption of their toxins in the human economy.

Prevention. Bacteriological investigation having thus demonstrated the cause of this formidable type of disease, the responsibility of the physician in the lying-in room becomes apparent—a personal responsibility exists from which there are no avenues of escape.

How shall we eliminate such tragedies in the lying-in room as the death of the mother of the new-born through a preventable disease? I believe that all boards of health should compel midwives to pass a most rigid examination relative to the conduct of a normal confinement case, with special reference to methods of aseptic technique. I have observed many cases of infection due to gross ignorance on the part of midwives and failure to resort to methods of ordinary personal cleanliness, to say nothing of the preparation of the patient previous to delivery. Physicians must carry out in rigid detail their aseptic technique. The sterilization of instruments and clothing about the patient should be as thoroughly performed as though the case were a laparotomy rather than a delivery. Rubber gloves should always be worn as well as a thoroughly sterile gown.

Vaginal examinations can be dispensed with altogether or reduced to a minimum, and abdominal palpation substituted therefor.

Leopold, Orb and Spalding have shown the extreme accuracy of external examination and state that it is possible to deliver 90 per cent of cases by external examination. In their first 1,000 cases there was 6.5 per cent errors of diagnosis; in the last 1,000 cases only 1.7 per cent.

Treatment. The disease having once been ushered in, our therapeutic resources will be most thoroughly taxed. If possible, we should aim to inhibit so far as we can the power of absorption in the uterus and diminish its friability. The relaxed, soft and friable uterus is prone to absorb toxic materials. My usual custom has been to administer ergotin and quinine in 2-grain doses every three hours, keeping the uterus constantly in a state of tonic contraction. Should digital examination reveal the presence of debris within the cavity of the uterus, careful curettage should be performed, followed by flushing with normal salt solution. The curette should under no other circumstances be used.

Carossa, in 1896, advocated the use of intra-uterine irrigations of alcohol. A year later N. Hill of Newark, N. J., brought the attention of the Carossa treatment to Americans; and recently Horace G. Wetherill of Denver modified the Carossa treatment and by his original method of draining the uterine cavity has, I believe, made a most valuable contribution to the treatment of puerperal infection. A study of the clinical histories in Wetherill's cases, and a somewhat limited personal experience in my own practice with his method of treatment, leads me to believe that it is most rational and will, if properly employed, successfully combat the ravages of the disease in most instances. Through a double drainage tube 2 to 4 ounces of a 50 per cent solution of alcohol are injected at frequent intervals. The construction of the drainage tube is such that the infected endometrium is constantly drained and no products of infection are walled up for re-absorption. Alcohol may be said to be used empirically in these cases. Being a cardiac and respiratory depressant in its physiological action, in fact, it would seem contraindicated. For many years, however, alcohol has been the sheet

anchor in the treatment of crotalus poisoning, a most profound toxemia resulting therefrom. Why should it not prove efficacious in puerperal infection, the patient suffering from a toxemia equally as profound, although not due to a venom of an albuminoid nature? The usual cardiac stimulants may be resorted to; and for the temperature cold sponging will afford relief. A light, pre-digested diet is indicated, and the patient should be at absolute rest.

As advocated by Weinitz, gradual and continuous use of salt solution per rectum is recommended, the procedure being continued for an hour, during which time a liter will have been absorbed. This should be repeated every two hours until it increases the secretion of urine, relieves the thirst, induces free perspiration and reduces the temperature. Care must be taken that the process does not lead to any symptoms of shivering or weakness of the patient with consequent collapse.

Pryor recently contributed an article to the *New York Medical Journal*, in which he directs his treatment along the lines of sterilization of the vaginal lesions, and inducing absorption by the infected lymphatics of some potent, harmless antiseptic, supplemented by measures to promote the eliminative functions. Pryor cures the infected uterus and opens up the cul de sac, packing both cavities with iodoform gauze. His later researches have demonstrated that the fine results obtained were due to absorption from the gauze. The iodoform gives up its iodine partly in obedience to the influence of heat and partly from the chemical action of the blood serum. Local iodism is produced and this sterilizes the pelvis, while the iodine absorbed by the lymphatics appears in the urine in a few hours, sometimes as early as two hours, showing that it has a systemic effect as well. Pryor accompanies this massive gauze packing with a saline

solution per rectum or intravenously to facilitate the elimination of the iodine and of toxins by the kidneys.

In the light of comparatively recent brilliant achievements in serum therapy, it is reasonable for us to assume that a serum or combination of serums may be administered as specific in their action in puerperal infection, as antitoxin in diphtheria, notwithstanding the fact that we have the toxins of a mixed infection to deal with.

At present none of the methods advocated for the treatment of puerperal infection prove entirely satisfactory. I have endeavored, however, to allude to those methods which appeal to me as rational and capable of proving efficacious. I believe that we should exercise caution in the expression of an opinion relative to any one method of treatment unless, by careful observation, we are quoting the results of an investigator obtained in a large number of cases in hospital practice.

We trust that no member of our profession will ever fail to fully appreciate his responsibilities in the lying-in chamber. The handling of human life is indeed a responsibility greater than that of any czar or king. That we should fail in the proper performance of our duty toward the one who has placed her life in our hands is a calamity to be forestalled in every possible way.

Let us remember that puerperal infection is due to the introduction of septic material from without, and be ever mindful of the fact that our first duty in the lying-in room is to be "surgically clean."

Discussion.

Dr. Ramsay: This is a most important subject and I feel that the general practitioners throughout the state should discuss it. There is a reason in the treatment of these affections for the mortality not being lower in recent years, except in hospital practice. I am quite sure it is not because we do not know how to make a better mortality rate. It is not ig-

norance upon our part as general practitioners. I take it that we are not practicing as well as we know. The trouble that I have met in these puerperal cases is this, I have failed to recognize early that the case demands thorough, efficient cleansing. We have a slight chill perhaps; we are so apt to attribute that to some trouble with the breast; we give quinine, calomel, vaginal douching, hoping that things will right themselves. Often if we would see those cases frequently and apply proper cleansing methods our mortality rate would be much better than it is at present.

I have made some mistakes in my practice along this line that I desire to point out. In the first place, I have failed to give a general anesthetic and thorough cleansing. Often it was inconvenient, patients poor, did not seek to call a consultation, out in the country, perhaps. But I would go ahead, use the curette myself, cleanse the best I could, and introduce the finger to see just what I had done, which is very important especially in the cases that go to full term. I think we should give a general anesthetic in these cases, use a large curette (I prefer a spoon curette moderately sharpened) the use of the finger to find out just what was done, and then thorough irrigation with good drainage. We can see from the hospital reports that when these cases are handled this way, in the majority of cases good results follow. I want to compliment Dr. Wheaton on the most excellent paper that he has presented to us.

Dr. J. W. Smith: I wish to compliment the doctor on his excellent paper from the fact that it is along the line of something that we all ought to feel an interest in. Every little while we hear of a brother physician losing a case in which apparently he has not been as careful as he might have been, with our knowledge of sepsis at the present time it seems to me a physician should never lose a case of confinement. It makes but very little difference whether the patient is poor or rich, should the physician be a conscientious physician, he wishes to take as much care of the poor woman as the rich woman, and will see that perfect cleanliness is observed from the start. If I am engaged to attend a case of confinement, or if I am called in a hurry to a case of miscarriage, I wash the woman myself with bichloride tablets if I have a nurse that I am a little afraid to depend upon to do thorough work. When

there is time for preparation, I tell them to select the clothes they are going to use, and I have them immersed in a solution of bichloride tablets. I hang them in a room which I do not allow to be swept while they are drying, and after drying have them folded and placed away by themselves. I practiced quite awhile in the mountains before coming to Colorado Springs, and I wish to say here that I have had but one case of puerperal fever die on my hands. That was in Cripple Creek, in connection with Dr. Fink, and she died before we knew what we were about.

Dr. Ashley: It seems to me there is a question of resistance in this question of puerperal infection that has not been brought out. I saw a report the other day of some four or five hundred cases where rubber gloves had been used and where they had not, and it was only slightly in favor of the rubber glove. Of course that is something, but, as I said before, in all these cases of infection there is a question of immunity of which we know nothing at the present. I have the misfortune to be one of those general practitioners in the mountains. I commenced in 1889 to use iodoform suppositories. The other doctor says there is nothing in your iodoform, clean out the uterus and you will be all right. Well, a few cases I tried that. I would irrigate with a strong carbolized solution (I never used bichloride because I have been afraid of it), and I tried that irrigation and it was not satisfactory. I have since used the iodoform, and in all cases of infection I have not even a mean odor, without any chill, and find by using the iodoform that in a few weeks involution is absolutely complete and I think it leaves the patient in a much better condition. I do not think that the attending physician is always to blame in these cases. You will say that all of these poisons are introduced from without. Well, that may be; it may be a little like Dr. Denison said a year or two ago in this society, act as though this question of tubercular infection was always present and try to raise your resistance so that the patient will throw it off. Well, that same rule applies to your cases of puerperal fever. I have gotten so the last few years that I flatter myself that I can almost always tell when a patient is going to have trouble by seeing them a week or two before they are sick. I miss it lots of times, but lots of times I hit it.

Dr. Corwin: I did not have the pleasure of

hearing the whole of the paper, but from what I glean from the remarks that have been made, much stress is put upon meddling interference in these cases, and I believe there is a good deal in that. But there is another thing we overlook sometimes, which more stress should be put upon. It is a fact that we go into some of our lower slums and find that the people have children without difficulty. I have had an opportunity of practicing quite extensively among those who haven't the opportunity to take care of themselves as we would suggest, and the women, as a rule, get along well, not because of lack of meddling interference, but largely because the person who is confined has the power of resistance. The people of this class are not afflicted with diseases. They live on coarse food, in open air. Their houses are open, their windows are open. They can't afford anything better, and the result is a healthy child and the woman gets well. One of the things in refined society which causes so much trouble is gonorrhoea. When we know that fifty per cent of operations performed upon women are laparotomies due to infection directly or indirectly, we may not be surprised that the first child particularly causes the woman trouble; and if you will trace the cases up you will find that largely it is due indirectly to gonorrhoeal infection, the woman not in the least to blame. But doctors are to blame very often for the simple reason that they say to those men who are infected that we can cure this as easily as a cold—I do not mean the skillful physician, but I mean the quack—and the boy goes away uncured, marries when he is diseased, and the result is what we find often in the first confinement.

Dr. Gilbert: I would like to ask the essayist if it is not a fact that the routine douching is still entirely too prevalent among the general practitioners of the country. I find it so to a great extent, find even in the cities of moderate size that the routine douching is still carried out, and I have had it to contend with and have been condemned very much for not using it. I am in accord with the sentiment that was expressed in the paper, that we are apt sometimes to do a little too much meddling in those cases, go in with the curette a little too soon. I believe we often do it. Of course when there is urgent necessity for it, it should be done. But we should be sure there is urgent necessity for it first. I know I do not go in as often as I used to, and I do not think I have missed it by not doing

so. We will often stir up things that cause us trouble when perhaps there would not have been any serious trouble if we had let matters alone. I know the tendency of the larger hospitals in the east is to abandon the interference to a great extent in those cases. When it is carried out, we should be very thorough.

I would like to add a little bit of protest to the sentiment that was expressed by one of the gentlemen in the discussion, that he believed he should never lose a woman in confinement. We all know that we very rarely should, but when you take into consideration the things we have to deal with it is wonderful, I think, that we do not lose more. We often are called to a case where some grandmother has been fingering over it for twenty-four hours, and how are we responsible for an infection of that kind. Of course we should do all we can to prevent it. But often the infection has taken place before we see the case; and sometimes the cases have gone, as I have seen in labor, as much as three days, on the attempt of some midwife or some woman to deliver.

I would also like to speak of a case—speaking of natural immunity and the remarkable recoveries that women sometimes make in those cases when you fully expect them to die—a case which I saw a few weeks ago, in consultation, about thirteen miles out in the country in rather a remote district, that had been in hard labor about eighteen hours, and had a very difficult instrumental delivery. I was partly to blame, perhaps, although I excuse myself from the fact that I was busy for nearly an hour trying to resuscitate the child, and the other practitioner who, perhaps, had not had the experience which would have enabled him to have made a thorough examination, made the examination and took care of the woman. Two days later I was notified that the woman was having a very peculiar discharge, a very free one, and I was asked to come back and see the case. I went out there and made an examination. I found on the left side a complete tear into the peritoneal cavity—of course plenty of fever, high pulse and everything of the kind. I was thirteen miles from a hospital, the surroundings were very bad, and what could I do? We did nothing but insert a little gauze drainage and put her on Osler's method of rectal alimentation, stopped everything by the mouth and trusted to nature for the rest, and the woman recovered nicely. What could we do at that distance? We could not go to a hospital, the

surroundings were very bad, and the perineum was in bad shape. There must have been a good deal of immunity.

Dr. Wheaton: I wish to thank the gentlemen for the kindly discussion of my paper. Immunity we must recognize. If we were not immune to these diseases, nearly all of which are due to micro-organisms, the race undoubtedly would be annihilated. We all attend cases of scarlet fever, diphtheria, etc., and comparatively few men contract the disease. It is the natural immunity, the resistance which they possess. I have witnessed this in my own work with a visiting nurse association, under the health department, in the city of Chicago, delivering women in the slums. There are sometimes fifty or sixty within the year. They have the most unfavorable conditions, filth predominating; yet, after labor, these women, surprising to say, would run a normal course, developing no temperature whatever. Then again you will find a most virulent type of infection in these cases. I cannot accept cases of auto-infection. I believe the term will soon become obsolete. I do not believe that the bacteriologists recognize the production of germs spontaneously within the human body. Dr. Corwin's point was well taken relative to previous gonorrheal infections. These women will develop temperatures and conditions extremely grave. I feel, however, that we should recognize these cases as indirect infection. They must be recognized as such. A woman may be examined by a meddling grandmother before the physician is called and be infected in that way, or she may have taken it upon herself to use a vaginal douche previous to the arrival of the physician and infect the vagina and external os or cervix in that way. In regard to the vaginal douche, I do not believe that the majority of physicians resort to it. Bacteriological examination has shown that when douching previous to labor is resorted to post-partem temperatures are more prevalent. Personally I do not use the douche before or after labor unless there is a rise of temperature and some indication to warrant interference.

REPORT OF THE CHAIRMAN OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

Ladies and Gentlemen—I have the honor to submit the following report, as Chairman of your Legislative Committee. I regret the fail-

ure of the attempt to improve the medical registration law, but at the same time feel that the labor expended thereon during the past year has not been in vain; and I am convinced that if we continue along the lines pursued in that campaign our efforts will soon be crowned with success.

In mapping out the plan adopted, the ideas expressed in my paper on medical legislation, read before this Society last year, were followed in general. Recognizing, in the very beginning, that it was absolutely necessary to unite the legislative committees from the various State Societies, a joint medical legislative committee was formed, composed of the respective chairmen of the Regular, Homeopathic and Eclectic Societies, and an agreement reached by them as to the essential amendments to be petitioned for. The result of the work thus far accomplished is summed up in the following letter:

Denver, Colo., January 12, 1903.

Dear Doctor—After careful study of the existing Colorado Medical statute, and due consideration of the several futile attempts made in the past to replace it by something better in the shape of an entirely new law, we, as a joint committee composed of the chairmen of the Legislative Committees from the Colorado State Medical Society, The Colorado Homeopathic Society, and The Colorado State Eclectic Medical Association, have concluded that amending the defective parts of the present law, is the most expedient, the most practical and the most probable attainable legislation. We, as a joint committee sustained by each and every member of the three committees, have harmoniously agreed upon the necessary amendments, an epitome of which is as follows:

First—The repeal of the "Ten Year" clause.

Second—The adoption of an amendment increasing the fee for registration on diploma to \$10.00, and by examination to \$25.00, and further, providing for the maintenance of the State Board of Medical Examiners from fees received, instead of by appropriation.

Third—The adoption of a clear, broad, legal definition of what constitutes the practice of medicine.

Fourth—The adoption of an amendment empowering the State Board of Medical Examiners to refuse and revoke licenses for immoral, dishonorable or unprofessional conduct.

With such changes in the law, we know

from experience as members of the State Board of Examiners that Colorado will then have one of the most practical, just, effective and easily operated laws in the country.

To enable this committee to carry out such a plan we must have at our disposal sufficient funds to pay the necessary expenses, viz., stenography, printing, postage, draughting of bill or bills, legal counsel, etc., etc. We therefore have decided to request every member of the medical profession in the state to immediately remit to the Secretary-Treasurer of this committee, Dr. S. D. Van Meter, 1723 Tremont street, Denver, the sum of two dollars (\$2.00). He will acknowledge the remittances by consecutively numbered receipts, and in due time a statement to each contributor to this fund showing the amount received, and how disbursed. It is our desire to have it expressly understood that none of this money is to be used in "lobbying." We prefer absolute failure, rather than resort to such means to secure legislation which is principally for the protection of the public, and for the benefit of our profession only in the satisfaction of raising the moral and educational standard of its Colorado members. We are levying but a small assessment upon each member of the profession, and expect a prompt response and contribution from every one.

With perfect harmony prevailing between the committees of the different schools, and the encouragement from the legislators so far interviewed, we are hopeful of success, but we must have your financial assistance, and we further beg of you to aid us by communicating in person or by letter, with any or all members of the legislature with whom you have any influence, assuring them that what we are asking for in these amendments is just and fair to everyone, and for the good of the people at large. By such action you will have done your duty, and will have our sincere appreciation, in a work which we assure you, is anything but pleasant. Fraternaly yours,

The Joint Medical Legislative Committee,
S. D. Van Meter, Secretary-Treasurer.

A copy of this letter was sent to every doctor in the state, and it is with pleasure that I am able to make the statement that our plan of action was heartily endorsed by the rank and file of the members of the profession of every school. I am sorry to say, however, that only 254 doctors throughout the

state sent in the contribution requested, but I attribute this more to negligence than to unwillingness to contribute. Notwithstanding this, the amount received proved sufficient to meet the obligations contracted by the committee, owing to the fact that we engaged our counsel on a contingent basis. This we did with the confidence that if successful in securing the amendments asked for, the delinquent members of the profession would willingly make up any deficit that might be found to exist.

In this connection I wish to call attention to the fact that not a single medical organization, as such, contributed anything towards the financial support of the joint committee, notwithstanding the fact that the following letter was sent to the Secretary of each Medical Society throughout the state:

Denver, Colo., January 17, 1903.

Dear Sir—Enclosed please find Circular Letters No. 1 and No. 2, which are explanatory in themselves.

I have mailed to every doctor in the state one of No. 1 and to the more prominent members of the profession one of No. 2.

The heavy expense of carrying on the work of this committee makes it necessary that we raise a considerable sum of money and if we wish to succeed we must have the financial and moral support of the profession individually as well as that of the different societies throughout the state.

The amount of money that we will succeed in raising from these circular letters is as yet an unknown entity, and as we are anxious to have the moral, as well as the financial, support of the local Societies throughout the state, we wish to request that your Society pass a resolution supporting the policy and plans of this committee and make what appropriation you can afford. No matter how small it is, if it carries with it your recommendation it will be gratefully received.

Hoping to hear from you at the earliest date possible, we are, very respectfully,

The Joint Legislative Committee,
By S. D. Van Meter, Sec'y-Treas.

This apparent unwillingness to lend financial aid was due, in the majority of instances, to bankrupt treasuries, as is proven by the strong resolutions drafted by most of the Societies endorsing the committee's plan of action. These, however, to be helpful, should be supplemented by contributions, even though small, if the Societies expect the committee in

charge of legislative affairs to be stimulated to best efforts. The work of such legislative committee is, at best, onerous, and the individual members of the profession, and every medical organization throughout the state, should do everything possible to encourage their zeal and enable them to accomplish results and to insure them against failure.

As most of you know, the joint committee met with very little opposition in either the House or Senate towards securing the passage of House Bill No. 83, introduced by Dr. Sanford, the final vote in the Senate being ayes 29, nays 2. In the House there were 56 ayes and 3 nays. This was easy of accomplishment by reason of their being able to approach the legislature as a united profession; and I cannot emphasize too strongly the absolute necessity of the members of the regular profession recognizing the fact that all future effort to secure medical legislation of any kind, to be successful, must be prearranged by some joint committee or non-sectarian organization. To accomplish this end I earnestly hope that the Colorado Medical Legislative League, for the organization of which I am responsible, will continue the work so successfully inaugurated by the Joint Medical Legislative Committee. Further, I sincerely trust that every member of this Society will join the League and give it his moral, as well as financial, support.

This suggestion is made with a full appreciation of the commendable efforts towards the reorganization of the State Society along lines encouraging the unification of all reputable medical men, irrespective of therapeutical belief, into one body. While I believe this will eventually take place, the time of its accomplishment is, I fear, far distant, and the organization of the Medical Legislative League will in no way retard such a movement, but, on the contrary, hasten its achievement, and, at the same time, aid in securing the much needed changes in our registration laws.

To accomplish this we propose in the next fight to adopt different tactics from those previously followed; instead of the former begging attitude towards politicians and legislators, it is proposed to make them realize the medical profession's influence in political matters by giving them to understand that any candidate for office within the state who does not favor the legislation and enforcement of medical law in accordance with the ideas of the duly appointed committee on public policy

and legislation, will meet with the organized opposition of the profession.

In this connection I wish further to call attention to the fact that when we have succeeded in having enacted into law the legislation we desire, the League, or similar non-sectarian organization, must be continued for some time, as, in order to make the law effective, we must insure its enforcement.*

*See the article entitled "The Essential Features of a Practical Registration law," which embodies my views on the enforcement of the Medical Law, published in *The Denver Medical Times* in July, 1903.

I wish to disabuse the minds of some members of the profession of their erroneous idea that House Bill No. 83, as passed and finally vetoed by the governor, had been so butchered as not to represent the original bill and what the committee really desired. Why the profession should unquestioningly accept as true the statements of the press on medical subjects is more than I can understand. The truth of the matter is that the bill, as passed, excluding the buncombe introduced by the Honorable (?) John A. Rush, represents all that we asked for, and, in fact, far more than we had the faintest idea of passing up to the governor for his signature. There was, however, considerable matter placed in the original draft which was stricken out for the express purpose of allowing us to make apparent concessions and at the same time obtain all we hoped for.

At this juncture I wish to call to the attention of the profession at large the unprincipled and underhand opposition maintained by Senator Rush in the last campaign. Most of us are familiar with the facts in the case, but it is as well that they be put on record that the medical profession in the state may, to a man, see the necessity of lending their utmost political influence towards defeating him should he ever in future become a candidate for any judicial or legislative office, in view of his having proven himself so unworthy the honor of such position as evidenced by his readiness to further charlatanism where it innures to his individual benefit. Whipped in the open, he resorted to the Mafia tactics of stabbing the bill in the dark. By combining the forces of the opposition that dare not fight above-board, he was able to defeat our measure. With a man in the chief executive's chair so lacking in common sense, as our present governor has proven himself to be by his

own words in attempting to justify his veto of the bill, Mr. Rush had little difficulty in accomplishing his desires. So fell to naught the hard work of the campaign, other than the resultant valuable experience as a guide for our future action.

The insult to the profession by Governor Peabody in vetoing House Bill No. 83 would not have required comment to remind the profession of their duty towards his Excellency in future were it not for the fact that some of them are still of the opinion that that bill had been so amended as to be practically worthless. For their enlightenment I wish to quote the following, which would have been the medical statute had the Sanford bill become a law. Any one who reads it intelligently and maintains that it would not have given us an effective and operative law exposes his ignorance as to the practical administration of such affairs.

THE COLORADO MEDICAL REGISTRATION STATUTE

[As it would have been had it not been vetoed by Governor Peabody.]

Section 1. That a board is hereby established which shall be known under the name and style of the State Board of Medical Examiners, to be composed of nine practicing physicians of known ability and integrity, who are licentiates in the state of Colorado.

Sec. 2. The governor of the state shall, as soon as practicable after this amendatory act shall have become a law, appoint nine members to constitute the State Board of Medical examiners, as provided in the amended Section 1, of this Act, and the members so appointed shall be so designated by the governor that the term of office of three shall expire in two years from the date of appointment, the term of office of three shall expire in four years from the date of appointment. Thereafter the governor shall biennially appoint three members, possessing qualifications as specified in said amended Section 1, to serve for the term of six years, and he shall fill all vacancies that may occur, as soon as practicable.

Sec. 3. The State Board of Medical Examiners shall biennially elect one of their members as president and one as secretary-treasurer, and from time to time adopt such rules and regulations as are necessary for the performance of their duties, and also adopt a seal, which shall be affixed to all certificates issued by them.

Sec. 4. That every person practicing medicine in any of its departments shall possess the qualifications required by this Act. If a graduate of a chartered medical school of the standard recognized by the State Board of Medical Examiners desires to practice in this state, he or she must make application to the State Board of Medical Examiners, by filling out, under oath, the regularly adopted form of application and presenting his or her diploma or diplomas to the Board, through the secretary-treasurer, together with such assurance of genuineness of said diploma or diplomas as may be required in the discretion of said Board; or if, for any reason, an applicant can not produce his or her diploma, he or she shall furnish other evidence establishing the fact of his or her being a graduate of a chartered medical school of the standard recognized by the State Board of Medical Examiners. The State Board of Medical Examiners shall issue its certificate to that effect, signed by the president and secretary-treasurer thereof, and such certificate shall be conclusive as to the rights of the lawful holder of the same to practice medicine in this state. If not a graduate of a chartered medical school of the standard recognized by the State Board of Medical Examiners, the person practicing or wishing to practice medicine in this state shall make application to the said Board of Medical Examiners, through its secretary-treasurer, according to the regularly adopted form, and present himself before said Board of Medical Examiners and submit himself to such examination as defined in Section seven (7) of this Act; and if the examination shows the applicant to possess the qualifications provided for by this Act and he shall make the general average fixed by said Board, then the said Board of Medical Examiners shall issue its certificate to that effect, and the lawful holder of such certificate shall be entitled to practice medicine in this state. All applicants for license shall furnish the State Board of Medical Examiners with satisfactory evidence of good moral character.

Sec. 5. The president of said Board of Medical Examiners shall have authority to administer oaths and summon witnesses, and the said Board of Medical Examiners to take testimony in all matters relating to its duties. The Board of Medical Examiners shall issue certificates as hereinbefore provided to all who furnish the required proofs of having received a diploma from some chartered medical institution

of the standard recognized by the said Board. It shall prepare two forms of certificate, one for persons in possession of diplomas, and the other for applicants examined by its members; it shall furnish to the county clerks of the several counties a list of all persons receiving certificates. Certificates shall be signed by the president and attested by the secretary-treasurer. It shall be the duty of the secretary-treasurer, under the direction of the Board, to personally or by deputy aid in the enforcement of the provisions of this act and the prosecution of all persons charged with violating the same.

Sec. 6. There shall be paid to the secretary-treasurer of the State Board of Medical Examiners a fee of ten dollars (\$10.00) by each applicant for a license or certificate of diploma. Candidates for license by examination shall pay a fee of twenty dollars (\$20.00). The fee of applicants must accompany their application and one-half of the fee shall be returned in case the Board refuses to grant a certificate.

Sec. 7. All examinations of persons not graduates of standard schools recognized by the State Board of Medical Examiners, shall be made by the Board according to the method deemed by it to be the most practical and expeditious to test the applicant's qualifications to practice medicine. Examinations may be wholly or partly in writing, and the subjects of examinations shall be as follows: Anatomy, physiology, chemistry, toxicology, pathology, surgery, obstetrics and symptomatology (exclusive of materia medica and therapeutics).

*Any person having passed the examination hereinbefore specified shall, before a license shall be issued to him by the Board, specify in writing to the Board the school or system which he proposes to practice, and it shall be unlawful for such person to use the name of that or any other school or system in any manner unless he shall have first secured and filed with the Board a certificate in writing from the state association of that school or system designated by the applicant stating that he is qualified to practice that school or system.

Sec. 8. Every person holding a certificate from the State Board of Medical Examiners

shall have it recorded in the office of the clerk of the county in which he resides. The failure on the part of the holder of a certificate to have such record made within ninety (90) days after date of issue, shall render the certificate null and void. Any person removing to another county to practice shall record the certificate in like manner in the county to which he removes, on the face of which certificate shall be stamped or written the fact of each record, and the county clerk in each instance shall be entitled to a fee of fifty cents.

Sec. 9. The county clerk shall keep in a book provided for the purpose a complete list of the certificates recorded by him. If the certificate be based on a diploma, he shall record the name of the medical institution conferring it and the date when conferred. This register shall be open to public inspection in business hours.

Sec. 10. The State Board of Medical Examiners may refuse to grant, or may revoke, a certificate or license to practice medicine in this state, or may cause a licentiate's name to be removed from the record in the office of any county clerk in the state, for any of the following causes, to wit: The employment of fraud or deception in applying for license on diploma or in passing the examination provided for in this Act; conviction of crime involving moral turpitude; habitual intemperance in the use of ardent spirits, narcotics or stimulants; unprofessional or dishonorable conduct. The words "unprofessional or dishonorable conduct," as used herein, are hereby declared to mean: First, the procuring or aiding or abetting in procuring criminal abortion; second, the obtaining of a fee on the assurance that a manifestly incurable disease can be permanently cured; third, the betrayal of a professional secret to the detriment of a patient; fourth, causing the publication and circulation of advertisement, of any medicine or means whereby the monthly periods of women can be regulated or the menses can be re-established, if suppressed; fifth, causing the publication and circulation of advertisements of any kind relative to the diseases of the sexual organs tending to injure the morals of the public. In complaints under this section the accused shall be furnished with a copy of the complaint and given a hearing before said Board in person, or by attorney, and witnesses may be heard for and on behalf of the accused, and for and on behalf of the said Board. Said Board may, at any time within

two years from the refusal or revocation of a license or certificate or cancellation of registration under this section, by a majority vote, issue a new certificate or a license to the person affected, restoring to him or her all the rights or privileges of which he or she had been deprived by said Board. Any person so restored shall pay to the secretary-treasurer a fee of ten dollars (\$10.00) on issuance of such new certificate; Provided, however, that nothing herein shall be construed as depriving any one from testing the action of the Board by an appropriate legal proceeding.

Sec. 11. Any person shall be regarded as practicing medicine, within the meaning of this Act, who shall attach to his or her name the title "M. D.," or "Surgeon," or "Doctor," or "D. O.," in a medical sense, or advertise in any manner or hold himself or herself out to the public in this state as a physician, surgeon, doctor, or as a person who shall diagnose, or offer to diagnose, any physical or mental disease of any person, or suggest, recommend and prescribe any form of treatment for the intended palliation, relief or cure of the same, with the intention of receiving therefor, either directly or indirectly, any fee, gift or compensation whatsoever. It is hereby further provided that the doing of any of the things hereinbefore set forth or the maintenance of an office for the reception, examination and treatment of any one in manner as hereinbefore set forth, or the exposure of signs, circulars or advertisements, or any other device or information indicating thereby the occupation of the person or persons as that of being engaged in the practice of medicine as hereinbefore defined, shall be considered as prima facie evidence in any prosecution brought under this Act. Nothing in this Act, however, shall be construed to prohibit gratuitous service in case of emergency; *nor to the practice of the religious tenets of any church whatsoever, but in no event shall such person practice in contagious and infectious diseases recognized as dangerous to the public health, subject to quarantine regulations, unless they have passed the examinations required by this act, nor shall it apply to commissioned surgeons of the United States army, navy or marine hospital service while so engaged, nor to regularly licensed physicians in actual consultation from another state or territory, nor

to regularly licensed physicians actually called from other states or territories to attend specified cases in this state, nor shall it apply to the practice of dentistry or dental surgery.

Sec. 12. Any person practicing medicine or surgery in any of their departments, in this state, without complying with the provisions of this Act, shall be punished by a fine of not less than fifty dollars (\$50.00) nor more than three hundred dollars (\$300.00), and by imprisonment in the county jail for not less than ten (10) days nor more than thirty (30) days, and any person presenting or attempting to file as his own the diploma or certificate of another, or shall wilfully give either false or forged evidence of any kind to the State Board of Medical Examiners, or any member thereof, in connection with an application for a license to practice medicine, shall be deemed guilty of perjury or forgery, as the case may be, and upon conviction shall be punished accordingly.

Sec. 13. All fees received by the State Board of Medical Examiners, and all fines collected by any officer of the law under this Act shall be paid to the secretary-treasurer of said Board, who shall, at the end of each and every month, deposit the same with the State Treasurer; and the said State Treasurer shall place said money so received in a special fund to be known as the fund of the State Board of Medical Examiners, and shall pay the same out on vouchers issued and signed by the president and secretary-treasurer of said Board upon warrants drawn by the Auditor of State therefore, and all of said moneys so received and placed in said fund may be used by said Board in defraying all its legitimate expenses in carrying out the provisions of this Act. No fee shall be required or accepted by any member of said Medical Board for services, except the secretary-treasurer, who shall receive a salary not to exceed twelve hundred dollars (\$1,200.00) per year, to be fixed by said Board, and it and all other expenses of said Board must be paid out of said fund. At the end of every biennial period, if there remains in said fund any balance, then said balance shall be transferred to the general revenue fund of the state. The secretary-treasurer of said Board shall keep a true and accurate account of all funds received and all vouchers issued by the Board, and on the first day of December of each year he shall file with the Governor of the state a report of all receipts and disbursements for said

Board for the preceding fiscal year.

Sec. 14. The State Board of Medical Examiners shall meet as a board of medical examiners in the City of Denver, on the first Tuesday of January, April, July and October of each year, and at such other times and places as may be found necessary for the performance of their duties.

Sec. 15. It shall be the duty of the State Board of Medical Examiners to issue certificates to all persons authorizing them to practice medicine in this state, who shall have complied with the provisions of this Act and the Acts of which it is amendatory, without prejudice, partiality or discrimination as to school or system of practice of medicine. Courts of record only shall have jurisdiction over the power to enforce the provisions of this Act.

This Act shall take effect and be in force from and after the first day of October, 1903.

[*Underlined text is buncombe injected by the opposition, and later used to secure veto of the bill.]

I wish here to read the Governor's wonderful veto message in full, for your consideration. No comment is needed as to its absolute inconsistency and absurdity, but I cannot refrain from calling attention to the statement affirming that "no appreciable diminution in the death rate is felt through the enactment of such laws in other states." It would be interesting to see "such reliable statistics." The statement that the death rate in Colorado is as low as it has ever been, since the enactment of the existing law, is no argument against this amendment.

GOVERNOR'S VETO MESSAGE.

Veto.—House Bill No. 83.

House Bill No. 83.—"An Act to amend an Act entitled 'An Act to Protect the Public Health and Regulate the Practice of Medicine in the State of Colorado,' Approved March 14, 1881, and to Amend an Act entitled 'An Act to Protect the Public Health and Regulate the Practice of Medicine in the State of Colorado,' Approved April 7, 1885," provides for the appointment of a State Board of Medical Examiners, consisting of nine members, appointed by the governor, whose duty it shall be to issue certificates to applicants therefor, which certificates shall entitle holders thereof to practice medicine in this state.

Two forms of certificates are provided for, one to be issued to holders of diplomas issued by "medical schools of the standard recognized by the State Board of Medical Examiners" and

"other applicants examined by the Board."

The act further provides for the conduct of examinations upon designated subjects, of persons not graduates of schools of the standard recognized by the Board, "according to the methods deemed by it to be the most practicable and expeditious to test the applicant's qualification to practice medicine," and requires the applicant to specify in writing, "the school or system which he proposes to practice," making it unlawful to change the school or system.

Certificates must be recorded in the county in which the holder resides, and failure to record the certificate makes it null and void. A change of residence makes a new recording necessary.

The Board may refuse to grant, or may revoke certificates for causes set forth in the Act.

"Practicing medicine" is defined in the Act, and fines and imprisonment are provided for the practice of medicine or surgery without complying with the provisions of the Act."

A careful consideration of the bill aforesaid meets with the conclusion that many of its provisions are unjust and oppressive, and that its general effect would be to curtail rather than to expand the means applied to the alleviation of the ills human flesh is heir to. Reliable statistics show that the death rate in Colorado is as low as it has ever been since the enactment of the law twenty-two years ago, which the proposed law is intended to amend, and that in other states having laws similar to the proposed law, no appreciable diminution in the death rate is felt, through the enactment of such laws, which leads to the conclusion that such legislation as here proposed does not have any material effect upon the public health.

Guided by the late experience of similar legislation in other states, the conclusion is irresistible, that all such legislation has a tendency to restrict the citizen in the employment of whomsoever he pleases in the treatment of his disease, and it also has a tendency to build up under the protection of the state, a trust or combination of certain schools or systems of medicine, to the exclusion of all others, equally meritorious.

However, the proposed law provides that only the holders of diplomas issued by "chartered medical schools of the standard recognized by the State Board of Medical Examiners," shall be entitled to certificates unless

they pass an examination "by the Board according to the method deemed by it to be the most practicable and expeditious to test the applicant's qualification to practice medicine," and then only in the event that "he shall make the general average fixed by said Board." In my judgment, this invests the Board with powers which might, and probably would, become autocratic and oppressive.

The principal objection to the bill lies in the fact that in the treatment of contagious and infectious diseases, recognized as dangerous to the public health, the practice of religious tenets shall not be indulged in, which is clearly contrary to our Bill of Rights. It is only with the lapse of time that our most able practitioners correctly diagnose many cases of contagious and infectious diseases, yet under the provisions of this bill a single administration in either Christian, Divine, or kindred sciences, is a criminal act and subjects him to the penalty imposed.

There is no demand upon the part of the public for this class of legislation, and while I have been urged by many eminent physicians to approve this bill, others, equally as eminent, and quite as numerous, have urged me to withhold my approval.

Believing as I do, that the existing legislation is ample and sufficient to meet the requirements of the public health and regulate the practice of medicine in this state, and for the reasons above stated, I return this bill to the Secretary of State without executive approval.

JAMES H. PEABODY,

April 15, 1903.

Governor.

We may well ask—what has decreased the death rate in Colorado? We all know it has not been due to the medical registration statute or the efforts of the Board of Medical Examiners, inasmuch as their work, at best, is very ineffective, handicapped, as they are, by our obsolete medical act. The public, in which we cannot but include his Excellency, the Governor, must thank the medical profession, and men like Steele and Munn especially, for their untiring and unselfish labors in improving our public health, and thereby decreasing the average death rate of the state.

Governor Peabody's feeble attempt to follow in the footsteps of that master of sarcasm and invective—the Hon. C. S. Thomas—in championing the maudlin sentiments of Eddyism and kindred cults, is so pitiable that the injustice of the Thomas veto becomes ex-

cusable in comparison, for that at least was couched in the language of the skilled rhetorician.

As most of you know, I was elected as delegate to the First Charter Convention for the City and County of Denver, which convened, during the months of June and July, for the purpose of drafting a charter. As to that work I have nothing of special interest to report. However, I wish to state that I have made a strong effort for the recognition of the medical profession on a level with the legal profession by insisting that the salaries of the heads of the medical and legal departments of the city be fixed at equal amounts. While not entirely successful, I hope in future the position taken by me will be upheld by those upon whom such duties are imposed. I cannot agree with those who maintain that we shall achieve better results by being less aggressive and more diplomatic.

At this time I wish to suggest the question of the medical profession maintaining a column or space in the daily press of an editorial nature upon medical and scientific subjects. I would recommend that this Society authorize the committee on public policy and legislation to ascertain what arrangements could be made with the press relative to such a move, and if something along this line can be arranged, to appoint a corps who will furnish the necessary reading material to fill such space. Such action on the part of the profession will, in my opinion, do much to properly educate the laity on subjects which they are eager to understand, and thereby do away with so many of the erroneous ideas inculcated by the unprofessional and inaccurate editorials that are constantly appearing in the secular press.

In conclusion, I wish to say I shall ever be ready to assist in carrying on the fight for a decent medical law by giving more of my personal time to committee and other work than I can really afford to spare. While I do not wish to suggest any change as to the composition of the Committee on Public Policy and Legislation, and am desirous of expressing my appreciation of the kind assistance rendered by each and every member of the committee, and the good counsel of the President and Secretary, I do hope that the incoming President will think it wise to increase the number of working members of the committee, inasmuch as there is too much work for a committee of three, especially dur-

ing the next session of the legislature. Hoping to win our next fight, I am, very respectfully,

S. D. VAN METER,

Chairman Committee on Public Policy and Legislation.

Discussion.

Dr. McHugh: The report of Dr. Van Meter has been a very thorough one, and represents a great deal of time given to this question. The doctors throughout the state do not give sufficient attention to the efforts of the Secretary of this committee to secure proper medical legislation for Colorado. It is a great mistake that medical societies and individuals who are requested to send in their quota of financial support do not do it. It is essential that we should have financial support in order to achieve the medical legislation that we desire in this state. At the last meeting of the State Board of Medical Examiners, of which I have the honor to be a member, we had 152 applicants for registration in this state. We have on an average 600 doctors coming into this state annually, and no means of turning them away, even though they are not qualified. I feel that it is a great imposition upon the good people of this state, as well as upon the profession, that we have not better laws whereby we can regulate the practice of medicine in the State of Colorado. I believe that we should make greater efforts and more combined efforts and go to work together as a unit in order to achieve that legislation which is so important to the medical profession, and so important to the people of this state from the standpoint of health.

I therefore take great pleasure in moving that the report of Dr. Van Meter be adopted and placed on file. And that the thanks of this society be extended to Dr. Van Meter for his able efforts in behalf of the medical profession of the State of Colorado in endeavoring to secure to them that legislation which is so essential to the welfare of the profession, and to the welfare of the people of this state; and that the report be printed in full in the proceedings of the Society.

The motion was seconded and carried unanimously.

COUNTY MEDICAL SOCIETIES.

Boulder County.—The regular annual meeting of this society was held in Boulder, Colo., January 7, 1904, and the officers elected for the ensuing year were as follows: President.

W. W. Reed, Boulder; Vice President, W. J. Baird, Boulder; Treasurer, M. E. Miles, Boulder; Secretary, O. M. Gilbert, Boulder; Board of Censors, G. H. Cattermole, H. O. Dodge and W. J. Baird; Delegate to State Society, G. H. Cattermole.

The remainder of the time of the meeting was given up to reports of **clinical cases** and exhibition of **pathological specimens**. Dr. Cattermole exhibited a specimen of "ox heart" in a man of 40, with a dissecting aneurism of the aorta which had ruptured, causing death. Dr. Cattermole also showed a specimen of hemorrhage into the pancreas.

Dr. Gilbert reported a very rare and interesting case of cerebellar hemorrhage.

Drs. Miles and Cattermole reported a case of cerebral hemorrhage with exhibition of the brain and Circle of Willis.

W. W. REED, Secretary.

Denver.—The annual meeting of the Medical Society of the City and County of Denver was held January 5. H. W. McLauthlin read a memorial of the late Dr. Wm. Whitehead.

Dr. C. D. Spivak exhibited a case of **Catarrhal Jaundice**, which was typical in all respects except that there was absence of the itching which usually attends that disease. The urine appeared markedly discolored with bile pigment, but the test for bile by flowers of sulphur failed to reveal its presence. The sulphur continued to float upon the surface of the urine instead of promptly sinking, as a very small admixture of bile usually causes it to do.

Dr. George B. Packard delivered the annual address of the retiring President, consisting of recommendations for the improvement of the society. He dwelt especially on the importance of having cases exhibited at each meeting; and on the need to take steps to support a good medical library.

The election for officers resulted in the choice of the following: President, Sam. D. Hopkins; Vice President, Wm. J. Rothwell; Recording Secretary, L. B. Lockard; Censors, T. M. Burns, I. B. Perkins, G. N. Macomber, S. D. Van Meter, Edward Jackson; Delegates to the State Medical Society, G. B. Packard, John Chase and C. L. Wheaton.

The By-Laws were amended so that any member failing to pay his dues by the first of July of each year should be suspended from membership; and his name so reported to the State Society; also, that no charge of improper conduct on the part of any member

should be made before a meeting of the Society, except when the Society has voted to entertain an appeal from the action of the Board of Censors.

January 19.

Laboratory Work of the General Practitioner was the subject of a paper by Dr. J. R. Arneill. The enthusiast might advise much of this work which would have little or no practical outcome. The experienced physician has the advantage of knowing when laboratory tests will be of value.

Among blood tests, blood counts consume too much time. The hemoglobin test by the Tallquist scale is sufficiently accurate to be relied on even by the most careful clinicians. The drop of blood is merely taken up in the prepared absorbent paper, and when the stain has lost the gloss of excessive moisture, it is compared with the printed color scale. Cover glass blood-spreads often come to the microscopist so poorly prepared as to be useless. But those prepared in the old way, by drawing the end of one glass slide over another slide, are certain to show a good spread in some part. For staining the blood the eosin methylene-blue stain of Wright was recommended as the simplest and most effective. The Widal test for typhoid fever was only thoroughly reliable in the hands of a practitioner accustomed to use it constantly, and well acquainted with the particular behavior of his culture of the typhoid bacillus.

In the examination of sputum, great care is necessary to select for examination the small opaque spots, in which the tubercle bacillus is most likely to be found. The examination for elastic tissue is too often neglected. In selecting the points favorable for examination the sputum is to be spread on a glass plate. This can be done best, without soiling the fingers, by means of a bent glass slide. To stain for the pneumococcus the Loeffler solution is satisfactory. In the examination of stomach contents, the free hydrochloric acid and the total acidity should be measured. This can be readily and quickly done by use of a burette stand holding a standard sodic hydrate solution ready for use.

In the examination of urine the total solids can be estimated for each 1,000 cu. cent., by multiplying the excess of specific gravity above 1,000, by 2.33. Napoleon Boston's test for albumin: Insert the glass tube containing urine into a small test tube of nitric acid, and

allow the acid to rise in the tube, gives a most satisfactory ring. The quantity of albumin can be estimated by volume with sufficient accuracy. For sugar, Haines' test was recommended; and for quantitative estimates, Purdy's test. In getting the diazo-reaction of typhoid fever, care must be taken to note that the foam is pink in addition to the red line formed. In testing milk the important points are the specific gravity, which can be taken in an urinometer or lactometer, and the percentage of fats. This paper was discussed by Dr. Hall, who pointed out the necessity of excluding sugar when estimating urine solids by specific gravity.

F. P. Tuxbury read a paper upon **Divulsion of the External Sphincter Muscle as a Factor in the Treatment of Constipation**, and reported a case. In defecation the starting and stopping of the act are voluntary, and depend upon control of the external sphincter. This muscle grows stronger by use, and its irritability is increased by the continuous pressure of faeces in the rectum. This may go on to the point where the sphincter will no longer relax in response to the exertion of the will. For this condition, divulsion is indicated. It may either be immediate, under general anaesthesia, when care must be taken not to tear the sphincter; or it may be gradual, the divulsors being used two or three times a week, with care not to do too much, and so increase the irritability of the sphincter. Dr. Arneill testified to the value of such treatment, and spoke of the constipation or obstipation that was due to hypertrophy of the rectal valves.

Facial Deformities were discussed by F. E. Waxham. The mental suffering they caused should be relieved as much as any other suffering the physician was called upon to treat. He had improved an excessively prominent nose by dissecting up the skin and periosteum, and removing a sufficient amount of bone. The dangers of paraffin injections for sunken noses, embolism, dissemination of the paraffin, necrosis of tissues and redness from dilation of the capillaries, are to be avoided by using paraffin with a melting point of 105 degrees, which will prevent embolism or dissemination, thorough disinfection of hands, instruments and material and care not to inject too much paraffin. Dr. Wetherill preferred paraffin with a melting point of 110 degrees. He found no difficulty in expelling it from the nozzle of the syringe, and its use was attended with still less danger of embolism or dissemination.

Downes Electric Angiotribe was exhibited by Dr. H. G. Wetherill, who had been well satisfied with its use in abdominal operations, especially vaginal hysterectomy.

J. N. Hall briefly stated the character of the **Epidemic of Typhoid Fever** in Leadville. This had been proven by the Widal reaction, the cases of intestinal hemorrhage, and the specific lesions found in two autopsies. The cause of the epidemic had not been fully studied. But it was probably contamination of the water supply.

El Paso County.—The regular meeting of the El Paso County Medical Society was held at the Antlers Hotel, Colorado Springs, on January 13.

Dr. W. F. Martin presented a case of **Tubercular Knee Joint**, which had been treated, with excellent result, by the X-ray.

Dr. Martin also read a paper on Some Observations in the **Treatment of Pulmonary Tuberculosis**, which was eminently interesting and instructive, despite all we hear and have heard on this subject. He spoke of the advantage of open air life at all times, the quantity, quality and varieties of food, and general hygienic precautions, giving special attention to the digestive and eliminatory functions and rest. He referred in a general way to the many improved methods of treating phthisis, as the use of the static current, ultra violet and X-rays; and proposed the following question for especial attention in the discussion of his paper: How Does Fresh Air Cure Pulmonary Tuberculosis?

Discussion of Dr. Martin's paper was opened by Drs. S. E. Solly and C. F. Gardiner, and participated in by Drs. J. A. Hart, D. I. Christopher, D. P. Mayhew and others.

The following are the newly elected officers for this Society for the ensuing year: Dr. W. H. Swan, President; Dr. H. M. Ogilbee, Vice President; Dr. M. P. Reynolds, Secretary; Dr. D. J. Scully, Treasurer.

M. P. REYNOLDS, Secretary.

The **Fremont County** Medical Society held its annual meeting for election of officers in Canon City, January 4, 1904. The meeting was well attended and much interest was taken in its work, 17 out of 20 members in Fremont county being present.

Dr. Little read a paper on **Enlargement of the Prostate Gland, Infection of Bladder by Catheter, and Pyelo-Nephritis**.

Dr. Carrier read one on **Antitoxin and Its Use**. Both papers were very fully discussed.

The Society then elected the following officers: Dr. W. T. Little, Canon City, President; Dr. R. E. Holmes, Brookside, Vice President; Dr. R. C. Adkinson, Florence, Secretary and Treasurer; Dr. F. N. Carrier, Canon City, Delegate.

The following were elected members of the Society: Drs. Pitt A. Wade, J. W. Cannon, H. C. Graves and J. H. Guthrie, all of Canon City, this making the membership twenty.

After the meeting a banquet was given to the visitors by the members resident in Canon City.
F. N. CARRIER, Secretary.

Otero County Medical Society met January 12, at La Junta. Dr. Stubbs of La Junta, read a paper on **Tinea Versicolor**, which was discussed by Drs. Timmerman and Finney.

Dr. Finney presented several interesting cases from his wards at the Atchison, Topeka & Santa Fe Hospital, illustrative of the results of conservative surgery in lacerated and contused wounds. Drs. Jessie Stubbs, Wm. Donlon and Arthur Moore, all of La Junta, were elected to membership. It was voted to proceed with the prosecution of "Dr." Bennett of Holbrook, for illegal practice.

E. GARD EDWARDS, Secretary.

Pueblo.—The Pueblo County Medical Society holds its regular meetings on the first and third Tuesdays of each month.

At a meeting of the Society held January 5, 1904, 15 members and 8 visitors were present. Dr. Crum Epler read a paper on the **Diagnosis of Rectal Diseases**, with special reference to hemorrhoids. The first point of importance in the paper was the urgent plea for a more careful and detailed examination of the rectum by the general practitioner, before making a diagnosis and giving his opinion to the patient. He showed many instances in which the diagnosis had been made (and often incorrectly) where no examination of the parts had been made. The modes and manner of making the examination were clearly brought to the attention of the Society. A brief history of the hemorrhoid was given from the time of Moses to the present day.

The classification of piles into simply internal and external was shown as sufficient divisions for general work.

A general discussion followed.

January 19.

At the regular meeting of the Society held January 19, 17 members present, 6 visitors. An amendment to the by-laws was adopted, mak-

ing the fiscal year of the Society correspond with the fiscal year of the Colorado State Medical Society.

Dr. John Inglis read a most interesting paper on **Radium and Radiant Energy**. The writer showed (1) Recent advancements made in physics as well as chemistry; (2) A thorough explanation of the Thompsonian theory; (3) A comprehensive discussion of the ions of matter; (4) That all space is certainly traversed by unknown radiations; (5) A definition of radio-active matter; (6) The discovery of Becquerel rays in uranium and a history of the discovery of radium; (7) Properties of radium; (8) The known physiological effects of radium; (9) A detailed report of several cases treated with radium; (10) The fact was dwelt upon that its place in therapeutics is by no means yet determined or established; (11) That this probably valuable substance has powers for evil as well as for good; (12) That the charlatan is sure to exploit this discovery and use it as a lever to maintain his business; (13) The suggestion that radium may eventually change some of the common ideas of the properties of matter now laid down in physics.

WM. R. HOCH, Secretary.

OTHER SOCIETIES.

The **Colorado Medical Library Association** held its eleventh annual meeting, Tuesday, January 12. The Secretary reported the removal of books and journals to the new location of the Denver Public Library; and although the closed system is in operation as regards the library in general, the members of the Association have free access to the shelves of the Medical Department. The establishment of a reading room, where all current medical journals will be freely accessible was considered, and a committee appointed to take further action with regard to it. The officers were re-elected, as follows: President, W. A. Jayne; Secretary, C. D. Spivak; Treasurer, T. M. Burns; Librarian, C. R. Dudley.

Denver Academy of Medicine. The preliminary steps in the formation of this organization, which have been dragging along for about two years, are now completed. Almost fifty Fellows have signed its constitution. It is designed to hold the necessary property and establish a headquarters for the profession in Denver; to bring about co-operation among the medical organizations already existing

there, and to accumulate libraries and other collections. It will have, also, non-resident Fellows from other parts of the state. At the special meeting held January 15, the trustees were authorized to open a reading room. The officers are: President, Henry Sewall; Vice President, Geo. B. Packard; Secretary, C. K. Fleming; Treasurer, Frank E. Waxham; Trustees, W. A. Jayne, W. W. Grant, Thos. H. Hawkins, L. E. Lemen, H. W. McLauthlin and I. B. Perkins.

Denver Clinical and Pathological Society.—At the meeting of January 8, Dr. Powers showed a patient nine years old in whom, six years before, an ununited **Fracture of the Clavicle** had been sutured with chromacised catgut. There was no perceptible shortening or other deformity.

Dr. Weist reported an experience of his own. While in the South two years ago, following an insect bite, he had seven **Sloughing Ulcers**, attended with intense burning of the afflicted parts. A revisit to the same locality last autumn, brought on a recurrence, in which there were forty such lesions.

Dr. Stover exhibited **Stereoscopic Radiographs** showing vessels of the sheep's kidney injected, an exostosis following green-stick fracture of the radius, and sand embedded in the flesh of the hand.

Dr. Childs exhibited charts showing the uterine circulation as it appeared with the X-ray after injection of the vessels.

Dr. Hershey reported a case of **Inoperable Cancer** of the Rectum, in which there was no benefit from the use of the X-ray, but applications of yeast brought about great improvement.

Dr. Packard exhibited a radiograph of an unrecognized **Fracture of the Surgical Neck of the Femur**, which had produced great deformity, in a girl nine years old.

Dr. Levy reported a case of severe **Ulceration of the Throat** in a man aged fifty-five years. There was no history pointing to syphilis, but the ulcer healed promptly under anti-syphilitic treatment. Dr. Wilder reported a somewhat similar case.

Dr. Stevens reported a case of a man with a lesion of the tongue which was believed to be cancerous by several of the most prominent surgeons of Philadelphia and New York, who all advised excision. The patient recovered rapidly and completely under anti-syphilitic treatment.

Dr. Beggs reported a case of acute pain,

stupor and convulsions, not helped by morphia subcutaneously, but promptly relieved after the vomiting produced by apomorphia.

Dr. Delehanty had made a study of the cases of general paresis and locomotor ataxia in the County Hospital. He found that 65 per cent of them gave no history of syphilis.

Dr. Hickey reported a case of **Glycosuria in Pregnancy**, controlled by appropriate management, and ending in recovery.

Dr. Wetherill stated, regarding a case previously reported, that the heart murmur which he had detected in utero still remained loud and harsh, so that it was readily heard when the child was thickly wrapped in blankets. He also reported favorable experience with anaesthol as a general anaesthetic.

F. W. KENNEY, Secretary.

Colorado Ophthalmological Society.—The meeting of January 16 was held in Denver. **Cases were exhibited** by Dr. Bane, of albuminuric retinitis; by Dr. Friedmann, of central chorio-retinal disease of long standing; and by Dr. Black, of ectropion of the lower lid in a man who was said to have suffered from lupus and cancer. X-ray treatment had aggravated the ectropion, which showed no evidence of carcinoma. Dr. Black also exhibited a case of headache and double optic neuritis probably from brain tumor; and Dr. Jackson, a case showing the results of retinal and choroidal hemorrhages at the macula.

Dr. Bane reported a case of blindness from **Albuminuric retinitis** at the seventh month of pregnancy. He asked the probable effect of another pregnancy. Dr. Patterson had seen two cases, and Drs. Marbourg and Jackson one each, in which after great impairment of vision from this cause in the first pregnancy, subsequent pregnancies had not been attended with any further damage to sight. Dr. Neepser reported a case of **Burn by an Electric Flash**, attended with great pain, in which cocain and holocain were of no benefit, but the use of dionin afforded prompt relief.

TYPHOID EPIDEMIC AT LEADVILLE.

This epidemic, which included some 400 or 500 cases, has been carefully investigated by the officers of the State Board of Health; and by Dr. W. C. Mitchell, of Denver, from whose report, to the Mayor and City Council of Leadville, the following points are gathered:

The suddenness and wide extent of the epidemic seem to prove that the infection was spread by the water or milk supply. Careful

investigation shows no evidence of contamination of the milk supply, although some things about the Leadville dairies require correction. It also failed to reveal any source for typhoid contagion in the watersheds which furnish Leadville's water supply. And samples of the water, taken before it entered the city mains, were all found to be of exceptional purity and free from contamination. Water taken from wells in Leadville showed marked sewerage contamination; and it is believed that the water in the mains became contaminated after entering them.

An excellent explanation of how this probably occurred is given. During October and November, two or three bad cases of typhoid fever were treated in St. Vincent's Hospital; one of them proved fatal. The stools went into a cesspool, or settling basin, permitting free seepage before passing to the sewer. The hospital is situated on one of the highest points of the city; and it is very probable that streams of sewerage from it make their way along the outside of the mains.

In a mining town like Leadville, where settling and disturbance of the ground must frequently occur, the water mains are likely to be more or less defective. While the pressure is kept up within the mains, this would not lead to contamination of the water supply. But where the water is temporarily shut off, any sewerage in the vicinity would be very likely to find its way into any defect in the mains. The records of the water company show frequent shutting off of their mains for repairs—notably on December 5—to be followed just three weeks later by many cases of typhoid fever in the part of the city that would be affected by this particular disturbance of water supply.

The observance of the precautions recommended by the State Board of Health seems very promptly to have cut short the epidemic.

NEWS ITEMS.

The Northwest Medical Society has been formed by Drs. Chipman, Greig and Motheral, of Sterling, Smith, of Holyoke, and Monroe, of Hillrose.

Dr. Arthur Moore, for the past ten years a medical missionary in Cyprus, and Dr. W. Donlon, a recent graduate of Rush Medical College, have located in La Junta.

Dr. T. J. Mason, of Julesburg, Colo., has been at St. Joseph's Hospital, suffering from chronic renal disease and severe uremia. The mental

disturbance caused by the latter condition has been the foundation for various sensational paragraphs in the newspapers.

Dr. G. B. Crews, of Denver, illustrated how "familiarity breeds contempt" for danger, by accidentally swallowing a three grain tablet of corrosive sublimate, which he had carried loose in his pocket. Fortunately the accident was quickly recognized, and the proper treatment applied.

Dr. C. O. Rice, of Pueblo, on trial for murder, has been adjudged insane, and placed in the custody of relatives, for treatment.

Dr. C. E. Purcell obtained judgment for his fees, in his suit against a patient who attempted to discharge his obligation by an accusation of a mistake in diagnosis.

A sentence of fifteen years or more in the penitentiary has been passed upon Dr. Carrie L. Johnson, of Pueblo, for murder through an operation for criminal abortion.

The State Board of Medical Examiners has been subjected to a suit for malicious prosecution by the osteopath, "Dr." J. R. Bass. This grows out of the attempt of the board, under the present defective medical law, to stop Dr. Bass from practicing without a medical license.

The annual banquet to the staff of St. Anthony's Hospital, Denver, was given by the Sisters of St. Francis, in charge of the hospital, January 22, 1904. The principal speeches were made by Drs. T. H. Hawkins, L. E. Lemen and W. Langsford.

The annual meeting of the Denver Homeopathic Society was held January 18. The following officers were chosen for the ensuing year: President, H. K. Dunklee; Vice President, G. P. Howard; Secretary, C. D. Beebe; and Treasurer, J. W. Mastin.

BOOKS.

Text-Book of Legal Medicine, edited by Fredrick Peterson, President of the New York State Commission in Lunacy, and Walter D. Haines, Professor of Chemistry, Pharmacy and Toxicology in Rush Medical College, Chicago; in two volumes; 1,550 pages; illustrated. W. B. Saunders & Co., Philadelphia and London. 1903 and 1904.

This work is written by some thirty-five different authors; of whom, it is interesting to note, that four belong to the profession of Denver. Some of the most important articles are contributed by these Denver writers. Gunshot Wounds, Burns and Scalds are treated

by J. N. Hall. The elaborate article upon Insanity is by the late Dr. J. T. Eskridge, and the one upon Malingering and Feigned Disorders is by Drs. Eskridge and Leonard Freeman. A high standard of literary excellence and practical usefulness is attained in these articles; and such a standard is well sustained throughout the two volumes. A list of the different contributors would guarantee the value of the work. Not the least important are some of the shorter chapters by the editors, which fill in what might be unnoticed, yet serious, gaps. The existence of such gaps is a most common defect of large "systems" of multiple authorship.

This is a presentation of the subject worthy of the authors and publishers, and should find its place in the shelves of every practitioner who attempts to keep up a good working library. The careful reading of a work on legal medicine, aside from the special information it gives and the interest it possesses, has value as training in general diagnosis. The minute painstaking search for facts, and their careful estimation and logical arrangement which marks such a treatise, constitute an important stimulus for the diagnostician. The stimulus is one that we all need, for in diagnosis preeminently "it is keeping eternally at it that brings success."

Atlas of External Diseases of the Eye.—Professor Dr. O. Haab, Zurich; authorized translation; second edition; edited by G. E. de Schweinitz, M. D., Professor of Ophthalmology in the University of Pennsylvania. Philadelphia and London; W. B. Saunders & Co. 1903.

The external diseases of the eye are apt to claim attention from the general practitioner; at least to some extent. For one whose clinical experience with them is somewhat limited the excellent color plates of this work are of the highest value. The present edition contains about a dozen new plates, each giving one or more figures of typical cases.

This is not merely the cheapest good book of its kind. Its value as a clinical guide is really greater than that of any or all of its expensive predecessors. But perhaps the general verdict of the profession is the strongest evidence of its worth. This is called the second edition; but while the first edition was issued in 1899, three supplementary editions or reprints have been put out in the interval. It is enough to say that Haab's atlas fully deserves its popularity.

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