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TREATMENT OF PULMONARY AND LARYNGEAL TUBERCULOSIS BY THE NEW ANTIPHTHISIC SERUM, T.R. (FORMULA OF FISCH), WITH REMARKS ON THE ETIOLOGY OF THE DISEASE.*

BY W. FREUDENTHAL, M.D., NEW YORK.

ALTHOUGH much thought and discussion has been devoted to the etiology and prevention of tuberculosis, we are still in doubt regarding a great many matters relative to these topics; among others, for instance, the site of entry of the tuberculous virus in the organism.

Having expressed my views regarding the etiology and prevention of tuberculosis at some length elsewhere, I will devote the few remarks which I wish to make now to the discussion of two points in the prophylaxis of the disease which I have not yet touched upon. One of these points is light.

It cannot be denied that sunlight is extremely essential for the health of all animals; still the fact that it is an important factor in the prevention of tuberculosis has not met with the general appreciation which it deserves. In corroboration of its importance, permit me to quote from the last report of the Cattle Commissioners of Massachusetts.†

It says (p. 57): "Light is another essential in the thorough disinfection of barns that is too often neglected. The majority of barns have only one or two small windows, rarely larger than, say, eighteen or twenty-four inches square, usually thick with dust, and giving a 'dim religious light' or none at all. Only very few barns have windows sufficiently large to give free admittance to the sun-

* Written specially for THE CANADIAN JOURNAL OF MEDICINE AND SURGERY.

† "Annual Report of the Board of Cattle Commissioners of the Commonwealth of Massachusetts." Boston, 1898.

light. Owners of cattle do not seem to realize that sunlight is just as essential to the health of animal life as it is to plant life . . . and even at the present time it seems to be impossible to teach some people that light is not detrimental to the health of dairy stock. It is especially necessary where, through want of fresh air and exercise, the circulation is sluggish and the system depressed.

"Light stimulates the circulation, and with increasing oxidation more CO_2 is given off, and the functions of the whole body are quickened and enlivened; but sunlight also retards the growth of germ life, and the vitality of certain forms of bacteria, *including tubercle bacilli*, is destroyed in a few hours' time by the direct action of the sunlight."

While we have numerous facts proving that the frequency of pulmonary diseases and glanders is diminished by an increased supply of air and light, I shall cite one more which is related by Prof. Law and which bears on this subject. He says, according to the above report: "In 1877 I recognized the existence of tuberculosis in the Jersey herd of ..... of Troy. The worst were slaughtered, but some incipient cases in young animals were turned out in a pasture by themselves, where they passed the summer in apparently robust health, but they began to droop when returned to the barns in the fall."

Although we are aware of these facts—I need only remind you of the experiments made long ago by Dr. Trudeau and others—we forget and neglect the lesson taught by them. And these lessons are not only of importance in the treatment of cases in which tuberculosis exists, but also in the prevention of the disease in those in which its appearance is to be feared.

If the Cattle Commissioners of Massachusetts ask for more light in the barns of their herds, can I be considered unreasonable if I make a plea for more light for the human beings of New York? What do we find in regard to this matter? Let us consider one of the modern residences on Fifth or Madison Avenues, belonging to people who can afford any luxury. Unless the house is situated on a corner, the light, as a rule, comes in only through the front part, the rear generally receiving no natural light at all, as every inch of the available space has been built upon. And even in the front, the sun rarely has a chance of getting into the rooms, for there are one, two or three pairs of curtains and portieres preventing this and allowing only a "dim religious light" to filter through, just as in the barns mentioned above. But it is evident that we need much sunlight, just as well as animals and plants. Consequently no one will be surprised when I say that I advise my phthisical patients to get as much sunlight as possible. I therefore do not take the pessimistic stand of a great many scientific men of to-day who say any climate is good, provided the air be pure. True, pure air is very important for tuberculous patients, but sunlight is an additional factor and one of vast importance which must not be overlooked.

Where this beneficial healing power, the sun, is not available,

other means have been tried as a substitute therefor. Thus the electric light therapy has been introduced in Berlin by a chemist, Dr. Gebhardt, a pupil of von Helmholtz and Hoffmann, and only lately Dr. E. Below of Berlin (*Berl. klin. Woch.*, p. 265, 1898). The results are said to be very good. I myself have experimented in that field for years, but shall publish my observations perhaps sometime later, as they are by no means ripe for discussion.

We come now to another point—the quantity of fresh air. For the same reason that the sunlight is excluded, no air can get into the houses through the rear windows. And with the exception of the weekly cleaning, the front windows are to all intents and purposes always closed for fear that dust from the streets might get in and spoil the expensive curtains and still more expensive furniture. If such is the case in the so-called best houses, what can we expect of the others? Of the poorest of them, the tenement houses, so much has been said that I do not need to repeat it here. My object is to show that tuberculosis really can and does develop in the richer houses to the same extent as it does in the poorest. Nor is the dwelling the only place in which tuberculosis can develop. Look at the older school-houses, overcrowded, with poor ventilation and lack of light; look at the factories and all the other places where human beings are crowded together for hours every day, and you will not be surprised that many a disease develops under such conditions. One of them is tuberculosis, and another post-nasal catarrh. About the connection of these two diseases I have written considerable. Permit me for a moment to quote from a former paper on this subject:

In post-nasal catarrh, we find "ciliated epithelium, pathologically changed or entirely absent. We find a tenacious, adhesive, stagnating mucus, whose influence upon the development of bacteria can only be a favorable one. We finally find glandular tissues, which only too easily take up and harbor in their crypts all noxæ."

Later on, I said: "According to our present experience, there is no doubt that infection with tuberculosis most frequently takes place through the respiratory organs. But I agree with Ponfick, with whom, by the way, Ziem also coincides, when he declares that the lungs can no longer be looked upon as the principal organs for the entrance of the tuberculous poison. To me it was always incomprehensible how the tubercle bacillus, during respiration, should penetrate the many tortuous respiratory passages, to finally build its nest at the apices of the lungs, which are so difficult to reach. Why do not other microscopic particles, inhaled in the air, do the same? Why does not soot, for example, not only enter the nose but also all parts of the lungs? If we suppose that tubercle bacilli are drawn away mechanically by the air current, I will not admit that, when inhaled in moderate quantities, they reach the apices of the lungs without their progress being previously checked. I once more refer to the investigations of Arnold, Kayser and Hildebrandt: whether dust or bacteria had been inhaled was

a matter of no account; so long as breathing was continued through the nose the particles of the air were retained in the nose and naso-pharynx, and the lungs remained free. Nor is this to be expected otherwise. Imagine for the sake of simplicity, the air current passing in a straight direction toward the retropharyngeal cavity. Here it turns at an acute angle, and it would be more than peculiar if the bacteria would not be held there by the moist mucosa. On the contrary, one must suppose that the retropharynx keeps back the bacteria to a greater extent than the nose itself. But also deeper down the air current is deviated at the entrance into the larynx by the various prominences, such as the epiglottis, arytenoids, etc., and again, and more especially at the bifurcation of the trachea."

There is still another factor that makes the retropharynx the *locus minimæ resistentiæ*. The different kinds of bacteria, especially the cocci, according to the experiments of Babes, are prone to prepare the soil for the tubercle bacilli. Thus, this factor also facilitates the entrance of the tubercle bacillus into the mucosa of these parts. Once having penetrated the lymph tissue, it wanders with the lymph stream until it gets into larger lymph vessels, and finally into the thoracic duct. On its way thither the bacillus is quite frequently hindered or detained by stoppage of the vasa efferentia, etc., and the latent tuberculosis, so commonly met with, originates. On the other hand, the thoracic duct becomes the main source for the further spreading of the germs. From here the infection of the apices of the lungs, the *loci minoris resistentiæ*, proceeds.* It is evident that the organism frequently reacts against the invasion of the tubercle bacillus, and the glandular swellings, so common in children, appear. These lymphomata, often nothing else than a consequence of an existing retropharyngeal affection, bear the same relation to this condition as the inguinal bubo does to the primary affection in the genitals.

After bringing many more proofs in confirmation of my theory I came to the conclusion that the hypertrophy of the lymphoid tissue at the vault of the pharynx is nothing more than the expression of this reactionary inflammation. At that time I had overlooked an article by Trautmann, of Berlin, in which he says: "Although by careful examination of the hyperplastic tissue at the vault of the pharynx, of the follicles and of the secretion, neither giant cells nor tubercle bacilli were found, I nevertheless consider tuberculosis the cause of the hyperplasia. . . . A communication made to me verbally by Robert Koch also speaks in favor of tuberculosis being the cause of the hypertrophy. After injection of tuberculin he found at first a rise of temperature, then more swelling and hyperplasia of the lymphoid tissue, and after further injections both disappeared and the hyperplasia was cured, but not until treatment extended over several months."

I cannot mention here all the facts that have been elicited in

*W. Freudenthal: "Kleinere Beitrage zur Ætiologie der Lungen-tuberkulose," *Archiv fur Laryngol.*, Bd. V., 1896, and *Annals of Otology*, February, 1897.

favor of my theory; I will only say that Pluder and Fischer,* in an article that appeared almost on the same day as mine, came to very similar conclusions. They believe that the five cases which they mention must be considered as latent and *primary* tuberculosis. They explain their ideas about the propagation of the tuberculous virus in the system in a very interesting manner, for details of which I would refer the reader to the original paper.

I have examined numerous patients and found that a great many have affections of the retropharynx, and that of these a certain percentage shows tuberculous lesions in the lungs. I did not draw any definite conclusions in regard to the percentage of cases of phthisis among those affected with nasal and post-nasal disease, but attempted to show that all the numerous facts brought out in favor of my theory, as well as my own and others' statistics, must convince everybody that we can no longer deny that a direct connection exists between affections of the retropharynx (this is especially my idea) or nose and general tuberculosis; in other words, that the disease commonly called "catarrh" frequently leads to tuberculosis.

And now comes Dr. E. Fletcher Ingals,† of Chicago, who, has asserted that "catarrh" has a tendency to prevent tuberculosis. As he alludes to my article, I am, in the interest of the important question involved, in duty bound to answer him. Dr. Ingals says that "38 per cent. of the human family at one time or another suffer from pulmonary tuberculosis, as against about 75 per cent. with diseases of the upper air passages, or nasal catarrh." This is as much as, or even more, than I expected, but he says further, that of these 38 per cent. with tuberculosis, a comparatively few suffer from nasal disease. Thus, for example, of his 830 cases of pulmonary tuberculosis only 237, or about 28 per cent, showed some nasal trouble. "Of the 237 cases which make up this 28 per cent., I find that 168 consisted of exostosis and deflection of the septum, which . . . is present in 50 per cent. of all persons of the European race; *therefore, many of these would have had no possible influence* in causing the pulmonary tuberculosis." I fail to see the logic of Dr. Ingals' conclusions. Because 50 per cent. of all Europeans have deflections of the septum, must we exclude them from our statistics? Are deflections of the nasal septum to be considered normal because so many civilized people have acquired them? We might as well say that gonorrhea in man is a normal condition because so many cases exist. Deflection of the nasal septum is a pathologic condition which also tends to produce post-nasal catarrh, and I consider it a very important etiologic factor in favor of our theory. But Dr. Ingals is not satisfied in deducting all these cases. He goes on to exclude other possibilities by saying: "Further, my records show that of all the cases of pulmonary tuberculosis, 1,272 in number, only 27 of the patients, or

*F. Pluder und W. Fischer: "Ueber primære latente Tuberkulose," etc., *Archiv fur Laryngologie*, Bd. IV., p. 372.

†*Annals of Otology, Rhinology and Laryngology*, February, 1898, p. 173.

about 2 per cent., complained of having had any previous nasal disease, which is 4 per cent. less than the normal average." His position must be very weak, if he is forced to fall back on such arguments. Were we to be guided by the complaints of the patient, we would, for instance, still have to treat many cases of persistent headache as malaria, and fill the patient with quinine and similar drugs, as we formerly did. We would never be justified in removing polypi, etc., in cases of asthma, because the patient dose not complain of his nose.

About thirteen years ago, while pursuing other investigations, I examined the nasal passages of every patient, 500 altogether, who came to the Hospital for the Ruptured and Crippled, this city, and was surprised to notice how seldom the patients complained of their noses. I remember several instances in which grown persons could not breathe through their noses at all, since they were almost hermetically stopped up by numerous polypi, etc., and nevertheless they had no complaints to make. In regard to tuberculous patients, I examined 75 of the consumptives at the Montefiore Home. Of these, 37 did not complain at all about their throat or nose, and 38 did, *i.e.*, about half on each side. Of the 37 patients who did not complain, not less than 23 showed marked abnormalities in their nasal passages, and in only 14 there were no marked changes at all.

Although these statistics are not extensive, I am sure that they will prove convincingly that consumptives suffer from nose and throat troubles, not only as much as, but more than other people. Two-thirds of those who did not complain had some kind of affection of the throat or nose, and naturally the others who did complain showed lesions of the parts also.

E. F. Wells, of Chicago, did not believe in the conclusions drawn by Dr. Ingals, nor did many others, but they had to take the doctor's statistics. I hope that I have succeeded in convincing more to day that my conclusions were correct.

We now come to the equally important part of our paper, the therapy. I shall discuss only one mode of treatment, viz., that with the new tuberculin T.R.

The question of the treatment of tuberculosis with the new tuberculin T.R. has been a burning one since Koch published the results of his experiments with the agent about two years ago, and this question is of still greater importance at present. Many articles both *pro* and *con* have been published, and very many discussions have been held on this subject, but I will limit myself to the latest publications on this topic.

It was during the course of certain experiments which I was making with tuberculin T.R. that I came across three publications from Prof. v. Leyden's clinic, which almost made me give up my investigations. On looking over these papers, however, they did not seem to me to be altogether exempt from criticism. The first paper was that by Dr. Huber, assistant to v. Leyden, who made experiments with the new tuberculin T.R. on animals, and arrived at the conclusion that it had no therapeutic value. His

deductions were contradicted by Prof. Brieger, Dr. Petruschky and others. Still we must admit that his conclusions were correct in one point, viz., that in one or two of his experiments virulent tubercle bacilli were present in the new tuberculin. But since last September this defect has been remedied. Nor were his practical experiments on patients more successful. In five advanced cases there was no influence visible. In two cases that were doubtful the status of the patient remained unchanged. In three cases which were suitable for this treatment, in which, however, the injections were interrupted prematurely, one patient was somewhat improved while the others remained unchanged. In four cases in which the treatment was specially indicated, the condition of one patient remained unchanged; the second was almost cured, but only temporarily, as he afterwards developed miliary tuberculosis, and the other two were materially improved. Similar results were obtained by Dr. Burghart in the female wards of v. Leyden's clinic. In the same number of the *Berliner klinische Wochenschrift* (p. 146, 1898), Dr. Alb. Raude reports three cases of pulmonary tuberculosis treated with T. R. One patient got worse and died, while the two others improved markedly; one gained six pounds and the other twenty pounds in weight.

In the Berlin Gesellschaft der Charite-Aerzte, February 10th, 1898, there was a heated debate on this topic. This society was apparently divided into two parties; on the one side was the Institution for Infectious Diseases (Koch, Brieger, Marx), and on the other side were the clinicians. As the result of this discussion it might be said in the words of the president, Dr. Schaper, that we are too far away to be able to form any conclusive opinion on the effects of the new tuberculin, but one point seems to be evident, viz., that it is effective only in the relatively pure cases of bacillary tuberculosis, not in so-called mixed infections.

Last July, in St. Louis, I had the opportunity of seeing Dr. Carl Fisch's experiments. He was immunizing horses with this new tuberculin T.R., and he was fairly confident of producing in this way a serum that would contain more antitoxic properties than former serums. All of his experiments were published in the *Journal of the American Medical Association* for October 30th, 1897, and as they seemed to me not only scientific but rational, I overcame my antagonism against all these extracts, etc., and gave this antiphthisic serum a trial. I commenced using the injections at the Montefiore Home for Chronic Invalids on February 24th, and stopped April 8th, 1898. With but few interruptions the four patients received daily injections of ½ c.cm. I increased the dose rapidly to 1 c.cm., but had to reduce it again in the case of three patients on account of the severe reaction. Only one patient could stand 1 c.cm., and that only for a comparatively short time. This patient received injections of the old tuberculin seven years ago in the German Hospital, and he could stand these new injections much better than any of the other three patients. The histories are as follows:

CASE 1. Marcus G., aged 41; occupation, furrier; nativity, Hungary; married. Family history negative. Previous history, sick since April 1st, 1895. Began as inflammation of lungs; four months in bed. August, 1896, hemorrhage; no nightsweats; loss of flesh. At present he coughs much; expectoration is profuse and yellow; no nightsweats; no loss of weight; bowels regular, appetite poor.

Physical Examination, February 24th, 1898.—Chest flattened; retraction over both clavicles, especially right; expansion slight. Dulness at both apices, especially right; medium coarse, moist rales over upper right lung. Fine moist rales right interscapular region. Moist rales all over right lung. Vocal resonance increased, right side. Few moist rales on left side anteriorly. Harsh respiration with prolonged expiration. Slight bronchophony.

INJECTIONS.

Feby.	24,	1898,	at 2 p.m.....	Serum of	Feby.	14, 1898,	m. viii.
"	25,	"	at 2 p.m.....	"	"	" "	m. xii.
"	26,	"	at 2 p.m.....	"	"	" "	m. xiv.
"	27,	"	at 3 p.m.....	"	"	15, "	1 c.c.
"	28,	"	at 5.30 p.m.....	"	"	" "	1 c.c.
March	1,	"	at 1.30 p.m.....	"	"	" "	1 c.c.
"	2,	"	at 11.30 p.m.....	"	"	" "	1 c.c.
"	3,	"	no injection.....	"	"	" "	....
"	4,	"	" "	"	"	" "	....
"	5,	"	" "	"	"	" "	....
"	6,	"	at 3 p.m.....	"	"	" "	½ c.c.
"	7,	"	at 4 p.m.....	"	"	" "	½ c.c.
"	8,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	9,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	10,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	11,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	12,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	13,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	14,	"	at 4.30 p.m.....	"	"	" "	½ c.c.
"	15,	"	at 3 p.m.....	"	"	" "	½ c.c.
"	16,	"	at 4.30 p.m.....	"	"	" "	½ c.c.
"	17,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	18,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	19,	"	at 3 p.m.....	"	"	26, "	½ c.c.
"	20,	"	at 3 p.m.....	"	"	" "	½ c.c.
"	21,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	22,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	23,	"	at 12 noon.....	"	"	" "	½ c.c.
"	24,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	25,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	26,	"	at 3 p.m.....	"	"	" "	½ c.c.
"	27,	"	at 4 p.m.....	"	"	" "	½ c.c.
"	28,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	29,	"	at 3 p.m.....	"	"	" "	½ c.c.
"	30,	"	at 2 p.m.....	"	"	15, "	½ c.c.
"	31,	"	at 2 p.m.....	"	"	" "	½ c.c.
April	1,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	2,	"	at 3 p.m.....	"	"	" "	½ c.c.
"	3,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	4,	"	at 2 p.m.....	"	"	" "	½ c.c.
"	5,	"	at 2 p.m.....	"	"	20, "	½ c.c.
"	6,	"	at 2 p.m.....	"	"	" "	½ c.c.

HISTORY OF CASE I.

Date.	Weight.	Temperature.	Pulse.	Respiration.	Cough.	Expectoration.	Expectoration Microscopic.	Night-sweats.	Appetite.	Sleep.	Feeling.	Reactions.	Urine.
Feby. 24	110	99, 100.8	....	....	Much.	Profuse, yellow.	Positive.	None.	Poor.	Good.	Good.	None.	....
25	....	98.2, 99.1	100, 94	20, 22	Little.	Little.	Positive.	None.	Poor.	Good.	Good.	None.	....
26	....	98.1, 99.5	94, 96	18, 24	Little.	Little.	....	None.	Poor.	Very restless.	Good.	None.	....
27	....	98.1, 99.5	90, 96	20, 18	Little.	Little.	....	None.	Poor.	A few hours.	Good.	None.	....
28	....	98.5, 100	90, 95	20, 24	Little.	Little.	....	None.	Poor.	A few hours.	Good.	None.	....
March 1	....	98.5, 100	92, 98	18, 20	Pretty much.	Pretty much.	....	None.	Poor.	A few hours.	Good.	None.	....
2	....	97.1, 101.1	92, 100	20, 24	Pretty much.	Much.	....	None.	Poor.	Bad.	Good.	None.	....
3	109	96.7, 101.1	102, 110	18, 20	Much.	Much.	....	None.	Poor.	....	Not very good	Local itching.	Negative.
4	....	96.5, 101.3	100, 96	18, 20	Much.	Much.	....	None.	Poor.	Good.	Good.	Itching and urticaria.	....
5	....	96.5, 101	92, 100	18, 18	Much.	Much.	....	None.	Poor.	Until 2 a.m.	....	No itching.	....
6	....	98.1, 100.9	102, 90	26, 20	Little.	Little.	....	None.	Poor.	Good.	....	....	....
7	....	98.5, 100.9	98, 104	18, 18	Much.	Much.	....	None.	Poor.	Good.	....	....	....
8	....	98.6, 101.1	94, 94	18, 20	Little.	Little.	....	None.	Better.	Good.	Good.	....	....
9	....	97.5, 99.7	90, 90	18, 18	Much.	Much.	....	None.	Better.	Good.	Good.	....	....
10	109	97.9, 100.8	86, 92	16, 20	Little.	Much.	....	None.	Quite good.	Good.	Good.	....	....
11	....	97.5, 100.2	84, 96	16, 18	Much.	Much.	Bacilli present.	None.	Better.	Good.	Good.	....	Negative.
12	....	97.8, 100	96, 88	18, 32	Much.	Much.	....	None.	Quite good.	Good.	Good.	....	....
13	....	98, 100	80, 100	16, 20	Much.	Much.	....	None.	Better.	Good.	Good.	....	....
14	....	97.4, 100.2	84, 100	16, 22	Much.	Much.	....	None.	Better.	Good.	Good.	....	....
15	....	97, 100.2	84, 98	16, 16	Little.	Little.	....	None.	Fair.	Good.	Good.	....	....
16	....	97, 100 2	86, 98	16, 20	Little.	Little.	....	None.	Fair.	Good.	Good.	....	....
17	110	97, 100	84, 100	18, 20	Quite a good deal.	Quite a good deal.	Positive.	None.	Fair.	Good.	Good.	....	....
18	....	97, 100.8	86, 100	20, 22	Much.	Much.	....	None.	Fair.	Good.	Good.	....	....
19	....	97, 100.2	80, 100	16, 20	Less.	Much.	....	None.	Quite good.	Good.	Good.	....	....
20	....	97, 100	86, 98	18, 19	Much.	Much.	....	None.	Good.	Good.	Good.	....	....
21	....	96, 100.2	90, 100	20, 20	Much.	Much.	....	None.	Good.	Good.	Good.	....	....
22	....	97, 100.2	90, 90	20, 26	Less.	Less.	....	None.	Good.	Good.	Good.	....	....
23	....	97, 100.6	90, 90	20, 20	Less.	Less.	Positive.	None.	Good.	Poor.	Good.	....	....
24	109½	97, 100.2	84, 98	20, 20	Much.	Much.	....	None.	Good.	Good.	Good.	....	....
25	....	97, 100	80, 76	18, 18	Not much.	Not much.	....	None.	Good.	Good.	Good.	....	....
26	....	97, 101.2	80, 100	18, 22	Much.	Much.	....	None.	Good.	Good.	Good.	....	....
27	....	98.4, 100	90, 96	18, 22	Little.	Little.	....	None.	Good.	Good.	Good.	....	....
28	....	98, 100	88, 100	18. 20	Little.	Little.	....	None.	Good.	Good	Good.	Feels chilly after dinner.	....
29	....	98, 100.4	86, 100	18, 20	Little.	Little.	....	None.	Good.	Good.	Good.	....	....
30	108¾	96, 100.2	100, 96	22, 20	Much.	Much.	....	None.	Good.	Good.	Good.	....	....
31	....	97.2, 100.2	100, 98	20, 20	Much.	Much.	....	None.	Good.	Good.	Good.	....	....
April 1	....	97.6, 99	88, 84	18, 20	Much.	Much.	....	None.	Good.	Good.	Good.	....	....
2	....	97.6, 101	84, 100	20, 20	Much.	Much.	....	None.	Good.	Good.	Good.	....	....
3	....	98.4, 100.6	98, 104	18, 20	Much.	Much.	....	None.	Bad.	Good.	Cold after dinner.	....	....
4	....	98, 100	78, 100	18, 20	Much.	Much.	....	None.	Poor.	Good.	Good.	....	....
5	....	97, 99.6	94, 100	18, 18	Little.	Little.	....	None.	Poor.	Good.	Good.	....	....
6	....	97, 99.8	92, 100	18, 18	Little.	Little.	....	None.	Good.	Good.	Good.	....	....
7	....	98.4, 100	94, 84	18, 20	Little.	Little.	....	None.	Good.	Good.	Good.	....	....
8	109½	98.4, ..	100, ..	18, ..	Little.	Little.	Bacilli found.	....	Good.	....	Good.	....	Negative.

Status, April 8th, 1898.—Marked dulness over the right lung anteriorly; on left side slight supraclavicular dulness below clavicle; concussion note normal. Swollen gland over left clavicle. Right lung, posteriorly, dulness to middle of scapula. Left lung, posteriorly, percussion note normal. Sonorous moist rales all over left lung. Vesicular breathing anteriorly and posteriorly. Patient feels better and sleeps better; appetite better, cough less. On March 2nd, 1 c.cm. of the serum was injected, but on the next day the patient felt very poorly. His temperature rose to 101° F. and the injections therefore were stopped for three days. After this he received an injection regularly every day, except once when he was very weak.

Although this case did not seem to me to be one of pure bacillary infection, I must say that the serum treatment had no deleterious effect on his condition. On the contrary, the left side is freer than it was before. The right lung is unchanged, and the patient's weight remained stationary. Bacilli were present in the sputum after treatment was discontinued. As a whole his condition was perhaps somewhat improved.

CASE 2. S. F., aged 21; occupation, furrier; family history, negative; previous history, always well. Eight months previously began to cough and expectorate; pain in chest; hemoptysis, night-sweats, etc. Complains at present of severe cough night and morning; free expectoration, somewhat darker than pus; nightsweats, loss of flesh; appetite is good and bowels regular.

Physical Examination, February 24th, 1898.—Chest fairly developed, but slightly retracted over clavicles; expansion diminished on both sides. Vocal fremitus slightly increased on left side. Dulness at left apex marked; slight dulness at right apex. Hard breathing over entire upper right lung, with prolonged expiration. Fine moist rales and occasional rhonchi over the middle of the right lung anteriorly. Prolonged expiration at left apex with coarse moist rales and sonorous rhonchi. Fine and medium rales left side at the bifurcation of the bronchi behind. Injections were commenced on February 24th, 1898, with serum of February 14th, afterwards with serum of February 15th.

Status, April 8th, 1898.—Dulness in left supraclavicular region marked; on right side very little dulness. Small crepitant rales left side, anteriorly, down to third rib; right side, anteriorly; breathing, normal. Slight dulness in left posterior supraclavicular region. Breathing, left lung, posteriorly, harsh, with few moist rales. The patient felt about the same as before the injections were commenced. There was an infiltration of both ventricular lips of the larynx and intra-arytenoid space. Ulceration of the left vocal lip.

This case did not run as smoothly as the first one. At the commencement of the treatment the man had laryngitis, which rapidly grew worse, and later showed distinct tubercular infiltration and ulceration. After receiving 1 c.cm. of serum, March 2nd, his

temperature rose to 102.4° F. and then to 103.3° F. From March 3rd to 7th we refrained from giving the injections. On March 8th he received ½ c.cm. but on the three following days he felt so bad that we had to stop them again, a hemorrhage having occurred during the night of March 8th. The ulcerations in his larynx then developed more rapidly and were relieved by daily insufflations of orthoform. When these were omitted the pains in the larynx returned. On March 30th an attack of syncope followed the injection but he recovered promptly. I therefore omitted the serum for three days. He lost 7½ lbs. in weight.

CASE 3. P. V. G.; occupation, electrician. Family history negative. Previous history: was well up to 1890; then had bronchopneumonia and was in bed four months. His cough persisted, and after being examined he was advised to take Koch's lymph, November, 1890. In May, 1891, he went to the Adirondacks, and then to Asheville, where he gained weight up to 145 pounds. At the time of admission he coughed very little and only in the morning. Expectoration was scanty and yellowish; local sweats on neck; sleeps well 10 p.m. to 1 a.m., then slightly restless; appetite poor; bowels regular.

Physical Examination, February 24th, 1898.—Chest flattened, expansion diminished; vocal fremitus increased on left side. Slight dulness over both apices, especially the left, extending down to third rib. Harsh respiration, with prolonged expiration at left apex. In first, second and third interspaces, a little internal to the mamillary line, cavernous respiration and whispering pectoriloquy. Fine, medium moist rales at left apex. Inspiratory rales at both apices. Fine moist rales at bifurcation of the bronchi, posteriorly. Bronchial breathing in left suprascapular region.

Status, April 8th, 1898.—Dulness in left supraclavicular region; slight dulness, right supraclavicular. Slight dulness, left infraclavicular region. Harsh breathing left lung anteriorly. Small crepitant rales, second intercostal space, right lung anteriorly. Dulness, left lung posteriorly to middle of scapula. Pleuritic friction sounds, left lung posteriorly, also at base of lung in left axillary line. Cough has ceased entirely; appetite poor. Feels better.

This patient could stand the injections better than any of the others, probably because he had undergone tuberculin treatment seven years before. There was little or no reaction, his temperature seldom rising above 99° F. For some time he complained of pains in the arms, shoulders, etc., which I consider was due to the injections. His appetite as a rule was poor, but he secretly indulged greatly in whiskey. On the left side a pleurisy set in, which I purposely did not treat at all, but otherwise the condition of his lungs was improved. His weight remained about the same, and he was discharged from the Home, as he wanted to commence work.

CASE 4. L. H., aged 25; occupation, tailor. A brother had died of tuberculosis. Since May, 1897, the patient had had hemoptyses

and nightsweats; had lost twenty pounds in weight. He had cough, especially in the morning, and his expectoration was scanty and white. No nightsweats; gaining in weight, good appetite; bowels regular. Both apices were retracted and expansion limited. Dulness over both apices. Tactile fremitus increased on both sides. Harsh breathing right lung anteriorly and prolonged expiration at the left apex. A few fine rales at left apex. Fine mucous rales over left bronchus, behind. Vocal resonance increased on both sides.

Status, April 12th, 1898.—Dulness supraclavicular region, left side, also slight dulness up to upper border of third rib. Dulness over upper portion of the left lung in the axillary line and dulness in the suprascapular region posteriorly. Dulness in the supraclavicular region, right side. Less marked dulness infraclavicular region down to second interspace. Slightly diminished breathing over entire anterior aspect of left lung, accompanied by numerous moist and crepitant rales. Diminished breathing, left side posteriorly with many moist rales in the suprascapular and interscapular region. Breathing diminished over entire right lung. A few crepitant rales over upper lobe. Patient's weight, 107½ pounds.

This patient could not bear the serum, and although at times I had hopes that he would become accustomed to it, he again and again showed marked reaction, lost flesh constantly (altogether 10½ pounds), and finally grew worse under the treatment. Urticaria at one time was very marked.

I report these histories not to show how good or how bad they were, but simply *how* they were. Although these results are not so gratifying as those obtained by Dr. Carl Fisch or Dr. A. M. Holmes, of Denver, nor as unfavorable as those of Dr. F. A. Waxham, of Denver, I must say that I am of the opinion that this new serum is a remedy which should be tried much more extensively. When we have a series of hundreds of cases, carefully watched and recorded, we will be better able to pass judgment on its value. Until then all well-observed cases will help to form an opinion, and in furtherance of this object this report is published.

1003 Madison Avenue.

PULMONARY TUBERCULOSIS—TREATMENT.

BY J. HUNTER, M.D., TORONTO.

MEDICINAL—CLIMATIC.

"THE fewer drugs the physician prescribes the better are his opportunties for understanding their characters and potentialities, and for using them skilfully." Probably there never was a time, either, when it was more needful to exercise a judicious conservatism. Our medical journals not only generously allow unbounded space for advertising merchandise "in their outer

courts," but the editors leave "the gates ajar," so that the cute manufacturers can come into the sacred precincts of these temples, and on the same altar commingle their unethical testimonials with the unblemished offerings of the guileless devotees of science; hence the precaution readers take to glance over nearly every contribution to see whether it is intended for clinical or mercenary purposes. However, most of these much-vaunted specifics meet the same fate. "They pass through successive stages of exaggerated and hasty laudation, half-hearted approbation and contemptuous neglect."

Leaving the proprietary preparations to be sifted out by the inexorable Darwinian law of "The survival of the fittest," we can very profitably direct a great deal of attention to the intelligent use of acids, alkalies, laxatives, etc., for the purpose of restoring and maintaining the functions of the digestive organs in order to secure efficient assimilation of the food. The alimentary tract requires even more consideration than the lungs. The stomach must be carefully examined, and any impairment of its functions, through dilatation, etc., should be met by massage, lavage or other appropriate treatment. The character of the stools, constipation, diarrhea and hemorrhage need proper care, and there should be also a record kept of the patient's weight.

The ferruginous compounds, quinine, hypophosphites, strychnia, arsenic, and cod liver oil are very useful in meeting special conditions, such as anemia, nervous prostration and emaciation.

Antiseptics.—Probably most of the fluids of the body, and more especially their cell contents, exercise a germicidal influence. The trend of treatment during recent years has been to maintain or augment this power by the administration of drugs popularly known as antiseptics. The most potent out of the long list are beechwood creasote (pure), in doses of five drops to thirty or upwards, and carbonate of guaiacol, five to twenty grains.

Inhalations.—A very efficient and agreeable way of using many of these antiseptic preparations is by means of inhalations. These are especially valuable when respiratory power is diminished, through imperfect muscular development, collapsed air-cells, excessive bronchial secretions, or catarrhal conditions of the upper air passage. A very important feature about some of the instruments on the market is the thermometer attachment to regulate the heat, and hard rubber mouth and nose pieces, the use of which requires more or less deep inspiratory efforts to convey the hot medicated air through to its destination. These efforts constitute a useful system of lung gymnastics. Another very important factor is that the hard rubber admits of thorough disinfection. The therapeutic effects of these inhalations are vascular stimulation, alterative action on tissues of mucous membrane, sedative influence on nervous system, and probably above all their potent germicidal powers. They exercise a very beneficial influence on the blood, since the deeper inspirations admit of a far greater absorption of oxygen,

they do not interfere with digestion, and they strongly appeal to the patient's own sentiments as to being an ideal form of treatment.

The following drugs, amongst many others, may be used: oils of eucalyptus, wintergreen, pine, and tar, the iodines, menthol, thymol, camphor, benzoin, and opiates.

Tuberculin.—The specific treatment by tuberculin, from which so much was expected and so little realized, is still in a very unsatisfactory position. Although rejected or ignored by most practitioners, it yet claims some stalwart adherents, and judging from the number of papers devoted to it at some of the most recent medical conventions, interest in it seems to be reviving. Perhaps it is within the range of hope, that ere the dawn of the new century a specific may be found that will disarm tuberculosis of its terrors.

Climatic.—The belief that certain climatic conditions exert a curative influence in tuberculosis is both so universal and so old as to challenge the most respectful consideration, however difficult it may be to find out what constitutes the basis of this faith. The ideal place has been onewith perennial sunshine, balmy, salubrious breezes, enchanting scenery, a cosy home, sympathetic friends and an eminent lung doctor within easy call. Experience in this, as in many other phases of life, lays rude hands on our ideals. We know now that many tuberculous subjects endure the most inclement weather with impunity. It is within the memory of most physicians, when the only change thought of was to send consumptives south. More accurate knowledge concerning the disease and wider experience have seriously questioned the wisdom of the advice hitherto given. Are we not fully justified in following in the footsteps of the Postmaster-General in claiming far vaster realms for the cure of our tuberculous patients than have been claimed by our predecessors?

Ontario.—In our own province there is as great an abundance of benevolent influences, conducive to good health, bodily and mental vigor, and longevity, as can be found anywhere. Spring, summer and autumn are resplendent with sunshine, and the air kept pure and salubrious by occasional showers. The bright winter days, although sometimes cold, are always enervating. Within easy access we have our wooded and pine-clad uplands, long chains of lakes with their clear, placid waters encircling picturesque islands, which form ideal camping grounds for invalids or summer tourists.

Gravenhurst Sanitarium.—On one of the most beautiful islands amongst the Muskoka lakes has been erected a building of unique architectural design. Its bright sunny rooms, spacious halls and balconies are admirably adapted for the health and comfort of patients. Its location gives exposure to abundant sunshine, whilst the surrounding pine woods afford protection during stormy weather. There are a number of cosy cottages for private housekeeping.

North-West Territories.—Throughout this vast expanse of country there are almost unlimited opportunities in choice of location. The sunshine is exceptionally bright, the air dry and invigorating. The scenery and weather in spring are enchanting, the summer dry and hot, autumn and winter bright and cold.

Speaking broadly, the cases most likely to be benefited by a change of residence to northern Ontario or the North-West are those with a mild onset, slight temperature, fluctuations, localized lesions, bodily and mental vigor, and a taste for out-door life. Where such patients can enjoy camping out, they are probably under more favorable conditions for recovery in these districts than they would be anywhere else.

Sunland of the South.—Space and personal experience, as well, only permit of a reference to some of the features common to the most frequented health resorts of Colorado, New Mexico, Arizona and California. These places are nearly all dry sandy valleys or plains, surrounded by lofty mountains. The soil is naturally dry and barren, and the only vegetation is sage grass or small shrubs of various kinds. They are very highly cultivated wherever a supply of water for irrigation purposes can be obtained, and this is usually accomplished by damming up gorges in the mountains. These reservoirs are filled by the melting snow with which the highest peaks are always covered. The art of cultivation is carried to such a high degree of perfection that these resorts are a veritable paradise for artists, invalids or tourists, and each year finds an ever-swelling crowd of such visiting them.

The mountains rear their lofty heads in majestic grandeur above the fleecy clouds that cling to their rugged sides like rich drapery—the green verdure and bubbling springs of the "foothills"—the songs of the mocking-bird—the dazzling hues and fragrant perfumes of the flowers—the water rushing along the aqueducts to be distilled over grain-fields and fruit orchards, in myriads of tiny streamlets—the rarest and most luscious of fruits—orange, apple, peach, fig, olive, grape, each in its season—the broad avenues, shaded with the umbrageous palm and drooping pepper tree—boulevards ornate and fragrant with blooming roses, variegated geraniums and heliotropes—sidewalks walled off by broad, closely-clipped evergreen hedges and stately mansions or cosy cottages embowered in climbing roses: such are the environments of busy towns in which are to be found all the complex paraphrenalia that is required to meet the necessities and provide for the comforts incident to the highest civilization.

The climatic conditions vary with the height of the elevation, extent of the valley or plain, proximity to the ocean, prevailing winds, fogs, etc. Temperature variations are, especially between September and May, often very sudden and great. At 9 or 10 p.m. the thermometer may register 75° whilst at 4 or 5 a.m. it may drop to freezing point; often in mid-day the shade of a building, tree or passing clouds makes a perceptible change. The cool or

cold periods in winter are usually associated with rain or cloudiness. Rain is almost confined to the winter months. It varies in extent, from brief showers to several days' down-pour. The soil is very porous, and dries up very quickly, so that a ramble just after a shower when the air is peculiarly pure and fresh is very invigorating and enjoyable. The summers are dry, and the heat intense about mid-day. The land and ocean breezes modify the morning and evening temperature.

"*Non v'e rosa senza spina.*"—The disagreeable features are largely confined to the mid-summer season. These are—owing to the absence of rain for long periods, and the intense heat—loss of all natural verdure, parched and withered foliage, of the unirrigated trees and shrubs, dust-laden atmosphere, hot winds and blinding sand-storms. Another somewhat undesirable factor is the constant intercourse in social life with a large number of fellow-sufferers, which, on many, has a depressing effect.

The classes of patients being sent to these southern resorts are as varied as the stages of the disease. Several reasons may be assigned for the apparent absence of any effort in the selection of suitable ones, *e.g.*, in many cases the difficulty of deciding as to what would be the best climatic conditions—want of any personal experience of life in these districts, and probably the greatest factor in determining the question is the variety of climate that can be obtained within easy access of facilities for earning a livelihood. Judging from all the data accessible in a six months' practice in the south, many acute cases—where the onset had been characterized by high temperature, destruction of lung substance, hemorrhage, etc.—were saved by removing to a warm climate. The history given by some of the survivors seemed almost incredible. The acute caseous varieties—either of the lobar or broncho-pneumonic type—do better here owing to the possibility of spending the whole year in out-door tent life. The easy access to home-like comforts, competent medical attendance, supply of wholesome food, and a superabundance, in their season, of the choicest fruits and vegetables—all these combine to make the South the El Dorado, *par excellence*, for the more acute and debilitating forms of the disease. One of the incidents in southern life, never to be forgotten, was visiting the tents dotting the many little elevations, and listening to the tales of those who thought they had won or were winning a victory over a relentless foe. The annals of war present no nobler types of heroism than many of these poor emaciated consumptives do. Personally preferring death, yet with hopes of being able to help loved ones, they deem no sacrifice too great that promises any assurance of regaining health.

In conclusion, want of more knowledge and wider experience, as well as the limitations in length of such papers, must be the excuse for much that should, and could have been said, but the best use the reader can make of any contribution is to improve upon it.

PRAIRIE CHICKEN SHOOTING AT MINNEDOSA.

BY A. J. HARRINGTON, M.D., TORONTO.

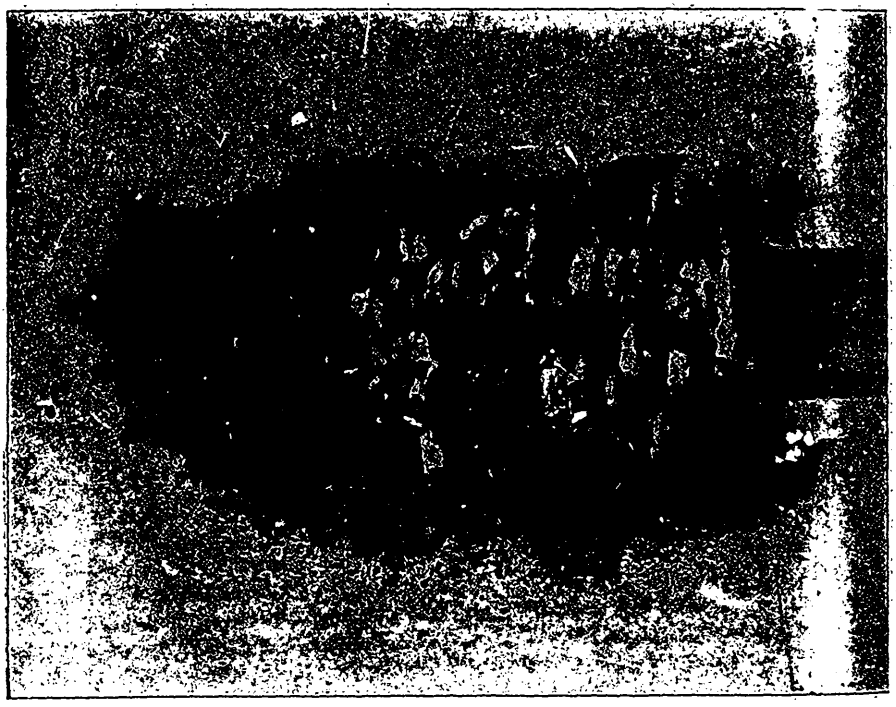
VARIETY is the spice of life, and seems to be more necessary to man's enjoyment these progressive days than it has ever been heretofore. I have shot ducks at Lake Scugog, pigeons on the ridges north of Whitby, rabbits at Lefroy, partridges in Muskoka and deer in Parry Sound, and these places are to-day respectively among the best shooting grounds in our Province, with the exception of pigeon shooting, which seems to be an event of the past as far as Canada is concerned; but my companion on the trip which I am about to relate, informed me that pigeons were exceedingly plentiful in Mexico, and in 1890, I saw a large number of these birds exposed for sale in a London (Eng.) market. They are beautiful birds, and their reappearance in Canada would be a real welcome at least to me, as I was always passionately fond of this kind of shooting. Whether it is on account of having, in my youth, killed many of these birds, or whether it is that they are easily killed, I do not know. The former, I presume, is the correct reason. But I am deviating from my story.

This fall I concluded to try prairie chicken shooting in the North-West. I had heard so much about the number of these birds that could be got in a day, and as I was eager to indulge in an excess, I settled on Minnedosa as a favorable part. The accompanying photograph is an illustration of our success. It did not take long to find a suitable companion in the person of a prominent member of one of the city gun clubs—a crack shot, capital companion, and a yarn-spinner of the very first order, in style of verbosity which is altogether peculiar to himself, for to hear him once is to learn that story-telling is an art. It is a long, dreary, monotonous ride to Winnipeg and very tiresome, but the addition of a few jolly companions whom we met *en route*, tended to our relief in a great measure. Among these I must mention James Isbister, Esq., of Ottawa—"Uncle Jim," as everybody called him, and everybody knew him all along the line. He could tell a good story, and some of his quaint expressions still ring in my ears. We shall long remember him, as he is a prince of good fellows.

We left Toronto on Saturday at noon, and arrived in Winnipeg about 4 o'clock the following Monday afternoon. Here we were informed that it would be necessary for us to obtain permits to shoot. Fortunately we met an old Queen City boy, Lyman Dwight, who is Superintendent of the Great North-Western Telegraph Company here, and he secured the necessary permits for us. These, unfortunately, were limited to three days. It seems really too bad that residents of a sister province like Ontario should be

prohibited shooting privileges in Manitoba, as our game laws place no such restrictions on persons from Manitoba or the North-West shooting here, and I am certain that the number of hunters who would go there from here would be necessarily few, as the expenses are rather heavy. But I suppose we always get the least from those from whom we expect the most.

Well, we left Winnipeg Tuesday morning and arrived at our destination the same evening. We were discouraged by reports that game was very scarce, the chickens having fallen a prey to the ravages of a species of tape-worm. I failed to get any satis-



THE RESULT OF A DAY'S OUTING.

factory information of the pathological lesions caused by this parasite, but its habitat was certainly unnatural as it was found in the crop of the birds. Unfortunately this worm was not found in any of the birds that I dissected, so I give you this information as gathered from reports.

We were met here and taken under the wing of Mr. Sid Fairbairn, who is the mayor of this pretty little village of about eight or nine hundred souls, and a better hunter or companion never lived, one of those good old English offspring whom one is always pleased to meet. Poor fellow, though a martyr to pains in the small of the

back, like an old warrior he could not see our guns without having the old feelings aroused in his bosom to go along with us, which he did, and his thorough knowledge of the country and the habits of the birds were of inestimable value to us. Did you ever shoot a prairie chicken? Well, I never had, but I have shot any number of his cousins, the partridge (*Bonasa Umbellus*) in Muskoka and the Nipissing districts, and the prairie chicken is much the finer bird, being heavier, brighter colored and almost as swift of flight. There is very little difference to be noted between the male and female prairie chicken—the male being somewhat larger with small yellowish wattles. They are usually found on the shady side of the bluffs, and in their flights usually go with the wind. Early in the season they are comparatively tame and take short flights when flushed, but after the grain has been cut and they have been shot at frequently, they fly much farther—sometimes a mile or two—and are then very hard to mark down.

We secured a double-seated waggon at the livery stable adjoining the hotel, and about half-past eight Wednesday morning, we started out, and after about an hour's drive we sighted our first bird flying across the road in front of us. Almost at the same moment our driver, who, by the way, had an unusually sharp eye for game, as he proved on several occasions during the day, espied six or seven birds on a small poplar tree to our left. We were quite eager to get our first shot, but we were incautious and the birds were not stupid enough to allow us to get within range, but flew away in the direction of some wheat stacks which we could see about a mile off. Old Sid assured us that we would come up to them, and we again got into the rig and drove on. When we came near enough to the stack we could see several of the birds on the top of different ones, so again alighting we stealthily approached, this time observing more caution than on the previous occasion. How large those birds looked! Was it an atmospheric effect or was I partially mesmerized, for the birds seemed to vanish as if by magic. But three shots rang out and three birds came to grief, one killed by Sid and two by my left-handed companion, who turned to me saying, "What is the matter? Why did you not shoot?" I replied I did not know, but supposed they were too quick for me. While we were talking, another bird, which had evidently been hiding and thinking to find us napping, came by like a rocket. My sinistro-dextrous friend raised his gun, and at fully eighty yards brought it to *terra firma*. Four birds, and yet I had not fired a single shot, but my chance was to come. We had not started our dogs yet, but we now put them out and advanced about thirty yards apart towards a bluff or clump of trees—George on the right with the dogs, Sid in the centre, and I on the extreme left. These bluffs are not literally bluffs, but are small collections of poplar or scrub oak scattered here and there over the undulating prairies, and afford shelter to the chickens and relief to the eye when travelling over this character of prairie country—so called

from an event which occurred in the midst of one of these copses when a party of four were playing a "quiet little game" there.

When we had got within easy range of this bluff a chicken arose on my left and went diagonally away. This is my most difficult shot and always has been, but this time I was equal to the occasion, and he went to grass. My first shot—my first bird. Now I was in the hunt. Following up the covey we had an excellent morning's shoot, the shooting being fairly evenly divided, with results slightly in George's favor, and at mid-day we lunched by the side of a small lake where we saw numerous ducks, but they were very wild, and we only got five or six of them, all shot at long range. About four o'clock we arrived at the best point in our day's outing—a large wheat field with part of the grain in stooks and part still uncut. Here some remarkably fine shooting was made—shooting that the novice never makes, and which makes an adept feel a pleasure which nothing else can equal and only an enthusiast appreciate. Two of these performances are worthy of mention. When about half way across the field two birds got up, one in front of the other, on the right side of Sid. The one which rose in front flew straight away, the one on the right flew backwards in the opposite direction. He killed the first with the right barrel, and wheeling around he killed the second with his left. I was on his extreme left and naturally walked towards him, when at about forty yards' rise up got another bird, which flew straight away. I fired, and the bird flew along as if nothing had happened, but fell dead about four hundred yards off. These three birds on examination were found not to be chickens, but a species of grouse which had got farther north than they are usually found. Sid said they were Minnesota grouse. They are beautiful birds, nearly as large as chickens. They fly very swiftly, and are said to be very destructive to the prairie chickens, having almost exterminated them in some localities. "Survival of the fittest." The second exhibition of fancy shooting was made by my companion. A chicken had alighted on a stook at the opposite side of the field, and he started out to get it. He had just got within range when we called his attention to another bird which was flying directly towards him. At this instant the sitting bird rose and flew towards the flying bird at an angle which would bring the birds in their flight across one another's course. But fate never permitted this, as both birds were suddenly stopped in their progress by coming in contact with some number four shot from either barrels of his Greener. This was an excellent double shot, and an exclamation of praise from both Sid and myself must have been very flattering to his Avoirdupoisship.

You will notice I have said very little about our dogs. Well, they were not very reliable, as they were young and unsteady, and would rush in occasionally and spoil our chances, so we thus lost a good many birds which we would have otherwise obtained. We returned home that evening with our carriage well stocked

with birds, which made even the judge look on us with admiration when he beheld them.

Our hosts, Ray and McLellan, of the Grand Central, seemed to know just what was requisite for tired and hungry sportsmen, and we can most heartily recommend their hostlery to anyone who chances in that neighborhood. Thus concluded the best day's shooting I ever had, and I hope to again visit this place and renew my pleasant experience.

APPLICABILITY OF TESLA'S SYSTEM OF MOLECULAR EXERCISE TO THE CURE OF DISEASE.

BY ALBERT S. ASHMEAD, M.D., NEW YORK.

X., BORN and reared in the Mississippi swamps of Louisiana, has all the appearance of the Louisiana swamp doctor. He is tan-skinned, evidently has been repeatedly a prey to malarial fever; his liver may be pigmented. His lanky stature is crowned with an enormous, overlapping sombrero; not addicted to Robertson County or Bourbon. He is fifty, or a little more. He is a cotton-planter by trade, making frequent trips to New Orleans or Memphis; but if his actions are cottonous, his innermost thoughts are electrical. He is one of the many who have fallen helplessly under the charm of electricity. He is the last (so far) heir and representative of a long line of people who, trying to transmute the vile metal into gold, have discovered and invented an enormous proportion of this splendid civilization—the alchemists. He is convinced of that.

Universal laws, says he, in their action of cause and effect are merely a system of *miniature* atomic vibrations (think of the smaliness of a vibration, which being atomic, is further reduced to miniatureness; we are at the very doorstep of nothingness!); there is only one substance (in existence, he says; and cunningly adds, or out of existence. Vous comprenez!); this substance we will call zero. The atoms of zero are at absolute rest, and offer no resistance to what I call matter. All matter is composed of zero atoms, which have been started in action and motion. Iron and cotton are the same substance, but the zero atoms which form them vibrate with different velocity. He, most judiciously, thinks that the greater velocity must be on the side of the cotton, because —well, for obvious reasons! But let us not run away with the idea that things are of this excessive and unnatural simplicity. The difference in the way in which things appear to our senses, results from another cause also: direction of the vibrations. Hickory wood atoms vibrate at a speed of 100,000 cycles per second. We know so much; but we must not forget that the

direction of the movement, at a given moment, is perpendicular. Oak wood, on the other hand, possesses a speed of 99,000 cycles per second, but the direction at a given moment is horizontal. He applies this atomic zero, cycles and direction and all, to everything that falls under his observation, and, *mirabile dictu*, to the cure of diseases.

Leprosy, for instance, is caused by an abnormal speed, or a nocuous direction of the atoms. How simple! Of course, he himself sagely remarks, the bacterial nature of the disease does not prevent the application of his theory: which enigmatical sentence means probably that he has no belief at all in the bacterium, considering that this abominable vegetable is itself a subject to atomic vibrations, and to all the vicissitudes of speed and direction.

The incurability of a disease means the impossibility to bring back the abnormal speed or direction to the normal. Electricity is his panacea. It fails so often to give the hoped-for results, because we cannot make it reach the diseased parts; we could not do that without killing the patient by the strength of the current. The Wheatstone bridge shows that electricity only travels the nerves and fibres of a body until it reaches the blood, which is by far the best conductor. The current after reaching the blood follows only the large streams. This accounts for the fact that the shock is felt only at the points of contact; the large streams of blood, being nerveless, do not indicate the passage of the electricity far into the body. Any disease germs which are in the blood through which the current passes, are probably killed, which accounts for the fact that, in some diseases electricity, in one form or another, helps the cure. Now, if in these cases the small quantity and surface that the current reaches helps the cure, what would be the result if every atom of the body could be charged with a current varying from the very weakest perceptible waves to the highest amount the body could stand and maintain life? We will go further. Suppose instead of generating a current outside and sending it through the patient, we generate the electricity in the patient himself. What then? But we will go still further. Suppose we not only charge the subject with electricity, but we make a veritable magnetic field of him. This is neither fatal nor painful, however strong, and there is absolutely no insulation against it. It will pass through the bones with equal decision as through flesh and blood. This, then, is the method.

A transformer, that is, simply a large induction coil, sometimes called a converter, such as is used in electric light or power work for changing high-tension currents into low-tension currents, and *vice versa*, is necessary. This converter is as much a generator as the dynamo itself. The current which is delivered to it is not transformed, but only furnishes the power for generating a secondary current of required voltage. Now, he proposes to build a transformer of sufficient size and suitable shape for the purpose, and wind the primary coil as usual with wire, but on the other side

have a human body form the current instead of a copper coil. In this alternating magnetic field the body of the patient will rest, sleep if desirable, while every atom of his body is cutting magnetic lines of force, and consequently across every atom will be flowing a current of electricity.

By this method you have an unlimited field in which to vary the speed of the magnetic vibrations. In fact, the idea is to find by experiment what the normal speed of the prime atoms in a patient is; then produce frequency in the magnetic field of the same speed, thus controlling them, and restoring normal conditions, which might manifest itself in the death of microbes or otherwise. I have been encouraged, he says, to offer this idea by the publication of Tesla's system of molecular exercise. I think he claims to shake up the molecules of the human body with good results by means of extremely high frequency currents. But in this he will have the same trouble as is encountered by the old methods. By the transformer method every fibre of the body becomes a generator and conductor of an equal ratio of current.

Mud as a Health Food!

According to the *St. Louis Clinique* for January, it is a fact that a charlatan "professor" gave a lecture recently in Denver in which he delivered himself as follows:

"And now I am going to make known the greatest discovery ever made by mortal; everyone hold fast to his chair and keep calm." A wave of expectancy swept over the vast audience and, amid a death-like silence, the professor continued: "In my stupendous investigations of animal life I have discovered that dogs, horses, pigs, etc., were not troubled with dyspepsia, rheumatism, consumption, appendicitis, hysteria and other ailments. I observed that all animals were very much given to eating dirt; this suggested the thought, why not do likewise? and under the inspiration of the idea I commenced to eat dirt, and have been doing so ever since, with the result that my physical ailments have departed and I stand before you to-night the most healthy man in America. I guarantee, if any individual will take three doses of dirt a day, it will cure every disease that is known to the medical profession. There is only one brand of dirt, however, that I can safely recommend, and it comes from the banks of the dear old Missouri River. Anticipating a large demand for it, I took the precaution of having a large consignment shipped to Denver. I have had this great Nature's remedy put up in neat boxes which will be sold at popular prices. Special rates will be made to large families and public institutions on keg and barrel lots. I will guarantee that it is the quintessence of the banks of the Missouri River."

The writer states that there were fools enough in the audience to enable the "professor" to exchange a large quantity of his Missouri realty for hard-earned dollars.

Surgery.

IN CHARGE OF . . .
BRUCE L. RIORDAN, M.D., C.M.,
AND F. N. G. STARR, M.B.

SUB-PHRENIC ABSCESS.

At a meeting of the Birmingham and Midland Counties Branch of the British Medical Association, Dr. Short showed the stomach from a case of sub-phrenic abscess following perforation of the viscus. The patient was a girl, aged 16, who was first seen on August 17th, fourteen days after being taken with severe pain in the region of the stomach with vomiting. She had previously suffered from dyspepsia and pain after food for twelve months, but had never vomited blood. The physical signs pointed to air and fluid beneath the diaphragm. On draining the cavity through the ninth space in the posterior axillary line fetid pus was evacuated. She did very well for some three months, but the temperature was never satisfactory. At the end of this time she suddenly developed acute pleuro-pneumonia up the right side and died in a few days. At the autopsy some curdy pus was found in the crevices between the stomach, liver, and diaphragm; otherwise the abscess cavity was healed and the ulcer closed by firm adhesions to the spleen.—*Birmingham Medical Review.*

F. N. G. S.

AN UNUSUAL INJURY TO THE KIDNEY.

At the annual meeting of the Medical Society of the State of New York, Dr. W. D. Garlock, of Little Falls, presented this clinical report. "The patient, a lad who had received a severe blow during a game of base-ball, had presented no very definite signs or symptoms until the following day, at which time there had been bloody urine, tympanites, abdominal tenderness and dulness over the left kidney. On abdominal section, Dr. J. J. Kilbourne, of Utica, had found a large sub-peritoneal hematoma of the left kidney, and had then cut down upon the kidney through a posterior incision. The kidney having been found severely lacerated, it was extirpated, but the patient had never regained consciousness after the operation."—*Medical Review of Reviews.* In the writer's experience the evidences of rupture of the kidney have supervened more rapidly. The pain and signs of collapse were the first to appear. Then there was tenderness on pressure with dulness on percussion in the renal region, followed by bloody urine. The symptoms gradually subsided and recovery took place in two cases without operative interference.

F. N. G. S.

A NEW METHOD OF APPLYING A PLASTER-OF-PARIS SPLINT TO AN ANKYLOSED KNEE-JOINT.

DR. H. M. HALL, of Butte, Mont., describes a new method of applying a plaster-of-Paris splint to an ankylosed knee-joint. The patient, having been anesthetized, is drawn down until the buttocks reach the edge of the table, and the heel of the affected limb is placed on pillows on an adjoining table. This leaves a space between the two tables in which the operator can work. After the limb has been extended by manipulation, it is kept in a position of complete extension by the following method: A strip of cheese-cloth or common domestic cloth, one foot wide and two feet long, is cut or torn into a many-tailed bandage—four, six, eight, or ten tails, as may be required. The tails are cut or torn to within two inches of the centre, the long way of the bandage. The joint having been well padded with cotton batting, weights such as sad-irons are tied to each strand, when the bandage with the weights attached is put astride the joint; sufficient weight should be applied fully to extend the limb.

The plaster-of-Paris is applied in the following manner: Commencing low down on the foot or leg, as may be required, as when there is tense contraction in the hamstring tendons, the bandage is carried from the foot up the limb. When the many-tailed bandage and weights is reached the plaster-of-Paris bandage is passed in and out between the strands and is continued up the thigh the required distance. As the bandaging progresses, the strands of the many-tailed bandage at the knee-joint are pressed by the plaster-of-Paris bandage into small round cords. After sufficient plaster-of-Paris bandage has been applied the limb is allowed to rest in the fully extended position with the heel on the pillows until the plaster has set, which is usually in twenty or thirty minutes. The tails sustaining the weights are then cut off close to the now firmly hardened plaster splint, when it will be found that the ends have retracted within the plaster cast, leaving small holes corresponding to the number of strands. These holes are useful in ventilating the joint, and do not impair the strength of the cast at all.—*Medical Record.* F. N. G. S.

The Highest Causes of Mortality in the City of Mexico.

According to the *Boletin del Consejo superior de Salubridad* for December, 1898, out of 1,313 deaths occurring in the city of Mexico in the month of November, 125 are credited to tuberculous affections, 105 to acute bronchitis, 117 to pneumonia, and 242 to diarrhœa and enteritis. These are the only specified causes that reach triple figures, the next highest being gastro-enteritis, the stated cause of death in 61 cases.

Gynecology and Obstetrics.

. . . IN CHARGE OF . . .
GEO. T. McKEOUGH, M.D., M.R.C.S.(Eng.), AND J. H. LOWE, M.D.

THE RELATION OF DISEASE OF THE FEMALE GENERATIVE ORGANS TO NERVOUS AND MENTAL AFFECTIONS.

DR. B. SHERWOOD-DUNN (*Annals of Gynecology and Pediatrics*, January, 1899) gives an exhaustive communication upon this subject which is attracting considerable attention at present, and in it gives the medical history of a celebrated case (Mrs. C.) of kleptomania which occupied the public newspapers at the time. The case is one of mental or rather moral disorder in a hysterical woman, the subject of chronic uterine and rectal disease. It is of some interest also from the standpoint of medical jurisprudence, as the unfortunate patient was proceeded against legally in England, and having by advice of counsel submitted a plea of guilty of larceny, received a severe sentence of imprisonment, being liberated, however, through the interference of the Home Secretary upon the medical testimony submitted.

Upon Mrs. C.'s liberation, husband and wife sailed for home, and before proceeding to the western city in which they reside, came to Philadelphia for the purpose of consulting Dr. Steinbach, who saw the patient for the first time on November 29th, two days after she had landed from England. He found that the uterus was hypertrophied to one and a half times its normal size; the mucous membrane was irregularly roughened and bled on the slightest touch by the sound. The cervix had a bilateral laceration more extensive on the left side. The tear was well cicatrized. The rectum was found to be fissured below, ulcerated above. There was evidences of former ulcers that had cicatrized, and several larger turgescent arterio-venous varicosities (hemorrhoids) which bled freely. Dr. Steinbach advised removal of the patient to the Polyclinic Hospital, where after preparatory treatment for a few days the patient was anesthetized with ether, the spincter ani dilated, the fissures cauterized with a Paquelin thermo-cautery, the ulcers treated likewise and the hemorrhoids clamped and cauterized. The uterus was curetted and trachelorrhaphy performed by denudation of the cicatricial tissue and suturing with silkworm gut. The patient, subsequent to the operation, complained of discomfort to a greater extent than is usual with those undergoing similar treatment. The temperature remained normal throughout convalescence

Before operation and subsequently, upon various examinations by Drs. Weir Mitchell and Solis-Cohen in consultation with Dr. Steinbach, a history was gradually obtained substantially and succinctly as follows:

The patient is thirty-four years of age and has been married eleven years. She has had one child ten years old, and no other pregnancy. During pregnancy she suffered much from hemorrhoids, and was operated upon, and since then has been subject to prolapse of the rectum, at times causing much distress.

Previous to fifteen months ago she had suffered little from dysmenorrhea. The menstrual flow was excessive, but otherwise normal. She had never been accustomed to rest during menstruation, although she would often faint on going into a hot room or being excited at this time. About fifteen months ago, following a wetting during menstruation, the flow ceased, and the patient was confined to her bed for some days with headaches and feverish symptoms. Since then there has been no real menstrual flow; there was more or less offensive discharge at irregular times, and after two or three months a slight wetting of the diaper at what should have been the menstrual period. For some days preceding this there was considerable pain in the back and abdomen, the patient showed great nervous irritability and excitement, and the tendency to headache and to fainting became exaggerated. The patient was at times subject to palpitation of the heart.

Inquiry into the patient's mode of life showed she had been "ever on the go," her day being one of excitement rather than mental occupation. She had always been fond of social pleasures and of shopping, but her husband, though by no means so wealthy as report declares, has been fully able to gratify her in these respects without any necessity for her to resort to larceny.

In person Mrs. C. is of medium height, somewhat fleshy but of good form, the skin is fair and smooth, the muscles well developed though somewhat flabby. The cheeks are constantly flushed, the left face is moved less than the right, this difference being easily observed; the eyes are roving and restless. In London (the husband states) she heard voices and would go to the door to listen. Later these were heard at night. She was born with some foot trouble, walked at five years and wore irons.

Dr. Solis-Cohen found no disease of the heart or lungs although the second sound of the heart was somewhat accentuated, and the patient exhibited familiar signs of vasomotor instability. Digestion was normal. Nothing pathologic was detected by either of us in the urine. At our request Dr. D. D. Stewart also carefully examined the urine, with the result of finding it practically a typically normal fluid, the quantity which had been scanty just after the operation having increased at the time of our examination to 1,200 cubic centimetres in twenty-four hours during rest.

Concerning the offence for which the patient was prosecuted in England, it is unnecessary to enter into details further than to say,

through sending to a shop to be matched an article which had been abstracted from that very place, and to which the price-mark remained attached, suspicion was aroused, and various articles, some of value, some of no value, and many for which she could have no possible use (including a toasting iron, some common towels, and plated spoons marked with the name of a hotel on the continent), were found in the patient's trunk. She was, therefore, arrested, and brought to trial, with the result stated.

The husband consulted Dr. G. H. Savage, Dr. M. L. Gabriel and Dr. W. C. Grigg, who united in the opinion that she was mentally and morally irresponsible for the offence, and that the exciting cause of her mental unbalancing was uterine disease with aggravation from the condition of the rectum. Dr. Savage concludes his opinion by saying: "I am used to seeing cases of so-called kleptomania. They are not uncommon among people, more particularly women, belonging to the upper and middle classes. *They are commonly met with in women who have some uterine trouble, which might lead to hysteria or allied nervous troubles.* The characteristics of the disorders are chiefly seen in the unreasonable nature of the acts, things of various value and interest being taken, and the risk of detection run being out of all proportion to the value of the goods taken. I do not think Mrs. C. had reasonable knowledge of the acts of which she was accused, and I believe she would suffer seriously from detention in a prison or asylum. She is of the class to which kleptomaniacs belong, and one must not expect to find other signs of insanity in her."

Dr. Gabriel testified that he had seen the patient some six months previously, shortly after her arrival in England; that she was then suffering from frequent attacks of headache and irregularity and scantiness of the menstrual flow; that she was extremely neurotic, and that he had then advised rest and freedom from excitement.

Dr. Grigg's opinion was substantially the same as those quoted above. He likewise says: "I should mention that on the 3rd of November, when I last saw Mrs. C., her monthly period had commenced. This would point to the fact that, at the time she took the articles charged in the indictments, she must have been going through her monthly period, at which time her illness would be most likely to cause mental disturbance." In a letter to Dr. Steinbach, he describes the uterine conditions as follows: "The fundus is extremely tender; by conjoint examination, the cervix and body as far as one can reach, under these circumstances, very hard (a tear on the left side of the os), indicating to my mind some previous inflammation of these organs.

"The uterine sound passes four and a quarter inches, the fundus of the uterus is irregular, and in some parts rough and nodular. It is very sensitive to the touch, producing considerable pain, which continues for many hours. There is a slight hemorrhage, although great care was taken in making the exploration. She has also a

constant offensive discharge. She will inform you that for the last twelve months, in consequence of severe wetting during menstruation, she has had a very slight loss at these times. I saw the diapers and verify the truth of these statements. As she could not remain in England for treatment, I have advised Mr. C. to consult you."

In his testimony submitted to the Home Secretary, he adds: "She is intensely neurotic. *The condition of things—a disease of the upper portion of the uterus—is a very common accompaniment of various forms of mania in women, such as melancholia, religious mania, nymphomania, and I have seen it in several cases of kleptomania.* It is invariably coupled with much mental disturbance. The condition I discovered is quite sufficient to account for any form of mental vagaries which are so well known to affect a certain class of women (neurotic) with disordered menstruation. Her bowel condition would aggravate this."

In explanation of the plea of guilty entered at the trial in England, Mr. C. stated that it was by advice of counsel, as a successful defence under the plea of kleptomania would have necessitated the immediate commitment of his wife to an asylum for the insane, and the physicians whom he consulted were of the opinion that this would tend to aggravate rather than relieve her mental disorders.

The facts thus given are sufficient to show the main points upon which Dr. Mitchell has based his analysis of the mental phenomena in this case, with which, it is almost superfluous to state, we are almost in complete concurrence. The following extracts are taken from Dr. Mitchell's opinion:

"January 20th, 1897.—I have carefully examined Mrs. C., and have considered the papers which bear upon her case. I have also had a long talk with her, her husband, with the physician and surgeon who have had her in more immediate charge, and I have read the report of the English experts; also, I have had the advantage to read the newspaper cuttings, giving the details of the trial, and I have read the Home Secretary's order for her release.

"It is clear to me that Mrs. C. has, for some time, been in the habit of taking objects of no use and of little or great value. It is known that for these thefts there was no excuse, as she has been reasonably supplied with money for a person in her condition of life.

"I do not believe that Mrs. C. had any clear notion of the nature of her acts, or of their consequence, and I am of the opinion that very positive and long-neglected uterine and rectal disease had much to do with the disorder of mind from which she has suffered, and which is apt to be associated with hysterical conditions.

"Had I been in England at the time of trial, I should not have agreed with the lawyer as to her plea. In my opinion she should have pleaded insanity, accepted the commitment to an insane asylum for two or three months, and been released therefrom. She is now under a stigma from which it will be difficult to escape, that of having pleaded guilty.

"This involves long explanations; the plea of insanity would have involved none.

"I think her hysterical, weak and unbalanced, but no criminal. It is a characteristic of her form of mental disorder that she should show no other obvious signs of insanity than the overwhelming tendency which belongs to her form of monomania."

The surgical treatment of the case has already been described. The medical treatment consisted simply in rest, nourishment and massage.

The menses appeared on December 10th, and ceased four days later; reappearing in due time, and again lasting four days. The flow seemed normal in character and quantity. The patient had left the hospital on December 28th, and the course of treatment above outlined was then continued for some three weeks at the home of her sister.

On January 25th, she left Philadelphia for her home, apparently perfectly recovered physically, and with these symptoms of mental improvement that, whereas when first seen she seemed rather to enjoy the excitement of the doctors' visits and questioning, *pari passu* with her physical improvement there seemed to develop abashment if not shame; and contrition for the acts was added to the regret for the trouble brought upon her husband, which had previously seemed to be her only cause of grief.

Here is a case which, because of the prominence of the English physicians who had examined and rendered an opinion in it, and because of the unusual publicity and wide-spread interest taken in it by the public, we may reasonably suppose was approached with more than ordinary care and circumspection by the prominent medical men called in Philadelphia, one of whom we recognize as a man of unusual ability, well known in the world of letters as well as a leader, if not a leading mind, in his specialty of neurology. All three of the English physicians consulted will be recognized as authorities in their special departments of medicine, and they united in a sworn statement to the English Home Secretary that her mental irresponsibility was directly due to uterine disease, in which opinion the American authorities mentioned agreed.

The language used by Drs. G. H. Savage and W. C. Grigg is particularly important regarding the relation of pelvic disease to nervous and mental disorders, and is based upon a wide and varied professional experience. I look upon this case and the testimony it has brought out from the medical attendants as having the greatest value in support of the position that disease of the female generative organs is often the direct cause of nervous and mental affections.

THE (English) *Practitioner* has now appeared in a new and enlarged form.

Ophthalmology and Otology.

... IN CHARGE OF ...

JAMES M. MacCALLUM, M.D.

WHAT TO DO AND NOT TO DO IN THE TREATMENT OF CERTAIN OF THE MOST FREQUENT EAR AFFECTIONS.

BY PRIVATDOCENT DR. HAUG,
Director of the Ear Department of the Royal University Polyclinic, Munich.

As to the air douche itself there is no doubt that in it, whether carried out by the simple valsalva procedure, by Politzer's method or by the catheter, we have one of the mightiest means of improving and curing a large portion of the defects of the hearing apparatus which depend upon a disturbance of the middle ear. On account of their easy accomplishment, Valsalva's and Politzer's procedures have become the property of the laity. While capable of the greatest good, still if used at the wrong time and place, the air douche can cause endless injury.

Not long since it was the fashion on the part of the practitioner to "air douche" every variety of ear disease, and the patient soon learned to treat himself by Valsalva's and Politzer's method.

In this connection two questions arise:

1. Can the air douche under certain circumstances work injury?

2. When can and ought we to apply the air douche for the relief of existent affections of the hearing?

The first question must be answered with yes. In accord with physical laws and following the path of least resistance, whenever air is compressed in the naso-pharynx it extends through the eustachian tubes into the middle ear. Unfortunately, not air alone, but at the same time a portion of the contents of naso-pharynx, mucus, secretions and accidental dirt is carried along.

Many of the micro-organisms found in the normal oro-naso-pharynx are the most exquisite provokers of infectious disease, and may be carried along the same path and set up an inflammation, especially when the nasal mucus has lost its bactericidal properties, from path ogical processes. This latter condition is necessary, otherwise in spite of the pathogenic organisms no disease will occur. The largest portion of the acute inflammations of the ear occur by the way of tubal infection; infection of the blood stream, as well as infection from without through the external meatus, are far less frequent; "an ounce of prevention is worth a pound of

cure." Having established the fact that infection of the ear can readily occur from the naso-pharynx by continuity or contiguity, we should direct all our efforts to prevent this eventuality.

Therefore, it is our task to warn our patients against voluntary air condensation in every acute catarrh, every angina, whether exclusively local or the expression of a general infection.

Therefore, caution in and during blowing of the nose. Never blow the nose with closed mouth or both nostrils closed. Von Tröltsch advises the countryman method. I now come to the proper consideration of the therapeutic employment or non-employment of the air douche. And first the *acute middle ear inflammations.* These processes are associated with more or less marked reduction of hearing power, and since we know that such disturbances are often relatively easily improved by the air douche, its employment follows quite logically. This was formerly the custom of almost all ear doctors and is still to some extent. May the air douche be employed in the acute catarrhal or acute purulent middle ear inflammations? No, repeatedly no. The commonest general surgical principle contra-indicates this procedure; "every inflamed organ should have rest."

In the air douche the current must *force* its way into the middle ear spaces, which are inflamed and perhaps already covered with secretion, in order to reach the drum membrane and set it in (sudden) vibration. Patients avoid of themselves every inflation of the middle ear, as in blowing the nose, because it is painful, and thus instinctively protect themselves against injury. Still on the medical side, the air douche is used frequently, without reference to this fact, for relief of the concomitant deafness, and that even before spontaneous rupture of the drum membrane.

What is the result of this? At least an exacerbation of the pain from the moment of the inflation; often enough boring pain in the mastoid region, swelling behind the ear, empyema of the mastoid, and trepanning of the mastoid cells.

It is now absolutely clear to me that to use the air douche in the acute stage with an unperforated drum membrane is very dangerous.

I, therefore, omit it in *all* acute middle ear processes, not only when unperforated, but even when the drum membrane has already ruptured spontaneously; the latter, because I have too frequently seen, despite the presence of the usually small opening and the possibility of a relative equalization of air pressure, in immediate conjunction with the air douche, renewed ear ache and inflammatory manifestations in the mastoid set in, which were not previously present.

Since I no longer employ the air douche in the acute stage, the results of my treatment are much better: not that I absolutely forbid the air douche in the course of the treatment of acute media, but it is first employed ten to twelve days after the onset or even later, at a time when the patient suffers not even a trace of

pain upon air condensation. It then acts as it should act, and contributes eminently toward the restoration of the affected ear *ad integrum* in the shortest space of time.

It is naturally a matter of individuality when inflation may first be undertaken without injury. In one case we may perhaps apply it cautiously upon the fifth or sixth day, if upon trying a gentle Valsalva the patient experiences absolutely no painful sensation, while in other cases the possibility may first occur in the course of the third or fourth week. As a rule, we should not delay longer than this in the application of the air douche, because otherwise there is a possibility of the formation of adhesions, pseudo-ligaments and other similar products of the exudative inflammation, whose disappearance is then very difficult or impossible to accomplish. Apart from the possibility of danger, the air douche is completely useless and illusory in most cases of acute perforative media, at least at the stage of maximum intensity. The evacuating effect of the air current is merely transitory; in a short time, often under the eye of the examiner, new secretion has occurred in the place of the old, emanating from the niches and folds of the middle ear spaces, and the patient, having heard better for a moment, again hears just as badly as before. The air douche has a real evacuating effect only when the secretion has begun to lessen in quantity, and not before. This is usually synchronous with the disappearance of pain. Why is the air douche injurious in acute exudative middle ear inflammation, especially as long as there is no perforation of the drum membrane?

Not only because the naso-pharyngeal contents mingled with pathogenic material may possibly be forced into the tympanum, but because pus and exudation, up to now confined to the lower portion of the tympanum, may be forced by the current partly into the upper drum cavity, partly through the aditus ad antrum into that cavity and thence throughout the cellular system. Or the exudation may be pressed still further on into the osseous spaces, even through persistent openings in the tegmen tympani (a not uncommon abnormality) directly against the dura mater, making it bulge toward the interior of the skull, and forcing the pus into its meshes and into the lymph or venous channels. The danger of such occurrence is greater on account of the pressure offered by the resistance of an unperforated drum membrane, and it may happen even after spontaneous rupture of the same. We have, then, the pus which envelope the entire tympanum exerting a direct pressure upon the interior of the cranium, while at the same time the intra-cranial pressure is at its maximum.

Shall we now in such a case convert this existing pressure by a momentary increase into an excessive and absolutely injurious pressure? No, under no circumstances, else we violate our first law "primum nil nocere."

The lesson for the general practitioner who treats acute exudative middle ear processes is that *every kind of air condensation,*

voluntary or therapeutic, *must be strictly avoided* at the time of an acute exudation in the middle ear. In subacute and chronic middle ear processes the air douche alone, or in conjunction with other methods, again enters the foreground of treatment. Here it acts for the relief of tension—anomalies of the drum membrane and ossicles, as well as remains of exudates that may be present; tinnitus aurium also may be favorably influenced; it is universally of no use in labyrinthine affections, either alone or in combination with middle ear affections. Here condensation from within often does harm.

With a large number of physicians, on account of its convenience, a certain routine has been developed in accordance with which, whenever the ear runs, whether the secretion comes from the meatus or the tympanum, syringing with antiseptic solutions, followed by the insufflation of powdered antiseptics, is carried out.

No doubt a proper powder treatment, introduced at the right time and place, can accomplish extraordinarily favorable results, but it must not be employed at random.

The proper domain of the powder treatment, whether borax, iodoform, zinc sozoiodalate, alumnol, nosophen, chinosol, airol, Europhen, or any other of the innumerable iodoform substitutes, is otitis media *chronica* suppurativa.

Here we obtain the best results with boric acid, and in cases of relatively large loss of substance or good-sized perforations situated low down.

As unsuitable for the powder treatment must be regarded those cases in which the perforation is situated in the upper half of the membrane, or is very small.

In all such high-lying and small perforations, backing up of the secretion readily occurs, with all of the symptoms of retention —pain, fever and meningeal irritation, etc. These cases, on account of their severe and often dangerous complications, are not adapted to treatment at the hands of the general practitioner.

There remains for our consideration the application of this method in the treatment of otitis media suppurativa *acuta*.

Here powder treatment should be but rarely applied, and especially never during the earliest period after rupture, because the spontaneous opening tends without exception to be small, and despite a primarily favorable location of the orifice can readily give rise to manifestations of retention.

Thus by early powder insufflations mastoid complications are greatly favored.

A simple acute perforative media will usually heal in three weeks, with restitution *ad integrum*, under a strict dry treatment —*i. e.*, the introduction of dry strips of gauze without irrigation of any kind.

When the acute suppuration begins to pass into the subacute, with a perforation sufficiently large and located below, and under a relative guarantee from the nature of the secretion that the powder will be dissolved, the powder treatment may be introduced.

In all cases, whether a powder be applied in a chronic or subacute middle ear inflammation, never should the medicament be blown *en masse* upon the diseased mucous membrane, but only lightly applied in the form of a thin veil.

Should this not be done, it can only too easily come to renewed manifestations of retention. On this account insufflation of powders should never be entrusted to patients as a method of self-treatment.—*Journal of Eye, Ear and Throat Diseases.* J. M. M.

Sanitation in Havana.

The colossal task of establishing proper sanitary conditions in Havana is being energetically carried out under the supervision of Surgeon-Major Davis, of the United States army. A hundred resident medical men have been engaged to make a house-to-house inspection throughout the city, and to compel obedience to the new regulations. It is expected that the city will be in a fairly good sanitary condition by the end of March, but without underground sewerage. Over a thousand men are engaged in the work of cleaning the streets and public buildings.—*The Med. and Surg. Review of Reviews.*

The X-Rays at Omdurman.

In a recent paper read before the Röntgen Society, Surgeon-Major Battersby related his experiences in the use of X-rays in the last Soudan campaign. After the battle of Omdurman 121 British wounded were taken to the base hospital. In twenty-one cases the bullet could not be found, and in twenty of these cases an accurate diagnosis was obtained by the use of the rays. The electric current was obtained from E.P.S. cells charged by a hand dynamo, and much ingenuity was displayed in utilizing the back wheel of a tandem bicycle, stripped of its tire and geared to the dynamo, for driving power.—*The Med. and Surg. Review of Reviews.*

Inspection of Dwelling-Houses in Consumption Cases.

The New York Board of Health has assigned a number of inspectors to examine every dwelling-house in the city in which there have been three or more cases of consumption since January 1st, 1897, and they have been instructed to obtain a list of all structures considered to be infected with the germs of tuberculosis. Whenever a case of death from consumption is reported, an inspector from the Board of Health calls and compels the owner to wash the walls and ceilings, if they are kalsomined or painted, with a solution of washing soda and hot water. If the walls and ceilings are papered, the paper is removed, the walls are washed with the solution, and fresh paper is put on. All the woodwork, including the flooring, must be washed and re-painted.—*The Med. and Surg. Review of Reviews.*

REPORT OF DEATHS FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF DECEMBER, 1898, AND JANUARY, 1899.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

DECEMBER, 1898.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Scarlatina.	Rate per 1,000 per Annum.	Diphtheria.	Rate per 1,000 per Annum.	Measles.	Rate per 1,000 per Annum.	Whooping Cough.	Rate per 1,000 per Annum.	Typhoid.	Rate per 1,000 per Annum.	Tuberculosis.	Rate per 1,000 per Annum.
2,173,906	687	237	10	0.06	51	0.3	2	0.01	12	0.07	21	0.1	141	0.8
96%	88%													

JANUARY, 1899.

2,232,053	717	290	23	0.1	48	0.3	5.	0.03	9	0.05	21	0.1	184	1.0
98%	92%													

Population of Province 2,283,182

Registration Divisions of Province..... 777

The Canadian Journal of Medicine and Surgery

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VOL. V. TORONTO, ARPIL, 1899. NO. 4.

Editorials.

INTRAVENOUS SALINE INJECTION.

Two years ago we published an article in this journal, detailing the opinions expressed by Dr. Bosc, of Montpelier, on the advantages of bleeding, followed by the introduction into the blood by transfusion, of a physiological saline solution (.75 per cent.), in pneumonia, uremic convulsions, Asiatic cholera and poisoning by illuminating gas. A modification of this treatment has also been used in acute hemorrhage, the preliminary bleeding having, in

some cases, resulted from parturition, in others from an injury, or an operation, and the transfusion being employed to make up for the blood which has been lost.

An article detailing some original experimental work by J. O. Cobb, M.D., surgeon in the United States army, which appeared in the New York *Medical Journal* (January 28th), shows that this procedure is of the first importance in the treatment of hemorrhage. The operator details experiments made on dogs, twelve of which were used. He bled from a jugular vein, on one side of the animal's neck, and injected the saline solution into its fellow on the opposite side. The instruments needed are few. The cannula, sold by instrument makers, should be connected to the container of the saline solution by about two yards of clean rubber tubing. Any vessel, which is graduated, such as a large funnel or bottle, will serve to hold and mark the amount of solution introduced. The saline solution used is sodium chloride, seven grammes to a thousand cubic centimetres of water. Dr. Cobb says:

"Do not let the patient die while the solution is being sterilized. Be prepared for such emergencies; if not, introduce the solution without sterilization, if the case is urgent.

"If one does not have time to weigh the salt, take a teaspoonful and toss it into two pints of water.

"It is an easy matter to be prepared for an immediate saline injection, for Parke, Davis & Co. are now preparing sterile, normal, saline solution, put up in ounce bottles, which, added to the necessary amount of water from the hydrant, kettle, or sterilizer, makes the solution ready for instant use.

"Attention is called to the operation as it is usually performed on a patient, if one has the time and is prepared for such an emergency as hemorrhage.

"Thoroughly scrub the arm and prepare the field as carefully as would be done for any operation. If the patient has bled much, it will not be an easy matter to find the veins, as they are collapsed and colorless. Make the incision over the course of the vessels down to the subcutaneous fat, and then cut directly across the course of the veins. If there is any trouble in finding the veins in the arm, a large vein can always be found in the leg—the saphenous.

"After finding the vein, pass two ligatures around it about an inch apart. Start the fluid through the tube, and then cut into the vein with sharp-pointed scissors between the two ligatures. The

solution must be kept running, while the cannula is being inserted, to prevent the introduction of air. Immediately tie in the cannula, not cutting off the suture; the other is tied and cut off. After the solution is introduced, dissect up about two inches of the vein, put on another suture, and cut out that part of the vein between the two sutures.

"It is not necessary to take accurately the temperature of the saline solution, if one is in a hurry.

"If the solution feels comfortably warm to the finger, no harm will result from its introduction. The temperature should be about 114° F., but if it is 125° F. do not lose time in cooling it.

"It was astonishing that no apparent harm resulted from the introduction of saline solution at the extremely high temperature of 130° F. One would naturally believe that such a temperature would coagulate the albumen and seriously damage the red cells.

"The saline solution given with inhalation of oxygen will save almost hopeless hemorrhage cases.

"Do not waste time in getting the solution into the circulation.

"It is urged that the solution be introduced into a vein, after a severe hemorrhage, in preference to the slow method of subcutaneous injection.

"To furnish as much blood as possible for the purpose of carrying oxygen, bandage tightly the extremities, thus forcing the blood in the capillaries back to the heart. The introduction of small quantities of air into the circulation seems to make no particular difference, for undoubtedly air was introduced into the circulation of all the dogs in these experiments.

"From these experiments one is led to believe that in opium poisoning it would be advisable to withdraw five hundred cubic centimetres of blood and introduce five hundred cubic centimetres of saline solution.

"In the early stages of pneumonia it seems reasonable to believe that the withdrawal of blood, and replacing it with normal saline solution, would relieve the tension of the pulmonary circulation in the early stages, and would furnish a fluid which would more readily take up oxygen.

"Saline solution and oxygen in uremic convulsions or threatened eclampsia has already been proved the most efficacious treatment."

The only view expressed by Dr. Cobb which seems hard to believe is, that the introduction of small quantities of air seems to make no particular difference, for undoubtedly air was introduced into the circulation of all the dogs in these experiments.

While this statement may be reassuring to surgeons, who have not, as yet, attempted bleeding-transfusion, it does not seem necessary that any air should be introduced into the circulation if the solution is made to flow freely through the rubber tubing, before the cannula is inserted into the cut vein. J. J. C.

THE BIRTH-RATE IN ONTARIO.

In his annual report for 1897, the Deputy Registrar-General for Ontario plainly says that the low birth-rate of this Province is due to the practice of Malthusianism. The figures, which he publishes and which are here reproduced, are, however, a sufficient justification for so serious a charge.

BIRTH-RATES AND DEATH-RATES IN DIFFERENT COUNTRIES AND STATES PER 1,000 POPULATION.

COUNTRIES.		Births.	Deaths.	Natural Increase.
United Kingdom	1896	29.2	17.1	1.21
German Empire	"	36.3	20.08	1.55
Italy	"	35.0	24.2	1.08
Austria	"	38.0	26.4	1.16
France	"	22.7	20.2	.25
Canada—Ontario	1897	20.9	12.2	.87
" Quebec	1896	38.57	20.05	1.852
United States—Maine	"	22.23	16.07	.616
" Vermont	"	21.2	16.5	.47
" Massachusetts	"	27.0	19.0	.8

The birth-rate of this Province is thus seen to be the lowest of any country or State in the list, and if a natural increase of .87 per cent. in our population can be shown, that fact is largely due to the operations of hygiene, which helps powerfully to lessen the death-rate. As will be seen, the death-rate of Ontario is only 12.2 per 1,000 population.

Physicians, who, more than most men, are informed of the secret springs of action in family life, will not be surprised at this charge, for the behavior of the Ontario people in preventing the growth of large families is no secret to them. In the last analysis, a family has to be considered from the economic standpoint. To have a large family is now looked on by the Ontario materfamilias as most undesirable. Incomes are small and sometimes inadequate,

when compared with the necessary outlay for living expenses; a small family can be properly looked after by a mother, but a large family is beyond her power to keep in decent condition. Moreover in the case of a selfish or pleasure-loving woman, such pretexts become unanswerable reasons for refusing to obey the provision for the perpetuity of mankind.

It would be unfair, however, to let all the responsibility of Malthusianism, as practised by married people, rest on the wife. Sometimes, on the contrary, it is the husband who objects to have a family. This opposition on the part of the husband accounts, to a certain extent, for the small birth-rate of France; for many married women of that country, being largely influenced by the Catholic clergy in questions of a moral nature, would refuse to interfere with procreation, but are unable to overcome the opposition of their husbands. It should not be forgotten, however, in estimating the causes of the low birth-rate of France, that degeneracy has an influence in causing sterility. Dr. Roger in his recently published work ("Introduction à l'étude de la Medecine"), after describing the destructive influences of mercury, lead, morphine and especially alcohol on the human organism, says: "Whatever may be the particular form of poisoning, when degeneration reaches a certain degree, sterility supervenes. In this manner inferior and blemished races disappear." Without attempting to appreciate all the factors of so large a question in a short article, it is at least permissible to think that, if placed in happier economic conditions, under the influence of sound hygiene and pure morality, the French, like their brethren in Canada, would be one of the most prolific races of the world.

From the standpoint of health and longevity, many women should never become mothers. For instance, women who have an affection of the heart, especially when it is associated with phenomena of asystole; the phthisical; those who have persistent albuminuria and chronic nephritis; diabetics; those who have chronic anemia, which frequently, under the influence of pregnancy, becomes pernicious in character; those with a pre-existing mental taint; the syphilitic; the epileptic.

For such as these the procedure practised by Professor Spinelli and described in *Archivio Italiano di Ginécclogia* for October 31st, 1898, appears to be a trustworthy means of preventing the evils of an undesirable maternity. The operation consists in opening the anterior fornix, between the bladder and the uterus, dissecting the

bladder away and drawing the fundus uteri through the wound. The tubes are then ligated in two places and divided between the ligatures, unless disease renders it necessary to remove one or both of them. Professor Spinelli says that this operation is easy of execution and does not entail any special danger. He considers it superior to oophorectomy, which has proved to be often injurious to the entire organism.

Healthy married women do not require any such operation. Recently, from disclosures made in the daily press of England, it was thought that tendencies were at work which would lower the birth-rate of that country; but the latest returns of the Registrar-General do not bear out such an inference. The London *News* observes: "In the first nine months of the current year the birth-rate in England and Wales has averaged 29.8, which compares favorably with 29.7 both for last year and the year before." The Englishwoman at home has not yet struck her flag to Malthus. We hope her Canadian sister will be equally womanly and courageous, lest it be said in the coming time that the Anglo-Saxons, though no discrimination was urged against them, were afraid to face the realities of life in a British colony, and, abandoning their country's cause, called in the children of the Celt, the Frank and the Teuton to possess what they had not the fortitude to hand down to their own.

J. J. C.

A NEW SERUM FOR THE CURE OF PNEUMONIA.

LAST month the medical world was informed that Professor Wasserman, a pupil of Professor Koch, of Berlin, had discovered a serum which would cure pneumonia. Whether it be so or not, or whether it also may be relegated to the same fate as Koch's discovery of now some years ago, which turned things topsy-turvy and caused every scientist to flock to Berlin in search of the precious liquid, remains to be seen. It might be well to take the newspaper reports so far *cum grano salis*. Dr. Wasserman has obtained the serum by inoculating rabbits with the bacillus which advanced scientists have identified as causing pneumonia and as peculiar to it. A subsequent series of experiments showed that it was in the red marrow of the bones that antitoxin is produced, and that red marrow taken from a human corpse after death from pneumonia and used as a serum will cure mice infected with that disease. It is but fair, however, to say here that Wasserman was not the first

to find a serum with which to treat pneumonia. That honor was won by two Italians—Professor De Renzi and Professor Pane, of the Medical Clinic of the University of Naples. Dr. Antonio Fanoni, of New York, was at one time a student of De Renzi's, and says that Professors De Renzi and Pane obtained their serum from the blood of a donkey which they had inoculated with the bacillus of pneumonia.

We are informed that in treating pneumonia by this serum ten cubic centimetres are injected hypodermically twice a day. No other treatment is necessary nor should be used, save that plenty of fresh air should be permitted to enter the sick-room, and the patient should receive milk, broth and yolks of eggs as nourishment. De Renzi and Pane think the serum acts as an antitoxic; Klemperer, Emmerik, Maragliano, all distinguished men, claim it is an anti-bacteric.

For awhile the physicians of the Academy of Naples controlled the use of it and successfully treated thirty-two cases of pneumonia. The use then spread to other Italian and foreign clinics, and successful results have been reported in such journals as the English *Lancet* and *British Medical Journal.* As regards the therapeutical effects of this serum when used in his private cases, Dr. Fanoni says:

"After the first injections the patients began to feel a great relief, the fever gradually diminishing, and the disease became modified little by little, losing its most serious symptoms until the patient became convalescent.

"You can best judge of the value of this serum when you understand that Professor Bacelli, of the Medical Clinic of Rome, has said it should be used in pneumonia for the same reason as quinine is used in malaria—it cures. And Maragliano has said that the problem of the treatment of pneumonia is solved by its use.

"In the opinion of these distinguished physicians all the palliative remedies for pneumonia are discredited. When the patient does not die his recovery is due only to his natural constitutional strength, and not to the ordinary treatment administered by the attending physician.

"The true and rational remedy for pneumonia now is the antipneumonic serum, just as Behring's antitoxin is the remedy for diphtheria."

Dr. Fanoni is firmly of the opinion that those who do not believe in serum therapy at the present time do not understand

it, and says that those who think that pneumonia can always be combated or cured by natural resources should read the statistics of Fränkel and Keishe, which prove the high percentage of deaths in this disease. All we can say is that we earnestly hope that, for the sake of suffering humanity, the new serum will fulfil the expectations already predicted for it, but the time has not yet come when a definite opinion can be expressed as to its use as a therapeutic agent. W. A. Y.

SICK CHILDREN'S HOSPITAL VS. TORONTO ORTHOPEDIC HOSPITAL.

We think that it has become a recognized fact that this journal has, ever since its inception, been strongly opposed to the multiplication of charities, as also the unnecessary duplication of public hospitals, all of which are making such inroads into the income of the long-suffering physician. We are as strongly of that opinion now as heretofore, and feel that in many respects, the Charity Aid Act, under which such institutions are managed and regulated, requires material alteration so as to prevent its clauses being misinterpreted. Last month an application was made to the Ontario Government to have placed upon a similar basis for government support, as the other public hospitals and institutions are, the Toronto Orthopedic Hospital, an institution not long opened, and, as the name indicates, devoted to surgery for the relief of deformities. We do not propose in this article to voice the views or to man the cause of any particular hospital or board of trustees, but we do say that the opening of the Toronto Orthopedic Hospital is salutary and will not tend to duplicate the work of any other hospital in Toronto, or for that part, so far, in Canada. We think that it would have been wiser if the President of the Board of the Sick Children's Hospital, when he appeared before the Attorney-General at the time this application was being made, had shown more kindly feeling to those on the other side than he did, as reported in a lengthy article in his own paper a day or two following.

For Mr. Robertson to make, we might say, the charges he did towards such men as appeared upon the opposing deputation, was unseemly. We are sure that, in thinking the matter over afterwards, he could not but regret his action as not exhibiting that brotherly feeling taught by the Order of which he is so prominent

a member. We could go into the matter at length; but as our space is already so overcrowded, refrain in this issue from doing more than draw attention to one or two of the statements made the day the deputation waited upon the Government for the purpose already alluded to. There is a certain amount of truth in what Mr. Robertson held, viz., that a large percentage of orthopedic cases which can be benefited by surgical interference, occur under the age limit of the Sick Children's Hospital; but it must be remembered that, on the other hand, many cases occur which, on account of the age, could not be admited into the Sick Children's Hospital under its present *stringent* rules, and which at the same time could be very materially aided if they had the necessary facilities for treatment.

We took occasion in last month's issue to refer to the beneficence of this gentleman in his work for years past in connection with the Sick Children's Hospital, and indeed his efforts are worthy of all praise; but it should be remembered that it borders upon the spirit of selfishness almost, for the Board of that institution to use such efforts to defeat the object of another hospital which they think, to some extent, interferes with one of the branches of work done by theirs. The president of the Board of Trustees is reported to have said to the Attorney-General the day the deputation appeared before him: "The Trustees of the Hospital for Sick Children have no objection whatever to the establishment of adult hospitals." Surely not, seeing that their Board have no say in the matter. Does that Board feel for a moment that they have in their hands the apportionment of the government or city grants for charitable purposes each year that they assume so autocratic a stand? We hope not. It was nothing short of contemptible that the deputation from the Sick Children's Hospital tried to make out that a large part of the $7,000 which had, during a certain length of time, been spent in purchasing orthopedic appliances for cases requiring the same at their institution had been paid to Dr. B. E. McKenzie, when they knew that what appliances Dr. McKenzie had had made by his own workmen for the Sick Children's Hospital were charged by that gentleman at nothing more than cost price. The admission made by Mr. Robertson to the effect that even the clinic books of his institution had been carefully scanned by outside surgeons, in order that certain cases might be induced to patronize other institutions, is the best proof of the truth of the statements which long ago became public property, that cases have been admitted into the Sick Chil-

dren's Hospital on the free list which had no right to be there. It would be a very simple matter for us to prove this if required. May we ask at this juncture how it is that the city of Toronto gives a stated sum per annum to the Sick Children's Hospital larger than to any other hospital in Toronto, and also why it is that the Board of this Institution is not content to draw their money *per capita* as other similar Institutions do?

Let us ask another question, and that is, why is it that the Board of Management of the Sick Children's Hospital, if so stringent on the one hand in admitting only cases up to a certain age, are not as careful in the admission into the free wards of children of wealthy Masons, saddling both the City and the Government with their maintenance, instead of their parents, who are more than able to pay for their support. We hope that the Government will see their way to acquiesce with the request made of them by the Toronto Orthopedic Hospital, and thus be the means of extending to those who are, in absolute reality, unable to pay for such treatment the means of procuring the same, as we are assured that not a single patient will be admitted into the Toronto Orthopedic Hospital on the free list who is in a position to pay a surgeon in the regular way.

W. A. Y.

PROPOSED AMENDMENT TO THE PUBLIC HEALTH ACT.

THE Legislative Committee of the Provincial Board of Health waited upon the Provincial Secretary, March 1st, 1899, to urge the necessity for an improvement in the present law respecting the appointment of Medical Health Officers. Dr. Macdonald, Hamilton (Chairman of the Board), Dr. Cassidy and Dr. Bryce, who formed the deputation, were accompanied by Dr. McKay, M.P.P., South Oxford. The deputation urged that, owing to the necessary scientific character of the work of preventive medicine and the limited means at the disposal of rural municipalities, it was impossible to have the work properly attended to. They asked that the permissive clause of the Act of 1891, providing for County Health Officers, be made compulsory, and that officers specially qualified in State medicine be appointed for the same districts as County School Inspectors, to give their whole time to public health work.

The Hon. Mr. Davis approved of the views expressed by the different speakers, but declined to bring forward a bill during the present session of the Legislative Assembly. He concurred in

a suggestion, made by one of the committee, that public attention should be directed to the subject-matter of the proposed bill, and that municipal councils and the people generally should be familiarized with the advantages of the change, before any legislation should be introduced.

A reason for objecting to the proposed bill is, that it would, if passed, oblige county councils to impose taxes, so as to raise the salaries of their Medical Health Officers. It is always difficult and, unless in matters of grave necessity, impossible to make a county council in this Province impose fresh taxes on the people. There is, therefore, little reason to think that the proposition of the legislative committee of the Provincial Board of Health will ever be recorded in any other shape, except as a pium votum. In the meantime, if for the efficient working of sanitary affairs in Ontario more help is required, the Provincial Government can easily find the men and the means. J. J. C.

MEDICAL REGISTRATION IN NOVA SCOTIA.

On March 8th the Nova Scotia House of Assembly passed a bill to aid in securing uniformity of medical registration in Canada, thus setting a most worthy example to sister provinces. Hitherto physicians registered in any other province of the Dominion could not practise in Nova Scotia, and *vice versa*. The bill now before the Legislature provides for the establishment of an Examining Board, half the members of which shall be appointed by the Local Government, and half by the Provincial Medical Board. Examinations shall be held by this body on a syllabus of requirements similar to what shall be asked in other provinces, and any medical man from another province, on passing, shall find himself on equal terms with Nova Scotia medical men. The bill also contemplates participation in a Central Examining Board for the whole Dominion. Nova Scotia's representatives on this board shall also be appointed half by the Local Government and half by the Provincial Medical Board.

We earnestly hope that this action on the part of Nova Scotia will be rapidly followed by similar tactics nearer home, as it does seem an outrage that a man who has passed the highest examinations in Ontario is not permitted to practise medicine anywhere in the Dominion. May the time be hastened when the Central Examining Board will have become a reality, and not be simply a phantom. W. A. Y.

EDITORIAL NOTES.

Her Majesty's Late Physician.—Sir William Jenner, who died on the 11th of last December, at the ripe age of eighty-three years, had been Queen Victoria's physician for thirty years, only retiring in '93 on account of failing health. Sir William was born in 1815 at Chatham, where his father kept an inn. He was educated at University College, and obtained his license from the Society of Apothecaries in 1837. In 1844 he obtained the degree of M.D., and in '48 became a member of the Royal College of Physicians. He soon gave up practice and was appointed Professor of Pathological Anatomy to University College and Assistant Physician to University College Hospital. In '52 he was elected Fellow of the Royal College of Physicians, Gulstonian Lecturer, and Physician to the Hospital for Sick Children; in '53 he was made Assistant Physician to the London Fever Hospital, and in '54 Physician to University College Hospital. In '57 he succeeded to the Professorship of Clinical Medicine in University College, and in '61 he was appointed Physician Extraordinary to Her Gracious Majesty. In '62 he was made Physician in Ordinary to the Queen, and also appointed Professor of Principles and Practice of Medicine at University College. In 1863 he was appointed Physician in Ordinary to the Prince of Wales. He was created a baronet in '68; K.C.B. in '72 and G.C.B. in '89. He was President of the Royal College of Physicians from 1871 to 1888. He was also D.C.L. of Oxford and LL.D. of Cambridge and Edinburgh. Sir William was a strict observer of professional secrecy, and withdrew from the British Medical Association some years ago because, in connection with the illness of a certain European celebrity, he considered that the rules of secrecy had been violated in the association journal. His chief works were "The Identity or Non-Identity of Typhus and Typhoid Fevers," and "On Diseases Commonly Confounded under the Term Continued Fevers."

A New English Medical Journal.—One of the most recent additions to medical journalism in the old land is *The Medical and Surgical Review of Reviews,* to be edited by Dr. Nathan E. Boyd, with offices in Connaught Mansions, Victoria Street, London, S.W. What with *The Lancet, The British Medical Journal,* and *The Practitioner,* one would have thought that there was hardly a sufficient dearth of medical journals on the other side of the brine

to necessitate the launching of still another. *The Medical and Surgical Review of Reviews*, however, is going to compare most favorably with any of them, judging from the January and February ('99) issues. The publication will record from month to month not only the discoveries and progress of the profession as established by the *savants* of our time, but so far as it will be possible to do so every feature of definite practical value appearing in the current medical and surgical literature of civilized countries will be adequately mentioned. The editor also says in his announcement that leading articles in all medical journals will be reviewed, digests and abstracts given, an index published regularly of the principal contents of the professional journals for the current month, but, principally, a *résumé* of the periodical, medical and surgical literature, to be supplemented by surveys of all important events relating to the profession, and special articles upon the topics of the month, will be published from time to time. In a word, *The Review* will have as its main object the telling to its readers what *is*, rather than what is *said*, and giving *facts*, not mere *opinions*. We welcome this journal to our list of exchanges.

The Medical Graduates' College Opened in London.—At last there has been awakened in old London a interest in post-graduate teaching, and the Medical Graduates' College and Polyclinic has recently been opened up at 22 Chenies Street, Gower Street, London, W.C. It will provide clinical demonstration of cases of exceptional interest, clinical lectures, practical classes on such subjects as the physical examination of the heart, lungs, abdominal and pelvic organs, diseases of the nervous system, skin, eye, etc.; bacteriology, skiagraphy, instruments and operations will be demonstrated. The college will also provide a clinical and pathological laboratory, not forgetting a museum and a library. On February 1st the college had enrolled 320 members. There is no doubt that a want of this kind has been felt for some time in England, and we feel sure that the college will rapidly enlarge as interest in it deepens.

Medical Women.—Last year twenty-one public appointments were bestowed in England and elsewhere upon medical women. Mrs. Berry, M.D., London, was made medical examiner for defective children under the London School Board; Miss Meakin, M.B., was appointed junior resident medical officer at Camberwell Infirmary; Miss Lewin was appointed to a similar post in Charlton Union Hospital, near Manchester; Miss Christie, M.D., was appointed on

plague duty in India, and was working in collaboration with Miss Carthorne, M.D., in Bombay. Mrs. Colman, Miss Keith, Miss Thorne and Mrs. Hawkes are lecturers under the London School Board on Health and Hygiene. Forty-seven new students have entered the London School of Medicine for Women since its opening last summer.

Bill to Prevent Marriage.—Dr. Russell has drafted a bill for the Legislature of Pennsylvania, with a view to securing such laws as will prevent the issuing of a license to any per[illegible] "contemplating marriage unless he or she shall have received from the person, so appointed under the Act, a certificate setting forth that such applicants are free from the following diseases, any of which shall be deemed sufficient cause for refusing a license: syphilis, gonorrhea, epilepsy, dipsomania, tuberculosis, hereditary insanity, true insanity or insanity resulting from vice." In Massachusetts, epileptics, alcoholists and syphilitics are not allowed to marry; and in Texas the same rule applies to epileptics. A similar bill to that of Dr. Russell's is in force in the State of Ohio, and will be used in Maryland also.

A Hospital Staff Resigns.—Drs. Armour, Leitch, King, Merritt, Sheahan and Smith handed in their resignations to the Board of Trustees of the General Hospital of St. Catharines last month. The trouble arose over the efforts of those physicians to have certain regulations made as to the interior management of the institution, which the Board refused to comply with. We commend our confreres' action herein, and feel that if other hospitals were treated in a similar manner by their staff there would be less misplaced charity with, as a result, an improved condition of the profession generally.

Haste to Bagdad.—The Mecca for physicians now is asserted to be Bagdad, the ancient capital of the Khalifa, the Athens of Asia of the eighth century, and the centre of Mohammedan science. With a population of 130,000 people, there are only three resident practitioners who have had a European training, and it is said they are doing all the work, the inhabitants no longer trusting their advisers of the Asiatic type. This is a hint to some M. D's in our own city who are not so busy as they would like to be.

What is the matter now?—The 1899 "Medical Directory" shows a great decline in the number of young men who joined the medical profession during the past year. It contains 34,994 names,

showing an increase of only 91 compared with an increase of 619 in the year previous. It is positively gladdening to see that at last the public are becoming cognizant of the fact that the medical profession is really overcrowded, and that young men had better choose some other occupation in life.

Public Reformatories for Inebriates.—In the establishment in England of public reformatories for inebriates, one of the code of regulations and discipline for the management of these institutions approved of by the Home Secretary is that every officer of the reformatory shall be a total abstainer, that kindness and tact are to be more effective than coercion, and that from nine to twelve months' treatment is expected to be effective in performing a cure.

Pure Culture of Vaccine.—Mr. Stanley Kent, of London, after considerable experimenting with vaccine, has discovered the specific organism upon which it depends, and has prepared pure cultures of the germ to use for vaccination purposes. Thus will be removed the great objection of the anti-vaccinators, it being now impossible to convey any form of disease to the child by this means.

Ontario Medical Association.—The nineteenth annual meeting of the Ontario Medical Association will be held in Toronto, June 13th and 14th next. Dr. J. F. W. Ross is chairman of Committee on Papers, and Dr. Harold C. Parsons, General Secretary. It is expected that the meeting will far exceed in point of numbers any previous attendance, and that the papers will be particularly interesting.

French Method of Treating Neurasthenia.—It is said that physicians in Paris are now adopting the American treatment of neurasthenia, by keeping their patients in bed for several weeks at a time, holding to the view that in order to counteract the strain due to the turmoil of every-day life, it is necessary that people should take an extra amount of sleep.

Prevention of Consumption.—The National Association for the Prevention of Consumption is going ahead in England. The Prince of Wales has lent his aid, with the result that meetings have recently been held at Marlborough House, "and the cause" has been recently greatly advanced all over Great Britain.

Munificence of Lord Iveagh.—Lord Iveagh recently gave the magnificent sum of £250,000 to the Jenner Institute of Preventive Medicine for the endowment of scientific research.

PERSONALS.

DR. GEOFFREY BOYD has removed to 570 Sherbourne Street.

DR. CRAWFORL SCADDING will remove this month to Bloor Street West.

DR. P. E. DOOLITTLE has left on an extended tour of the Southern States.

DR. A. A. MACDONALD has been appointed Medical Director of the National Life Assurance Company.

DR. D. KING SMITH has opened an office at 323 College Street, until recently occupied by Dr. Andrew Gordon.

DR. ANDREW GORDON has moved from College Street to his new residence on corner of Bloor and Huron Streets.

DR. LEVI B. CLEMENS, of Berlin, Ont., died very suddenly on March 17th, at the Berlin-Waterloo Hospital.

DR. J. H. ETHERIDGE, of the Rush Medical College, Chicago, died in that city in February after a short illness.

DR. G. P. SYLVESTER is now the only medical practitioner having a financial interest in *The Canada Lancet.*

DR. J. J. CASSIDY lectured on "Home Sanitation," on Wednesday, the 15th ult., before the National Council of Women.

DR. W. H. B. AIKINS returned last month after making a business trip for *The Canadian Practitioner and Review.*

DR. EZRA HURLBURT STAFFORD has been appointed Professor of Mental Diseases and Insanity at the Women's Medical College, Toronto.

WE are indebted to the Toronto *World* for the line etching of the late Dr. Henry H. Wright, appearing in this number of the JOURNAL.

DR. CHAS. HODGETTS was appointed last month Supreme Officer of the Grand Lodge of the Sons of England, the highest gift that body can bestow.

A CLEVER paper, entitled "Medical Women in Modern Fiction," was read at a recent meeting in the Women's Medical College, by Dr. Lelia A. Davis, of Toronto.

DR. H. P. MCCAUSELAND, who recently was traveller for Parke, Davis & Co., of Detroit and Walkerville, died in Baltimore, Md., about two weeks ago, and was buried in Toronto on March 16th.

DR. G. B. SMITH, who has practised on Elm Street for quite a number of years, has purchased No. 92 College Street, and will shortly move in there. The doctor will soon leave the realm of bachelordom.

MR. SWIFT, the genial Canadian manager for the firm of Parke, Davis & Co. at Walkerville, was recently elected a Director of the Board of that well-known and popular house. *Congratulations!* The honor is but deserved.

THE Medical Staff of Toronto Orthopedic Hospital is composed of the following practitioners: *Consulting Staff.*—Consulting Surgeons—Dr. L. M. Sweetnam, Dr. J. H. Cotton, Dr. S. M. Hay. Consulting Physicians—Dr. A. McPhedran, Dr. W. J. Wilson, Dr. W. J. Fletcher. Consultant on Diseases of the Eye and Ear—Dr. L. Loran Palmer. Consultant on Diseases of the Throat and Nose —Dr. Price-Brown. Anesthetist—Dr. R. A. Stevenson. Pathologist—Dr. Geo. A. Carveth. *Active Staff.*—Dr. B. E. McKenzie, Dr. H. P. H. Galloway. Lady Superintendent—Miss L. E. Applegath.

BIRTHS.

SISLEY—At Maple, March 15th, 1899, the wife of Dr. Euston Sisley, of a daughter.

MCCOLLUM—On Sunday, February 26th, at 168 Jarvis Street, the wife of Dr. W. J. McCollum, of a daughter.

DEATHS.

COVERNTON—At Los Angeles, California, on March 16th, Theodore S. Covernton, M.D., aged 45, son of C. W. Covernton, M.D., Toronto.

MACHELL—At the residence of his brother, 95 Bellevue Avenue, on the 4th March, of the after effects of la grippe, Dr. Arthur G. Machell, of Owen Sound, in his forty-third year, son of Samuel Machell, formerly of Aurora. Interred at Aurora on the 6th March.

Obituary.

WRIGHT.—At 307 Sherbourne Street, on Tuesday, 7th of March, Henry H. Wright, M.D., aged 82 years.

SUCH was the death notice that met the eyes of the readers of our daily papers on the 9th of March. Quietly and peacefully there had slept away to his reward one of the oldest and most respected of Canada's practitioners, Dr. Henry H. Wright. Death could hardly

be said to have been unexpected, as the old gentleman had not been engaged in active work for some time past. Thus has been extinguished one of the medical beacon lights of Canada, a stamp of a man of whom there are too few left. He was indeed a man beloved by thousands, one who did good alike by his skill and his generous heart.

It is related of him that he worked for the good of his fellows rather than for the increase of worldly wealth. Many incidents might be related where a consideration of the poverty of his patients resulted in the entire abolition of fees. Thousands of Torontonians can testify to this. He was a genial man, and this faculty aided him greatly in his long and successful career as a general practitioner.

Henry H. Wright was born August 6th, 1817, in Marysburgh, Midland District, County of Prince Edward, of U. E. Loyalist parents. He was a son of the Rev. David Wright. After a common school education he studied medicine with Dr. John Rolph. He it was who enabled Dr. Rolph to escape from Canada in the turbulent times of 1837. The doctor rode his horse to Oakville and got to Niagara. Shortly afterwards the deceased and Dr. Rolph were in partnership in Rochester, N.Y.

When quiet was restored in Upper Canada, Dr. Wright came to Dundas and practised for a few years. Afterwards he was in Markham, and forty years or more ago he came to Toronto, where he has since resided and practised until two years ago.

He had practised for sixty-two years in all with wonderful success. Practically, till reorganization, he was Secretary of the Toronto School of Medicine, in which he was also a lecturer. When reorganization took place he became professor of medicine. For a number of years he was a public school trustee.

His wife predeceased him by five years, and was of U. E. L. stock, intimately connected with the Weller family, one of the first in the eastern part of the Province. The marriage resulted in two sons, both dead, and two daughters, one the wife of Mr. I. H. Cameron, Toronto, and the other unmarried.

The funeral, which was private, took place on the 8th ult., to Mount Pleasant Cemetery.

THE LATE MRS. (DR.) G. E. DIXON.

A LARGE number of the members of our profession, more especially those who graduated in Toronto about '85 or '86, will be shocked to learn of the death about six weeks ago, after a short illness, of Mrs. George E. Dixon, wife of Dr. G. E. Dixon, who, after taking his post-graduate course in London, England, practised so successfully in Minneapolis, Minn., for several years and is now engaged in the manufacture of pharmaceutical preparations,

with headquarters at London and Canadian branch at Brockville, Ont. Mrs. Dixon died at the home of her parents, Major and Mrs. E. O. Zadek, Mobile, Alabama. She was taken with La Grippe some months ago and never fully recovered from its effects. While crossing the English Channel she suffered exposure and had a relapse. This winter, while in Canada, having apparently recovered in a large measure, she was in a sleighing accident, and again suffered in health from a blow received on the head and the exposure to the weather. Finding the illness becoming more and more serious Dr. Dixon started South with her, hoping to find for her relief in that warmer climate, but the trip was at a most unpropitious time, for the blizzard crossed the continent, and the journey was made in the midst of it. Leaving Washington on Sunday the trains were continually delayed by the snow, and for hours the cars were blocked in and without sufficient fuel to keep the passengers warm. It is thought this brought on the fatal development of the disease, for when the patient reached home on Friday, she was more dead than alive. She rallied some, and seemed especially delighted with the sunshine and with the flowers her friends sent her. She was placed in the sun, and the flowers in her hand, and in her expressions of pleasure her parents and relatives believed they saw signs of a speedy recovery; but her body, never robust, failed to respond to her joyous spirit, and the favorable signs one by one vanished. She sank to rest like a tired child after a season of play, and was followed to the grave by the lament of a large concourse of friends.

Dorothea Zadek Dixon was born in 1867, educated in Mobile, and was married in 1892 to Dr. George E. Dixon, who, shortly after the wedding, moved to London, England, where for the most part the couple have resided. She was like a flower—dainty and delicate of form and feature, tasteful and intelligent, brilliant in conversation, sympathetic and loving. She had an absolute talent for music, was a skilful pianist, and a lover of the beautiful. When but a girl she exercised her influence in the formation of the first woman's vocal society of Mobile, the St. Cecilia Chorus, an organization which is in some sense her monument, and which has done much for the cultivation of good taste in Mobile. She was an only daughter, and in that office was lovable and loved as seldom any one has been. As wife she was the companion and friend of her husband, who is stricken deeply by her loss. We feel sure that Dr. Dixon has the sympathy of all his old friends in Canada, as he was always most popular. We are much pleased to know that the doctor has prospered in his business career for some years past.

The Physician's Library.

BOOK REVIEWS.

International Clinics. A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynecology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology and Dermatology, and especially prepared articles on Treatment and Drugs, by professors and lecturers in the leading medical colleges of the United States, Germany, Austria, France, Great Britain and Canada. Edited by JUDSON DALAND, M.D., University of Pennsylvania, Philadelphia; J. MITCHELL BRUCE, M.D., F.R.C.P. (Lond.), Eng.; and D. W. FINLAY, M.D., F.R.C.P. Volume IV., Eighth Series, 1899. Philadelphia: J. B. Lippincott Co. Montreal: C. Roberts, 593A Cadieux Street.

Among the writers whose names appear as contributors to Vol. IV. are Dr. John Ashurst, Philadelphia; Dr. J. W. Ballantyne, of Edinburgh; Dr. Andrew Clark, of London, Eng.; Prof. Pearce Gould, of Middlesex Hospital; Dr. Sidney Martin, of the Brompton Hospital for Consumptives; Dr. T. Pickering Pick, and Dr. Norman Walker, of Edinburgh.

The only article dealt with under "Drugs and Remedial Agents" is one on "Glonoinism," by Dr. G. C. Laws. Under "Treatment," Dr. Fournier deals with "The Treatment of the Syphilitic Chancre"; Angus McGillivray writes on "The Principles of Treatment in Corneal Ulceration"; Joseph M. Matthews, "Treatment of Ulceration of the Rectum"; Dr. J. T. Eskridge, "Treatment of the Patient during the Apoplectic State from Cerebral Hemorrhage, Embolism and Thrombosis"; and Dr. Cecil Y. Bliss on "Hemoptysis and its Treatment." Under the heading, "Medicine," we find some very able articles, one by Dr. Jas. Finlayson on "Subcutaneous Emphysema complicating Broncho-Pneumonia in an Infant with Recovery"; one by Dr. Thos. Oliver on "Scurvy and Purpura"; another on "Acute Parenchymatous Nephritis," by W. C. Hollopeter, M.D. Under this department also, Dr. Francis C. Wilson deals with "Pulmonary Tuberculosis and Chronic Bronchitis," and Dr. Jos. B. Marvin with "Adhesive Pleurisy." The principal articles under "Surgery" are those of Dr. John Ashurst on "Nephrectomy for Wound of the Kidney," "Imperforate Anus in a Child," "Osteotomy for Bow Legs," Recurrent Tuberculosis," and "Growth of the Groin."

Under the same heading, "Surgery," Andrew Clark instances three most interesting and instructive cases of "Tuberculous Diseases of the Knee-Joint." Pearce Gould describes "Trendelenburg's Operation for Varicose Veins," and last, but not least, a most complete chapter, with several magnificent illustrations, on "Hernia," by Dr. De Garmo. An article which is well worthy of perusal under "Gynecology and Obstetrics," is that entitled "Menstrual Pain," by Dr. Wm. Stephenson. Dr. Norman Walker, of Edinburgh, writes for this volume on "Lupus Vulgaris," under the department of "Dermatology." The fourth volume of Clinics is all right, though we hardly think that the articles, as a whole, are as crisp as those appearing in at least two of the preceding volumes. We must again, however, refer to the fact that the system on which "International Clinics" is based, giving readers the benefit of a series of complete lectures, is a capital one. The lectures are not too long, and are, as a rule, written in a thoroughly readable manner, though we would have liked to have seen more illustrations through the book. W. A. Y.

An American Text-Book of Diseases of the Eye, Ear, Nose and Throat. Edited by G. E. DE SCHWEINITZ, A.M., M.D., and B. ALEX. RANDALL, M.A., M.D., Ph.D. Philadelphia: W. B. Saunders. Toronto: J. A. Carveth & Co. Cloth, $7.00; sheep or half morocco, $8.00.

The reviewer has grown heartily tired of text-books and systems prepared on the collobor tion plan, especially those issuing from the American press. He has too oft n felt, after reading an article, that it had been made of a certain length that the publisher might issue a book which should sell at a certain price—that the author of the article was all "say" and very little "do."

When he happened to open this book (at page 800) the first words which caught his eye were, "I have practised the first two methods with satisfaction. The last I have never used," and he cried, "Great Scott! what is this? Here is a man who knows something from his own experience, who has opinions of his own and does not hide behind the back of the celebrated Dr. John Jones or the no less well-known Dr. William Smith. There is actually something he has not done and he is willing to own up to it. This man must be a practitioner." This is as it ought to be. The busy physician wants the personal opinion of the writer; he wants the opinion of the man who has had experience, and he wants that opinion both from the positive and the negative side. It comforts him to know that on his office desk he can talk with a man who has known what it was to fail, and from that failure to reach out to success.

In this text-book there is to be fo d a liberal sprinkling of the little word "I," and when one consults the index one finds the "I" to be a man of some reputation, and after reading the article the conclusion generally reached is that the "I" is both experienced and honest. Let the publishers give us more books of this character.

However novel the idea, it is a good one—this combination, within one volume, of the diseases of the eye, ear, nose and throat. The oculist must have a good knowledge of diseases of the nose and accessory cavities; the aurist is, at times, quite at sea unless he is versed in the use of the ophthalmoscope and the appearances of the fundus oculi; the rhinologist must be acquainted with the ocular phenomena secondary to disease of the nose and accessory sinuses.

The book is well printed and well illustrated; a number of plates are old—that must necessarily be so; a few might well have been omitted, but there is an unusually large number of new ones, and these actually illustrate the subject.

J. M. M.

Introduction à l'Etude de la Médecine. Par G. H. ROGER, Professeur Agrégé à la Faculté de Médecine de Paris, Médecin de l'hopital de la Porte d'Aubervilliers. 1 volume, in 8vo de 950 pages, cartonné a l'Anglaise. Prix 7 francs. Georges Carré et C. Naud, editeurs. 3, Rue Racine, Paris.

We have been favored with a copy of this e legant little book, which, while specially intended for medical students, will be very interesting and instructive to practitioners, particularly those who wish to obtain an accurate view of scientific medicine.

The work is divided into twenty-four chapters, forming a volume of 857 pages, followed by a lexicon of 95 pages, giving the meaning of such technical terms as the author has employed. In the first portion of the book Dr. Roger explains the nature of disease, and how and why disease is produced. The evolution of disease and the mechanism of lesions form the second part. The recognition of disease and the methods of treating it, or, in other terms, clinical medicine and therapeutics, are described in the third part.

Dr. Roger's eminently practical view of the importance of therapeutics may be gathered from the following citation: "The objects of medicine being to relieve the patient and to cure disease, all our efforts should be directed toward therapeutics. The preliminary studies we make, the examination of patients, the study of symptoms, of physiological and pathological processes, and also of etiological conditions would be quite barren and illusory, if we fail to find in them a means of modifying favorably the evolution of a disease."

The book is a model of its kind, well written, modern, and, being the work of a teacher of medicine, should be useful to students and professors alike. Messrs. Carré & Naud, the publishers, are to be congratulated on its clear typography and portable form. J. J. C.

Diseases of the Eye: a Hand-Book of Ophthalmic Practice for Students and Practitioners. By G. E. DE SCHWEINITZ, A.M., M.D. Third edition. Philadelphia: W. B. Saunders, 1899. Toronto: J. A. Carveth & Co. Cloth, $4.00; sheep or half morocco, $5.00.

From time to time the persuasive book agent has strolled in upon me with a new edition of De Schweinitz, and has sauntered out with four dollars lawful coin of Her Majesty's realm. So much have I appreciated De Schweinitz that I have bought every edition which has been issued, and have given away to some friend the old one. I have not bought the book because it contains any special amount of G. E. de Schweinitz, A.M., M.D., but because it is one of the most up-to-date *résumés* of ophthalmology with which I am acquainted. I like to loll back in my chair and think, "There is that poor devil De Schweinitz grinding away at the current literature. I'll pay him four dollars—a reliable patent digester is cheap at that rate—and get what is worth having. Some men have the digestion of an ostrich." I would willingly add a few dollars more if his publisher could be induced to change some of his illustrations. Figures 47, 48, 53 may be very instructive, but they are not works of art. Mr. Saunders has gone so much into the art journal in some of his publications that the suggestion may be forgiven. J. M. M.

REPORT RECEIVED.

"Report relating to the registration of Births, Marriages and Deaths in the Province of Ontario, for the year ending December 31st, 1896." Printed by order of the Legislative Assembly of Ontario. Toronto: Warwick Bros. & Rutter, printers, etc., 68 and 70 Front Street West. 1898.

Electricity will Destroy Bacilli.

Mr. Nicola Tesla claims to have discovered a means of safely applying a rapidly alternating electric current of high voltage to the human body, thereby destroying the bacilli of all diseases. It is reported that his theory is that each cell of the human organism is a minute electrical battery, and that a modified but powerful current can be made to stimulate the action of each cell, and by increasing oxidation destroy any disease germs present in the body. Though it has been established that rapidly alternating currents of high voltage can be passed through living persons without causing inconvenience, almost without being felt, and without injuring the tissues, it has not been proved that disease germs can be destroyed in this manner without injury to the subject. The difficulty seems to be that an electrical current fatal to disease germs would also, in all probability, be fatal to other, beneficent and necessary, bacteria within the human body.—*The Med. and Surg. Review of Reviews.*

Medical Miscellany.

DR. DRUMMOND'S LECTURE.

It was a delighted audience that crowded the hall of the Chemical Building of the University of Toronto, on the afternoon of February 18th, and listened to Dr. Drummond's lecture on the Habitant. The poet-doctor told his story of the "Kindly folk" of Quebec, charmingly. In him the French-Canadian, particularly the French-Canadian of the country districts, has a friendly advocate, who loves to tell of his homely virtues. The people of Quebec are "a nation within a nation," said the lecturer, made so by circumstances, by geographical location and by climate. The name Habitant is an honorable one. It was the one given to the fearless adventurous ones, who, leaving the protection of cities and forts, went into the wilderness, gun in hand, and won homes for themselves, and such is the force of heredity that nowhere can better and hardier pioneers be found than the descendants of these old-time settlers. The doctor spoke enthusiastically of the many good qualities of the habitants. Their thrifty, saving ways were aptly illustrated by telling how, only recently, one when paying for a farm gave a number of gold coins of the coinage of Louis XIV. In a sense they are independent of the outside world, for if need be their farms supply all they need; the rise and fall of the sugar market has no terrors for a people whose saccharine supply comes from their own maple sugar woods, and an increased duty on cigars does not frighten those whose tobacco supplies are raised in their own gardens. But though thrifty, the habitant is "moderately poor;" a few may have saved till they have money to lend, but these are the exceptions. Among them love of country, parental affection and the practice of the golden rule are everywhere exemplified. The habitant is the embodiment of courtesy, and each is a rustic Chesterfield. Never by any chance will one allow himself to smile at the attempts of the rough-tongued Englishman to master the French language. The habitant is the most charitable of men, he never refuses an appeal for aid, orphaned children are never thrown on the cold charity of institutions in Quebec, for the neighbors are always willing to adopt them. The doctor's descriptions of the customs of the habitants were rich with humor and replete with pathos, and the audience manifested their delighted appreciation by frequent and hearty applause. The notary public and the parents arranging a marriage contract was a word picture which will live in the memories of those who heard it, and so will the doctor's description of the rural story-teller. The habitant was described as a born politician, who is thoroughly master of the rules of the game, and possessed of a native shrewd-

ness and individuality which not infrequently troubled the professional politician. Perhaps the doctor was at his best as he told of what, not Canada alone, but North American civilization owes to the French-Canadian; of how the adventurous explorers and voyageurs had been the pioneers of civilization over the entire continent. To the very evident delight of his audience Dr. Drummond read a number of his poems, rendering them in a way which gave to them a peculiar charm.

THE SURGEON AND THE SOLDIER.

"THE Surgeon and the Soldier" was the title of an interesting paper read by Surgeon Lieutenant-Colonel Ryerson at a meeting of members of the Military Institute last month. Surgeon Ryerson dealt concisely and comprehensively with the growth of the medical service of the British army from its inception to the present time. He stated that during the civil war in England, in King Charles' days, the first real attempt was made to organize an English medical service. It was not, however, until the time of the wars conducted under the generalship of the great Marlborough that the medical service assumed any definite form or attained any degree of efficiency. Sir John Pringle, Marlborough's principal medical officer, organized, in the face of great difficulties, a system of regimental, field and general hospitals for the armies, which rendered splendid service throughout the campaign. During the Peninsular wars, the chief medical officer, Sir James McGrigor, devised the scheme of assigning surgeons to regiments in the field, a plan which existed in the Imperial army until quite recently, and exists in Canada. The reader then described the various changes in the Imperial medical service down to 1898, when it became known as the Royal Army Medical Corps, and medical officers were given full military title. Its present high efficiency and excellent organization, he said, had been reached only after many failures and struggles, much heart-burning and a long period of unjust treatment. The British Medical Association had rendered to the organization every possible aid. In concluding, Surgeon Ryerson made the following suggestions regarding the medical service of Canada's force: (1) Abolition of the regimental system of medical officers, and the formation of a Royal Canadian Medical Corps, to which all medical officers would belong, those not attached to units or on the reserve to be attached to the bearer companies. (2) Instruction to medical officers in their duties and required proficiency in company and ambulance drill. (3) Medical officers, like combatant officers, should pass a qualifying examination within twelve months of their appointment, which should be provisional, and not higher than that of lieutenant. (4) Each military district should have a proficient principal medical officer, in most cases a permanent officer, but not necessarily in all. (5) Medical officers should have control of

transports and supplies for hospital purposes, including food and medicines for all connected with the hospitals in camps of instruction or for service in the field. (6) On all field days medical departments should be exercised in their special duties. (7) A reserve of medical officers consisting of those who have retired from active connection with the force, and competent medical men who would be willing to serve in time of war. (8) The names of nurses of the Red Cross Society who would be willing to serve in war time should be registered by the Militia Department. (9) Knowledge of first aid to sick and injured should be diffused by lectures to officers and men, given under the auspices of the St. John Ambulance Association.

INDIA AND ITS SEASONS.

DR. R. D. RUDOLF'S lecture on "The Seasons in India," given in Toronto University Chemical Buildings on February 25th, brought to a close an exceptionally interesting course of lectures in behalf of the University College Women's Residence Fund. The doctor gained his knowledge of the varied climates of India by a long residence in the district of Behar.

In India the hot weather begins in March and continues until June. It is followed by the rainy season, lasting well into October, and then the cold season, from November to March again. The speaker's remarks anent the struggles of the Europeans with the heat and dampness of the two bad seasons in India, and his description of the social life in the cold weather, between November and March, were followed with close attention by the large audience in attendance. Dr. Rudolf remarked in passing that the hot weather is not unhealthy, a fact which he appreciated while practising in India, as scientific enthusiasm dies down with the thermometer at 110. At the close of the lecture a number of lantern pictures illustrating the life, customs and scenery of India were given.

Antitoxic Relation between Bee Poison and Honey (?).

Dr. G. H. Stover (*Johns Hopkins Hospital Bulletin*, November, 1898) says that Miss M., aged thirty-five, single, consulted him on September 9th, 1895, on account of the rather unusual swelling of her right cheek following a bee sting received some days before; the whole right side of the face was considerably swollen and she felt some constitutional symptoms. After treatment for five days she recovered, and on her final visit made the interesting statement that while in the past she had never been able to eat honey, and was, indeed, nauseated by even the smell of it, since being stung she had developed a craving for it, and found that she could eat it with complete satisfaction and with no ill results. The author asks: Will some of the immunization experimenters throw light on this occurrence?—*N. Y. Med. Journal.*

Selected Articles.

REPORT OF SEVENTY-EIGHT CASES OF PULMONARY TUBERCULOSIS TREATED WITH WATERY EXTRACT OF TUBERCLE BACILLI.

A REPORT of seventy-eight cases of pulmonary tuberculosis, treated at the Winyah Sanitarium, at Asheville, N.C., in 1898, with Watery Extract of Tubercle Bacilli, by Dr. Karl von Ruck, appears in the February number of the *Therapeutic Gazette*.

The author giving due credit to the advantages of the favorable climate of the Asheville plateau as well as to the systematic employment of hygienic and dietetic methods in a special institution, shows nevertheless by his results the unmistakable favorable influence of this preparation, which he perfected in his laboratory in February, 1896.

He with many others, notably Professor Koch, have long realized that the bodies of tubercle bacilli contain a soluble substance, a proteid upon which the curative action of all tuberculin preparations and modifications must depend, small and variable quantities of which were thought to enter into the culture fluid from which the tuberculin preparations are made.

Experiments upon animals have shown that the injections of dead tubercle bacilli produce both curative and immunizing effects, but they have always produced abscesses at the point where they were injected and often spurious tubercle in the animals experimented upon, conditions which seemed to preclude their use in the treatment of human tuberculosis.

A solution of the tubercle bacilli, without injury to the curative proteids, was therefore naturally sought for, and in April, 1897, Professor Koch announced that he had accomplished this in the production of Tuberculin R., which was then given to the profession.

Several weeks later Dr. von Ruck announced his success in also making the desired solution, and communicated his experiments and methods in a paper read before the American Climatological Association and published in its transactions for 1897, and also in the *Therapeutic Gazette* for June, 1897. His method of preparation differs from that published by Professor Koch, and is briefly as follows:

The tubercle bacilli are filtered out of the rapidly growing and highly virulent culture. After washing with distilled water for

the removal of the remains of the culture fluid, they are dried in a vacuum desiccator. Next they are powdered in an agate mortar and then extracted with sulphuric ether. This extraction removes the fats. They are again dried and powdered as before, and their further extraction takes place in sterilized distilled water over a water bath with a temperature of 120° F. The proteids becoming dissolved in the distilled water, the fluid is then decanted and filtered through porcelain, when finally the amount of proteids is determined and the preparation standardized to a certain per cent.

Professor Koch simply triturated his tubercle bacilli, and then put them into distilled water and separated the undissolved germs with a centrifugal machine. His preparation did, however, not pass through a porcelain filter, and it was subsequently shown that when an attempt of filtering through porcelain was made, a residue collected in the filter consisting of tubercle bacilli.

Virulent infection followed the injection of this residue in animals, and for this reason Professor Koch was obliged to withdraw his Tuberculin R., it being an emulsion of tubercle bacilli and fragments of such, rather than a true solution.

Koch's claim that in a true solution of the tubercle bacilli the final perfection of a specific remedy was attained, would appear to be verified by the results which Dr. von Ruck reports.

He treated with his Watery Extract 20 cases in the early stages, all of which recovered, with an average gain of 11 pounds in weight, and a subsidence of all symptoms.

Of 37 cases in a more advanced stage 27 recovered, 7 were greatly improved, 3 improved, and none grew worse, gaining on an average nearly 13 pounds each.

Twenty-one cases in a seriously advanced stage were also treated, of which 3 recovered, 9 were greatly improved, 7 were improved, only 2 grew worse or died, there being an average gain in weight of 10½ pounds each.

The remedy was also given for trial to Dr. Denison of Denver, Dr. Taylor of St. Paul and Dr. Williams of Asheville, all of which obtained good results. Dr. Williams supplying the data of twelve cases treated by him with von Ruck's extract, shows 7 early stage cases all of which recovered; of 3 cases in the second stage, 1 recovered and 2 were greatly improved, and of 2 far advanced cases, 1 recovered and 1 grew worse.

Comparing his previous results with those obtained with the Watery Extract in von Ruck's institution, he shows the results as follows:

	Cases.	Recovered. %	Improved. %
Treated without Specific Remedies	816	12.1	31.0
Treated with Koch's original Tuberculin	379	35.5	37.5
Treated with Antiphthisin and Tuberculocidin	182	32.5	46.8
Treated with Tuberculinum Purificatum (von Ruck)	166	43.4	39.2
Treated with Watery Extract of Tubercle Bacilli (von Ruck)	78	64.1	33.3

Among other matters of interest, the report also contains mention of Dr. von Ruck's efforts to produce a serum, as suggested by Professor Koch, in his paper by using Tuberculin R. and his Watery Extract for immunization. Dr. von Ruck used goats for this purpose and injected them in increasing doses, reaching 70 c.c. per single dose in the course of six months.

Serum taken from these animals failed to protect or cure guinea pigs, and finding his results entirely at variance with the claims of Dr. Fisch, he purchased serum from Dr. Fisch's laboratory and treated a number of guinea pigs, all with negative results.

These experiments are given in detail, and it does not appear that the degree of tuberculosis or its course was in any way modified by the injection of this serum; the control animals showing no greater progress in the disease than did those which were treated.

Full directions are given for the use of the Watery Extract, the beginning dose being 1-1000 of a milligramme, and this is gradually increased to 5 milligrammes. There are three solutions, No. 1, containing 1-1000 of one per cent.; No. 2, 1-10 of one per cent., and No. 100 containing 1 per cent. of the anhydrous extracts.

[There is no doubt that Dr. von Ruck deserves all the credit he claims for the production of a watery solution of the proteids of tubercle bacilli, Koch being mistaken when he claimed his Tuberculin R. to be a solution of the tubercle, after having himself determined that he could not filter through porcelain without losing the specific effect. The statistics shown by Dr. von Ruck as above are most encouraging, and we think he is very wise in refusing to treat any but practically incipient cases of this disease.—ED.]

THE TREATMENT OF TUBERCULOSIS.

BY T. CLIFFORD ALLBUTT, M.D., LL.D., F.R.S.

DR. ALLBUTT remembers in his early days the fatal note of the "consonating rale." For, then, nearly all consumptives died. But Henry Bennett, a keen and original thinker, and himself smitten with the disease, threw away all traditional coddling and committed himself boldly to the open air. He was the practical maker of the "open-air cure." He went to Mentone and lived in his garden, and by night slept without windows. After a while he spent some part of the year in London, and found that even in that climate he could bear open windows without harm. A few years later Archibald Smith, Hermann Weber, Unger, and others discovered that consumptives could trust themselves in the open air, and that a warm climate was not necessary; that in the Andes and high Alps results as good or better than the Riviera could be attained. Then came Dr. Brehmer and Dr. Dettweiler, declaring not this

climate in particular, nor that, but the fresh air of mother earth to be the essential remedy—which can be found at the consumptives' own door.

Opinion, indeed, after its fashion, is now turning to the other extreme, and people are saying that any air will do; the raw damp atmosphere of English moorlands in winter, the bitter winds of our east coast, or even the murk and filth of London. Well, it is true that if the invalid cannot change his country he will do better to trust himself to such air as he has than to huddle himself up in dread of it. However, the best of our home atmospheres may be trusted too carelessly, even if they may be used by the discreet with success. Those who have the means to choose can find far better opportunities of enjoying the open-air cure; perhaps best by camping for months at a time in the deserts of Upper Egypt and Nubia, or of Syria; or, again, on the Asiatic, South African, American, or Australian prairies and uplands. Nevertheless, much and remarkable success may be obtained in England, especially in its more favored regions; yet the best results are to be had at high elevations: at Davos or St. Moritz for the young and active, in the Andes and other balmier highlands for weaker or older patients; and next to the mountains come the great deserts, especially the Nubian, and after these the open-air treatment at lower elevations, a dry, equable, and bracing air being the best. The German institutions are unsuitable for English patients of the upper classes, the habits of life and the cookery being distasteful to them. A damp soil is injurious; cold and damp air favors catarrh, and catarrh favors tubercle. Persons of catarrhal bent should either leave England, or reside on dry uplands, as on the uplands of Hampshire or Sussex. Cases in which there is a proclivity to pleurisy or sore throat (of whatever kind) are better away from Alpine climates.

Tuberculosis in time may be banished like small-pox; it has fallen into the class of infectious diseases, and must be resisted by the same methods: these are—to seek for an antidote, and to abolish the immediate cause.

Man is not a highly susceptible animal in respect of tubercle. Some ten or twelve years ago Dr. Allbutt detected tubercle bacilli in swarms in the milk of one of his cows. This milk, thus tainted, was consumed for weeks by his family, including a little girl and a young governess, by servants old and young, and by two families, one including a young wife, the other a wife of some thirty-five years of age, and seven children under twelve years old. But no one developed tuberculosis. Now, can this comparative immunity be raised into a complete immunity, say, by a protective serum or other animal juice?

It seems probable that the bacillus does not cease from the sputum for an indefinitely long time after the apparent cure of the consumption. In the animal body again, as in the cow, it may lie without giving rise to prominent symptoms; issuing perhaps meanwhile in the milk, whether, we are told, the udder be diseased or not.

It cannot be doubted that all of us are harboring, or for the most part successfully expelling, the bacillus day by day. For example, Dr. Sydney Sladen, working under Professor Kanthack, has concluded that in a certain town the milk of more than half the dairies contained tubercle bacilli in quantity sufficient to cause tuberculosis in inoculated g...a-pigs. Some such system as that of Professor Bang, in Denmark, should be enforced.

Whether we should register cases of tuberculosis, and whether we should isolate infected persons, is under discussion. In the large cities of the United States registration is making great way; the social and other hindrances to registration in England seem considerable; still, registration will probably come about. To demand isolation is fanaticism—driving hard one set of arguments with a blind eye to contingent and conflicting considerations derived from other circumstances.—*Med. and Surg. Review of Reviews.*

CONSTIPATION; ITS PRINCIPAL CAUSES AND TREATMENT.

As a general rule a person in normal health should have at least one daily evacuation from the bowels. To this there is, however, too many exceptions, some going to the closet night and morning regularly, while others allow as much as forty-eight hours and more to elapse before attending to this duty. There is a physiological process going on unknown to the individual or without his knowledge or will, so that, as a rule, at a certain time each day he is called upon to evacuate. It may be force of habit, or the partaking of a morning meal at a stated hour which sets up a rhythmic contraction of the muscular layers of the bowel, forcing the solid fecal residue down from the sigmoid flexure into the rectum, where its mere presence excites a desire for its removal. Thus far the process of defecation is purely involuntary, but beyond this it is under the individual's control, and he may either yield to this call of nature or disregard it, as he sees fit. If he resists the call and persists in doing so time after time, the desire soon passes off, and by a reverse peristalsis the mass is returned to the sigmoid flexure, there to remain till nature repeats the process. It is curious to note how in some cases abnormally long periods have been permitted to pass without a passage from the bowels, especially in some women in the lower grades of life. In *The American Journal of Medical Sciences*, 1846, page 260, a case was reported lasting three months and twenty-two days; while in *Chalmers' Medical Gazette*, 1843, Vol. XXI., page 20, a case of three years having passed without the act of defecation having been once performed is recorded. It remains a fact that ignorance and carelessness on the part of the individual is one of the chief causes of constipation. In this, women suffer more than men owing to a false sense of modesty leading them to neglect nature's calls, and because their indoor life

lessens the peristaltic action of the bowel. In many instances also, the condition of pregnancy leads to one of constipation. A sedentary occupation where brain-work takes the place of physical exercise, overeating and the necessity, as in the case of tailors and shoemakers, of sitting long in one posture, improper nutrition, *e.g.*, anything that lessens the physical powers, may be put down as causes of this condition. Another common cause is the habit of using laxatives, as also the use of some drugs, or the loss of fluids from the body by exhaustive diseases.

Another cause of constipation is the existence of any condition or disease of the rectum or anus which renders the act painful, such as hemorrhoids with ulceration, fistula, fissure of the anus, the existence of fibroid polypi in the rectum, etc., as under those conditions the call of nature will be left unattended to as long as possible.

Constipation when long continued leads to certain changes in the bowels and adjacent parts. It is the most frequent cause of piles, fissures, ulceration and abscess. Prolapse of the bowel is often caused by this condition, and cases of actual rupture from straining with fatal consequences have been reported. In addition to these results, which are external and necessarily attract the notice of the sufferer, other changes are often produced internally of which the patient may be quite unconscious. The natural result of turning the large bowel into a reservoir for solid forces is to cause dilatation of its calibre and paralysis of its walls. In this way it can assume vast dimensions. The amount of fecal matter which may accumulate in the large intestine in cases of chronic constipation is simply enormous, sometimes almost filling the abdominal cavity. The treatment of chronic constipation is not at all simple Constipation may be due to deficient action of either the small or large intestine, and this deficient action in either case may be the result either of deficient secretion or deficient nerve power. Deficient secretion is apt to be associated with hepatic disturbance, and is marked by a dull headache, bad taste in the mouth, viscid secretion from the buccal glands, etc. For the purpose of increasing the natural secretion of the small intestine, the fruits containing citric acid, such as oranges, and other fruits as figs and apples, when the patient can digest them, all serve a good purpose. Water is also an excellent remedy, and two tumblerfuls of it taken in the morning will also be very beneficial. To it may be added a slight saline, which decreases its capacity for absorption and therefore increases the peristalsis, and the addition of a single grain of quinine is said to greatly increase its effect. This treatment, if patiently persisted in for a few weeks, will generally be followed by a good result. There are numbers of remedies upon the market which are valuable therapeutic agents in this condition. Chief among those come some of the natural mineral waters, which contain, on analysis, salines which have a decidedly curative effect. Among the latter class the Hunyadi Janos water has been the

favorite of the physicians. There is no doubt that a small draught of Hunyadi Janos taken in the morning before breakfast will in almost all cases cause a free watery action from the bowels before many hours have passed, and at the same time not have the after effect such as so many cathartic agents have of causing a condition of constipation perhaps for days after.

Deficient innervation will be found in old people, people of sedentary habits, and those who have little exercise. In these cases the partaking of water will be found only to weaken the digestive power, unless it can be combined with a different mode of life and abundance of out-door exercise. Cold bathing, however, cold against the spine and abdomen, plenty of exercise in the open air, and nux vomica will generally be found to give relief. In constipation dependent upon the large intestine, the trouble will generally be found to be due to deficient innervation rather than any lack of secretion. It is best treated by keeping the rectum empty, by nux vomica, or belladonna in doses sufficient to cause dryness of the throat, and by electricity. The latter should be in the form of the faradic current, one pole being placed over the spine and the other passed up and down along the track of the colon.

DIONIN: A NEW MORPHINE DERIVATIVE.

A NEW morphine derivative has recently been introduced to which the name "dionin" has been given. It is described by Ludwig Hesse (*Pharm. Centralh.*, XL., p. 5) as the hydrochlorate of morphine mono-ethyl ether, or ethyl-morphine, having the composition

$$\left.\begin{matrix}C_2H_5O\\HO\end{matrix}\right\rangle C_{17}H_{17}NOHCl+H_2O.$$

It occurs as a white, somewhat bitter, micro-crystalline powder, which, under the microscope, is seen to consist of fine needles. It melts at 123°-125° C. and decomposes at the latter temperature. Dionin appears to be very serviceable, therapeutically, because it affords neutral solutions which may be advantageously employed subcutaneously. It is soluble in about 7 parts of water, in about 1.4 parts of alcohol, and in about 20 parts of syrup; while it is insoluble in ether and in chloroform. It is precipitated from its solutions by most of the alkaloidal reagents. The pure base, morphine mono-ethyl ether or ethyl-morphine, is readily liberated by alkalies, and crystallizes from water also with one molecule of water of crystallization. It is quite insoluble in water, 1 part dissolving in 286 parts of the latter; it is very soluble, however, in alcohol, 100 parts of the latter dissolving 140 parts of the base. It is also easily soluble in ether, but difficultly so in benzene, and is almost insoluble in benzin. Dionin has been employed by Dr. O.

Schroder and by Dr. J. Korte (*Therap. Monatsh.*, XIII., p. 33) in a score or so of phthisical cases, and from the results obtained, the author believes that the preparation is of unquestionable value therapeutically. It appeared to be an excellent and reliable means in the treatment of cough due to irritation in the early stages of pulmonary phthisis; and he recommends it to be used instead of codeine and morphine in all cases of this disease that are not far advanced, as well as in chronic bronchitis, pulmonary emphysema, and bronchial asthma. Not a single failure was observed by the writer among the cases so far treated by him. The dyspnea and cough were always relieved, the asthmatic attacks cut short, and expectoration favorably influenced. Compared with morphine, dionin is more mildly narcotic in action, has scarcely ever any noticeable effect on the digestive tract, and has no noteworthy by-effects. Compared with codeine, on the other hand, it is found to be more powerful generally, and more persistent in action; it affords better and quieter sleep, and increases expectoration considerably. As a general analgesic, dionin is not as reliable as morphine, but it may, nevertheless, be employed in chronic, painful affections, either internally or subcutaneously, and as no tolerance or habit is ever established, may shield many patients from acquiring the morphine habit. Its particular sphere of action will, however, doubtless be in the treatment of coughs due to irritation, and those of bronchitis of every origin; in phthisical subjects, as it affords, besides, general quiet and good sleep, stimulates expectoration, and appears to exert also a beneficial influence on the night-sweats.

Dionin may be given in doses of 0.015 Gm. ($\frac{1}{4}$) several times daily, or in one dose of 0.03 Gm. in the evening, in solution, syrup, or pill form.

POINTS IN THE ARSENICAL CAUSTIC TREATMENT OF CUTANEOUS CANCERS.

BY WILLIAM S. GOTTHEIL, M.D.

1. THE arsenious acid, caustic treatment of skin cancers does not contemplate or depend upon the actual destruction of the new growth by the caustic.

2. The method is based upon the fact that newly formed tissue of all kinds has less resisting power than the normal structure when exposed to an irritation and its consequent inflammation. Hence the former breaks down under an "insult" which the latter successfully resists.

3. If, therefore, the whole affected area can be subjected to the influence of an irritant of just sufficient strength to cause a reactive inflammation intense enough to destroy the vitality of the new cells, the older normal cells will survive.

4. Arsenious acid of properly mitigated strength is such an agent, and its application causes an inflammation of the required intensity.

5. It therefore exercises a sedative influence upon the tissues to which it is applied, and causes the death of the cancer cells in localities outside the apparent limits of the new growth, where there is as yet no evidence of disease.

6. It is superior, in suitable cases, to any method, knife or cautery, which requires the exercise of the surgeon's judgment as to the extent to which it is to be carried. That that judgment is often wrong, and necessarily so, is shown by the frequency of recurrence under these methods even in the best hands.

7. It is applicable to all cutaneous carcinomata in which the deeper structures are not involved, and which do not extend far on to the mucous membranes.

8. It is easy of application; it is safe; it is only moderately painful; and its results compare favorably with those obtained by other methods.—*Author's Abstract.*

GUMMA OF THE TONGUE WITHOUT OTHER SPECIFIC SYMPTOMS.

DR. WILLIAM S. GOTTHEIL (*International Medical Magazine*, December, 1898) records the case of Mary H., American, twenty-four years old, who came to his clinic on April 15th, 1898, complaining of a sore tongue. Examination showed the presence of a large elongated tumor occupying the central area of the anterior part of the organ, and measuring an inch and a half in length by three-quarters of an inch in breadth. The edges and base of the tumor were moderately hard and infiltrated, but there was no characteristic sclerosis. The central part of the tumor was occupied by a ragged, deep, longitudinal ulceration, covered apparently with florid granulations. The submaxillary glands were moderately swollen and quite hard. The tumor had commenced as a small lump deep in the tongue eight weeks before, and was steadily getting larger. The exact time at which ulceration had begun could not be determined; in fact, the patient attached very little importance to that feature of the affection; there was no history of a sudden rupture, as of an abscess. There was absolutely no pain connected with the affection, and the patient complained only of the discomfort and inconvenience caused by the presence of the tumor in her mouth.

No evidences of past or present syphilis were found anywhere, and this with the age of the patient, her robust health, and the fact that she was a modest girl, had been recently married to an apparently healthy husband, and was pregnant, seemed to exclude tertiary syphilis. No stress was laid upon the history, more espe-

cially in the case of a woman; but as a matter of fact that was entirely negative. Cancer could be excluded from her age and sex. Primary tuberculosis was excluded from the appearance and course of the ulceration, and the normal condition of her lungs, larynx, and general system. The diagnosis lay between an ulcerated initial lesion and a softened gumma, with the chances apparently greatly in favor of the former.

The patient was therefore given a placebo and kept under observation. Both the tumor and the ulceration increased slowly but steadily in size. On May 4th the mass had become somewhat softer. It was then the eleventh week after the appearance of the tumor, and not a single secondary manifestation had shown itself. The diagnosis of gumma was then made, and the results of treatment rapidly proved its correctness. Under moderate doses (ninety grains daily) of the iodide of potassium, conjoined with small doses of mercury, the tumor rapidly decreased in size; the ulceration healed up; and three weeks later, when the patient withdrew from observation, there was hardly a trace to be felt in the tongue of the original induration, and the tumefied glands were reduced to one-half their former size.

The interesting point in the case, says the author, apart from the comparative rarity of the affection, is the presence of a tertiary lesion in a patient so young and presenting not the slightest evidence of luetic infection. It is an additional argument, if one were needed, of the absolute necessity of making the diagnosis in syphilis, as in ordinary dermal affections, from the objective symptoms alone, and absolutely disregarding the anamnesis.—*N. Y. Med. Journal.*

HEMORRHAGE AS A SIGN OF CONGENITAL SYPHILIS.

In the course of a description of a case of hemorrhagic, congenital syphilis appearing as a hemorrhagic, vesicular eruption, Dr. William S. Gottheil calls attention to the importance of otherwise unexplainable bleedings in infants as symptoms of congenital lues. They may be the only mark of the disease, especially at first; but they are almost invariably accompanied by a diminution of the coagulability of the blood similar to that of hemophilia, and the case usually goes on rapidly to a fatal termination. Disease of the vascular walls is one of the commonest and best-known effects of the syphilitic poison, leading to hemorrhagic discharges from the mouth, the bowels, the bladder, or the nose; to blood accumulations under the skin and mucosæ, or in the serous cavities and internal organs; or finally, making the syphilitic eruption itself hemorrhagic. The author emphasizes the importance of remembering these facts in the treatment of infants who have hemorrhagic discharges or a hemorrhagic eruption, the cause of which is obscure. —*Archives of Pediatrics*, June, 1898. (*Author's Abstract.*)