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EDITORIAL

OKLAHOMA AND THE CHIROPRACTORS.

"Slowly but surely the public is becoming informed regarding the utter inadequacy of chiropractic, and legislatures are beginning to deal with this cult more intelligently. There is no more fitting proof of this than what recently took place in Oklahoma. The chiropractors had made their customary attempt to secure a legal status in that state without having to comply with the requirements of the Medical Practice Act. This bill was defeated. Another bill was substituted for it, which properly placed their lecensure in the hands of the state board of medical examiners. The latter bill was passed in spite of a powerful lobby, who referred to the bill as 'the crowning iniquity of the medical trust,' 'this damnable bill,' 'damnable crime,' and other like epithets. The bill had passed the Senate and was being considered in the House when 'Dr.' Willard Carver, the leader of the chiropractors and head of a chiropractic college in Oklahoma City, made an astounding and utterly unfounded charge, that the medical profession had raised 'a fund of over $674,000' to defeat chiropractic legislation in Oklahoma. He thus charged, by implication at least, that the Senate had been bribed. The Senate took prompt action by citing Carver to appear and answer contempt charges. A report says that on his inability to offer proof of his statement, he was fined $500 and sentenced to serve ten days in jail. These procedures are a duplicate, although somewhat more spectacular, of what has been going on in many states during the last few years, in the efforts of this ill-trained group of 'healers' to obtain the right to practise medicine without first securing the education required by medical practice acts. During the present sessions of the various Legislatures, excepting in one state—North Carolina—their efforts have been defeated. Meanwhile, Oklahoma has secured an amendment to its Practice Act, giving the licensing board ample control of this medical cult.—*Journal American Association,* June 9, 1917."

This "Dr." Willard Carver is at the head of a chiropractic college in Oklahoma, and we have the announcement of the said college before us. From it we read under his own name, "Author, lecturer, teacher, lawyer, scientist, philosopher, constructor of the science of chiropractic." He puts forth a number of other reasons why he should be regarded as an authority on chiropractic; and, no doubt, also why his school should be favored by the attendance of those who wish to learn how to adjust the spine by the wonderful chiropractic thrust.

In the announcement of his college we read: "Dr. Carver constructed the science of chiropractic and reduced it to printed language in his remarkable book, 'Carver's Chiropractic Analysis,' which was published in 1909, has been revised and republished this year, and was, and is, the only book containing the science of chiropractic."

It will be seen that D. D. Palmer, whom the Palmer School of Chiropractic, at Davenport, Iowa, puts forth as the real discoverer, seems to be left very much in the shade.

We have been fighting all the irregular cults for some time. We take this opportunity of giving our readers the benefit of what was said about one of the leaders of chiropractic by the *Journal of the American Medical Association,* and also about this cult in general.

CHILD WELFARE.

It would be impossible to say too much in favor of any effort looking towards the betterment of the conditions under which children grow up, and the development of sound bodies, clear minds, and good characters. On the average the better the body the better the mind, and the better the mind the better the character. Of course, there will always be exceptions, but the robust boys and girls are those likely to grow up with normal desires and ambitions.

Anything, then, that looks into the future and tries to save the lives of the children, and give to all a good chance in the race of life is one of the most commendable of all tasks. It is a hopeful sign to notice such influential persons as Lord and Lady Aberdeen taking such a keen interest in this work.

Just recently we read of the activities of the National Conference of Charities and Correction held in Pittsburg, Pa. Much splendid work was accomplished for the care of children. The outlook of those who attended that great conference was lofty and inspiring. The leading thought was to make good citizens of the rising generation. This country can do much to lower our death rate, and raise the moral standard. This should be the aim of all.

Dr. Hastings, Medical Officer of Health for Toronto, among other remarks, at the meeting of the Canadian Medical Association in Montreal, said:

"What about our infants and children? It is only within the past ten or twelve years that any organized effort has been made in the way of medical inspection of schools on this continent, and it is only within the past year or two that any organized effort has been made to safeguard the health and lives of children in pre-school age. We have been willing to stand by and see one out of every four or five infants die before it is a year old. It is only within the present decade that any organized effort has been made on this continent to control this appalling mortality. Just seven years ago a National Association for the Prevention and Control of Infant Mortality was organized, and six years ago a Division of Child Hygiene was organized in the Department of Public Health in New York City, since which time the infant mortality in that city has been reduced one-third. Since our infant welfare organization in Toronto in 1914 our infant mortality has been reduced over 30 per cent."

THE SECRET PLAGUE.

We have much pleasure in giving publicity to the following, which appeared recently in the editorial columns of *The Globe*. When lay papers will speak in such plain words there is hope of making real progress:

"Canada is paying the penalty of guilty silence and cowardly neglect in regard to infectious diseases more destructive in their results than tuberculosis. If we would fake any advance on the past we must cast off the prurience that has left the race enervated, debilitated, and polluted, and attack the greatest menace by the combination of an enlightened public opinion and a freely supported and sufficiently empowered medical profession.

"Dr. C. K. Clarke, Superintendent of the Toronto General Hospital, is entitled to the deepest gratitude of the Canadian people for his courage in disregarding the prevalent fear that would shut out the truth, and for his resourcefulness in furthering free diagnosis and treatment in all the centres of population throughout the Province, provided by the Government of Ontario. The need of this is shown by the fact that about 13 per cent. of the patients admitted to the public wards of he Toronto General Hospital to be treated for other ailments are found, on examination, to have their blood poisoned by this communicable virus,

generally without their knowledge. If the facts were generally known, the horror of the situation would impel the public to demand heroic measures.

"Feeble-minded women at large, the class to which most fallen women belong, are almost invariably diseased, and they are the chief source of infection, although the disease may be communicated in many ways. The problem is consequently connected with that of the segregation and treatment of the feeble-minded. As a cause of defective mentality in offspring, the disease tends to perpetuate itself unless both problems be resolutely handled. The necessities arising from this pestilence are extending the sphere of State as distinguished from private medical practice, a change regarded by many as in the direction of social progress. The State does not in Ontario, as in the case of smallpox, take the treatment entirely out of the hands of the private practitioners, but it should go farther than at present and require them to register every case by a number, and report on its progress. The identity of the patient need not be disclosed to the authorities unless he or she should fail to continue treatment until no longer a source of danger. If treatment by a public or private physician be neglected, compulsion should be adopted. Norway, Denmark, West Australia and New York city have preceded Ontario in this regard, and some have gone to much greater lengths. The press must take courage to warn and instruct the infected and to warn continuously those not infected until the magnitude of the danger is realized and the defensive measures established are widely known and thoroughly understood. Degeneracy through disease is the greatest danger to-day, and the urgent need of the moment is the conservation of humanity."

Thanks to the efforts of the medical profession, and largely to the efforts of the Toronto Academy of Medicine, real and substantial progress was made at the recent session of the Ontario Legislature.

UNIVERSITY OF TORONTO DEGREES.

The degree of doctor of science (honoris causa) was conferred on George Gallie Nasmith, C.M.G., M.A., Ph.D.

Doctor of medicine upon Walter Ruggles Campbell, M.A., Herbert Knutsen Detweiler, M.B., and Ernest Charles Dickson, B.A., M.B.

Diploma of public health upon Declan Edward Foley, M.D., C.M. (Queen's; Maurice Macdonald Seymour, M.D., C.M. (McGill); Marchant Beckett Whyte, B.A., M.B.

The Starr gold medal was awarded to E. C. Dickson, B.A., M.B.

ORIGINAL CONTRIBUTIONS

SOME OBSERVATIONS ON THE USE OF DIURETICS IN NEPHRITIS.*

HENRY A. CHRISTIAN, M.D., Boston.

IF you were asked what to do with a nephritic patient whose renal function was below normal, the natural reply would be, "Take such steps as are necessary to restore renal function to a normal level." To-day I wish to devote my time to a discussion of what part diuretic drugs should play in such an attempt to restore renal function.

It is interesting at the outset to see what advice we are given as to the use of diuretic drugs in nephritis by writers in some of the recent systems of treatment. In Forchheimer's Therapeusis of Internal Diseases (Appleton, Vol. IV.), Miller says, "Diuretics may be used in all forms of nephritis, provided we avoid those preparations which act as intense kidney irritants." "The various alkaline diuretics, caffeine and digitalis may be safely administered in all forms of nephritis." . . . "Animal experimentation and clinical experience have shown that when the kidney has lost its ability to eliminate water it has also lost its power to respond to diuretics." . . . "Diuretics may be tried to increase the flow of urine but are rarely of value in acute nephritis." . . . "Diuretics usually have the desired physiological effect in chronic parenchymatous nephritis." Under chronic interstitial nephritis no advice is given as to the use of diuretics.

In Hare's Modern Treatment (Lea & Febiger, Vol. II.), Tyson, in speaking of acute nephritis after referring to catharsis, says, "Diuretics of the saline class should be simultaneousy used." . . . "To these may be added the cardiac diuretics, tincture of digitalis or tincture of strophanthus." . . . "Failing to secure diuresis by these measures other diuretics may be resorted to," and he mentions theobromin among these. . . . "These diuretics (theobromin, etc.), are thought to act directly on the kidney or its blood vessels, and not through the heart as digitalis and strophanthus. They therefore require a certain integrity of the kidney to become efficient." In regard to chronic parenchymatous nephritis, Tyson says, "The kidneys which, as intimated, are still quite responsive to diuretics, should be gently stimulated." In speaking of chronic interstitial nephritis, he says, "The elimination of solids is slightly increased by stimulating the flow of urine but toxic excretion is better stimulated by acting on the skin and bowels."

* Address in Medicine, Ontario Medical Association.

In Musser and Kelly's Practical Treatment, (Saunders, Vol. III.), Le Fevre writes: "Increased elimination by the kidneys is generally impossible when uremia occurs in acute diseases of the kidneys. The stimulation of the kidneys by diuretics increases the inflammatory condition." . . . Of uremia in chronic cases he says: "The danger of stimulating the kidneys by the different forms of diuretics is much less than in the acute inflammatory type, although the uremia may be associated with more or less acute changes in the kidney." In acute nephritis Le Fevre on the whole favors the use of diuretic drugs, but there is an undercurrent of doubt as to their real value. As to theabromin, caffein and theocin caution is urged. He says: "Granting that they do not produce in the normal kidney any irritation, in the inflamed organ they have the power of increasing the pathologic hyperæmia and so increase the intensity of the inffammation." In chronic parenchymatous nephritis referring to these same drugs he says: "The use of these preparations is without danger and often very efficacious," but he cautions against the use of diuretics when there are symptoms of acute inflammation. As to chronic interstitial nephritis Le Fevre says, "The use of diuretin, agurin and theocin is indicated when diminution in the amount of urine and the appearance of edema are due to failure of cardiovascular compensation." These three writers represent quite well the present-day teaching in regard to diuretics.

This problem of the use of diuretic drugs in patients with nephritis is one that has interested me for some time. From experimental work on animals with acute nephritis I and my associates have shown very clearly the injurious effect of various diuretics (theobromin sodium acetate,[1] theocin, caffeine, potassium acetate and water[2]) in that they tended to shorten rather than to prolong life, and that their effect as measured by renal excretion was nil, inconstant or actually depressant[3 4], dependant somewhat on the severity of the renal lesion. Even so mild a diuretic as increased amount of water at times seemed to produce damage. If this is true for animals under experimental conditions, it seems likely that the same would apply in the human being with acute nephritis.

In one form or another the three writers who I have already quoted express skepticism about the efficiency of diuretic drugs in acute nephritis. Miller says the kidney that has lost its power to eliminate water has lost its power to respond to diuretics, and points out that to increase the flow of urine in acute nephritis they are rarely of value. Tyson points out the necessity of a certain integrity of the kidney. Le Fevre warns that diuretics may increase the inflammatory process.

It seems to me perfectly clear that diuretic drugs are capable of

doing injury in acute nephritis. All writers seem pretty well agreed on this. That being the case the possible advantages of diuretic drugs ought to be clearly proved in order to justify their use when they may do harm.

Let us stop to consider what action diuretic drugs may be supposed to have and then determine whether such hypothetical actions are apt to benefit the patient with acute nephritis. Finally it is probable in the given case that the diuretic drug will produce desirable effects? Diuretics, if effective, will increase the urine output. In so doing they increase the excretion of water and solids. To increase the water output may be beneficial in several ways; to remove water accumulated within the body, to cause excretion of more solids, to dilute and so decrease the effect on renal structures of substances excreted through the kidneys.

In most patients with acute nephritis œdema is moderate and a cause of no discomfort or danger. So in most patients with acute nephritis the mere removal of water is of no practical use. In a few patients œdema is excessive and discomforting; its removal would be beneficial. Unfortunately, however, in most patients with œdema from acute nephritis the kidney will not respond to diuretics as I have pointed out in some previous papers.[5 6] Rarely it will, and so cautious use of diuretics is justified. It must be realized that diuretics can injure and so if moderate doses do not increase the urine ow it seems wisest to stop their use rather than to increase dosage. If moderate doses increase urine flow continuation of their use is indicated until such time as urine flow begins to decrease.

To cause an increased excretion of solids apart from water would seem to be of no value unless the retention of these substances produced toxic effects. There seems little evidence that most of these solids are injurious, apart from their osmotic effect in determining œdema, and as we have already seen, œdema rarely troubles in acute nephritis. As to the hypothetical toxic substances if their excretion could be increased by diuretics obviously it would be very advantageous. That they are or can be seems highly problematic. Certainly no direct proof exists and a better method seems available through the intestinal tract and skin and by bleeding. Anyhow most cases of acute nephritis are not toxic in this sense and on this basis diuretics are not indicated. In the patients with uremia, diuretics are just as apt to aggravate the renal lesions, decrease elimination and so do harm rather than good.

Can solids in concentrated form injure the kidney during excretion? This again is problematic. It is the basis of the increased fluid intake treatment of acute nephritis. The real effect of this still awaits clear proof. It would seem desirable on this theory to increase urine flow when that is possible provided such increased activity does not injure

further the already damaged kidney. The best way to do this it seems would be to increase the fluid intake rather than to use diuretics, and even this possibly may lead to increased retention from fatigue of the injured renal cells.

In my own experience I have yet to see the case of severe acute nephritis in which I felt that diuretic drugs did any good. I have certainly seen cases in which damage resulted. In a mild case I can see no reason whatsoever for the use of diuretic drugs. For these various reasons in practice I use diuretic drugs in acute nephritis, but extremely rarely, and most of my use has been with caution, and as part of a study to see whether I can demonstrate good effects. In this so far I have failed, it seems to me, if results are evaluated with due allowance for the accidental. In acute nephritis I advise against the use of diuretics, except in the occasional case, and of their value in such a patient I am extremely skeptical. The routine using of diuretic drugs in acute nephritis certainly is to be advised against.

In cases of chronic nephritis with œdema, the writers already referred to seem to place more faith in the efficiency of diuretic drugs than they do in cases of acute nephritis. In such patients do diuretics cause a diuresis? In answering this question a sharp line must be drawn between those patients in whom œdema is of purely nephritic origin and those in whom it is in large part, if not wholly, of circulatory origin. As I see patients with chronic nephritis the second group is by far the more frequent. In such patients usually there is evidence of myocardial insufficiency; often such disturbances are found as auricular fibrillation or other forms of arrythmia, pulsus alternans or disturances in the form of ventricular complexes as revealed by electrocardiographic study. These patients have dyspnoea and cyanosis. They look like patients with cardiac insufficiency. There are albumen and casts in the urine and tests for renal function show depression of renal activity. These renal disturbances, however, are largely circulatory in origin and such patients on digitalis improve in general condition and their urine output increases.

In the group where œdema is due to renal insufficiency there are no signs of cardiac insufficiency. Usually albuminuria is more marked. Digitalis in such produces little if any improvement. Renal function is depressed.

What is the action of diuretic drugs in such cases? I have previously made a report on some such patients,[7] and I have suggested using the effect of a diuretic drug to separate patients into these two groups.[8 9] I have found that where œdema is chiefly of renal origin diuretic drugs have very little effect in increasing urine output, while in the other group

if the cardiovascular mechanism is capable of response to digitalis or other therapy diuretic drugs produce a striking, prompt increase in urine output. It may be well to give some further examples of these effects.

Case 1, P.B.B.H. Med. No. 4776, male, age 58, with a history of chronic nephritis showed ascites and marked œdema of the legs. His heart was not enlarged and there was no evidence of myocardial disturbance. His systolic blood pressure was 140, diastolic 90. His urine contained a large amount of albumen and many hyaline and finely granular casts. On June 7th, his 'phthalein excretion was 34% in two hours, his blood urea nitrogen 23.3 mgm. per 100 cc., and his McLean index of urea excretion was 10.7%. On June 11th he received 3 doses of 0.2 gm. of theocin at 6, 9 and 12 o'clock, which increased his urine output from 540 cc. to 740 cc., but did not produce a positive diuresis. Two days later his 'phthalein was 29%, his blood urea nitrogen was 24.23 mgm. per 100 cc., and his index of urea excretion was 25.1%. On June 14th and 15th digitalis was given, a total of 0.6 gm. of powdered leaves and on the 16th, 3 doses of 0.3 gm. of theocin at 9, 6 and 12 o'clock. This combination produced a somewhat greater but still relatively slight diuresis. On the day prior to the first theocin dosage to the day following the second the weight of the patient was unchanged, 86.6 kilos, showing that no actual loss of œdema was produced. This patient had œdema of renal origin and there was no diuretic response.

Case 11, P.B.B.H. Med. No. 5004, male, age 59, with a history of chronic nephritis showed marked œdema of the legs. His heart was moderately enlarged, but there was no evidence of myocardial disturbance. His systolic blood pressure was 240, diastolic 120. There was a marked degree of albuminuric retinitis. His urine showed a trace of albumen and frequent hyaline and granular casts. On July 21st his phthalein excretion was 35% in two hours. On July 25th his blood urea nitrogen was 20 mgm. per 100 cc. and the McLean index of urea excretion was 31.2%. On July 26th he received 0.2 gm. of theocin at 6, 9 and 12 o'clock which did not increase his urine above the usual daily average. which had shown a moderate diuresis since admission. On July 27th his blood urea nitrogen was 21.6 mgm. and his index of excretion 25.5%. During 25 days' stay in the hospital his œdema almost entirely disappeared, his weight dropping from 95.6 kilos to 78.2 kilos. Except for the diuretic on a single day his treatment consisted in restriction of fluid and a diet relatively low in proteid and salt. Like Case I this patient's œdema was of renal origin.

Case 3, P.B.B.H. Med. No. 5239, female, age 55, has had dyspnoea and swelling of the legs for some time. When seen in the hospital she had ascites and œdema of the legs. Her heart was enlarged and irregu-

lar. Her systolic blood pressure was 180, diastolic 120. She had pulsus alternans, ectopic beats and disturbance in the ventricular complex indicating faulty conduction in the distribution of the right branch of the His bundle. Her urine conained a trace of albumin and frequent hyaline casts. On September 3rd her 'phtralein was 40% in two hours. On September 5th her bood urea nitrogen was 13.6 mgm. per 100 cc. and the McLean index of urea excretion was 67.2%. On September 9th she got 0.2 gm. theocin at 6 and 9 a.m. and 6.30 p.m., which increased her urine outpue from 1,000 cc. to 3,350 cc. Her weight decreased from 83.2 kilos on September 3rd to 71.4 kilos on September 10th. On September 12th her blood urea nitrogen was 9.79 mgm. per 100 cc. and her index of excretion 85%. On September 13th theocin 0.2 gm. at 6, 9 and 12 was again given with a urine increase from 200 cc. to 1,600 cc., and a further decrease in weight to 69.6 kilos on September 14th. On September 14th the blood urea nitrogen was 11.18 mgm. per 100 cc. with an index of 33.5% Theocin was repeated in the same dose on September 21st with a similar though not quite as great diuresis. On September 23rd the 'phthalein excretion was 40% in two hours. On October 1st her weight was 60.2 kilos. On October 2nd the blood urea nitrogen was 12.5 mgm. On October 3rd theocin 0.2 gm. at 6, 9 and 12 increased the urine output from 750 cc. to 1,900 cc. On October 4th the blood urea nitrogen was 9.23 mgm. per 100 cc., and the index of urea excretion was 97.5%. On October 8th the patient's weight had fallen to 51 kilos from an admission weight of 83.2 kilos and she left the hospital without œdema and her urine contained a very slight trace of albumen and a rare hyaline cast. Here the œdema was essentially circulatory in origin. With slight renal involvement the kidneys responded quickly to theocin by an active diuresis.

Case 4, P.B.B.H., Med. No. 4727, male, age 35, has had œdema of the legs and feet and an increasing dyspnoea. When he came to the hospital there was very little obvious œdema. His heart was enlarged with the physical signs of mitral stenosis and insufficiency. Its rate was amsolutely irregular and the electrocardiograms showed a typical auricular fibrillation. His blood pressure was 244 systolic and 170 diastolic. His urine contained a very large trace of albumen and many hyaline and finely granular casts. On may 25th his 'phthalein elimination was 49% in two hours; his blood urea nitrogen 13.9 mgm. per 100 cc., and the McLean index of urea excretion 34.8%. His weight was 52.6 kilos. On June 24th his 'phthalein excretion was 58% in two hours. On June 28th his blood urea nitrogen was 17.4 mgm. per 100 cc. and his index of urea excretion was 90.5%. In the hospital œdema gradually appeared and increased so that his weight on July 9th was 63.2 kilos. On July 26th

his weight was 62.4 kilos, his blood urea nitrogen was 23.3 mgm. per 100 cc., and his index of urea excretion 29%. On July 27th he was given 0.2 gm. of theocin at 6, 9 and 12, and his urine increased from 700 cc. on the 26th to 5,000 cc. on the 27th. On the 28th he weighed 57.2 kilos, his blood urea nitrogen was 18.6 mgm. per 100 cc., and his index of urea excretion was 48.5%. On August 1st a repetition of the theocin dosage increased his urine output from 500 cc. to 2,500 cc. A month later his condition was much less good, the cardiac insufficiency having become more marked. At 8 p.m. on August 19th he was given 0.2 gm. of theocin and theocin was repeated in a dose of 0.4 gm. the next morning at 8. No diuresis resulted from this dosage. On August 23rd the patient died apparently a cardiac death. In this patient the prime cause of the œdema was cardiac. There was a moderate degree of renal lesion. While the cardiac condition was intact enough to give a circulatory response theocin produced a prompt and active diuresis. Later on when the circulatory condition was not so good theocin failed to produce any diuresis.

Case 5, P.B.B.H., Med. No. 4992, male, age 58, has had dyspnoea and œdema of the legs for six months. When he came to the hospital he had considerable œdema of the legs. His heart was enlarged and he had the signs of aortic insufficiency. There was no cardiac arrythmia. His blood pressure was 180 systolic, 70 diastolic. His urine contained a trace of albumen and occasionally granular and hyaline casts. The general impression given was that of cardiac insufficiency with slight renal involvement. However, his 'phthalein excretion on July 19th was only 10% in 3½ hours. On July 20th his blood urea nitrogen was 39.8 mgm. per 100 cc., and the McLean index of excretion was 1.34%. On July 23rd his 'phthalein excretion was 15% in 2 hours. These tests indicated extensive renal lesion. A course of digitalis of 0.9 gm. of powdered leaves gave no diuresis. On July 24th while still under small doses of digitalis (0.05 gm. twice a day) theocin was given in 0.2 gm. doses at 6, 9 and 12. This increased the urine output from 600 cc. to 1,500 cc. This moderate diuresis again pointed to a renal rather than circulatory cause of the œdema. On July 26th the blood urea nitrogen was 36.5 mgm. per 100 cc., and the index of urea excretion was 2,25%. This patient died August 29th, and autopsy showed aortic insufficiency with cardiac hypertrophy. The kidneys showed extensive nephritis with quite marked changes in the glomeruli. These autopsy findings were in accord with the results of tests of renal function and the failure to respond well to theocin which indicated extensive renal damage with renal insufficiency as a prominent factor in the cause of the œdema.

These few cases illustrate what we have repeatedly seen in observ-

ing our patients. They justify the conclusion that when œdema is in very large part due to renal insufficiency a diuretic such as theocin is ineffectual to remove the fluid. Really it should be said that a diuretic drug such as theocin is effectual in increasing urine output in cardiac insufficiency but not in chronic nephritis. Perhaps in some patients with renal œdema with circulatory disturbances theocin will produce a diuresis; so far I have not seen such a patient.

What I have just said of theocin applies, too, to theobromin sodium salicylate, caffein and potassium acetate, as I have shown elsewhere. The only difference is that in my experience theocin is more effectual than these others in producing a diuresis. I have seen patients, for example, in whom theocin produced a marked diuresis after and before theobromin sodium salicylate had been used with much less effect. In a patient with aortic stenosis and marked œdema theocin increased the urine output from 800 cc. to 4,700 cc. Two days later theobromin sodium salicylate gave no diuresis. Six days after the first course of theobromin sodium salicylate a second course failed to produce a diuresis. Two days after the second failure from theobromin sodium salicylate theocin increased the urine output from 900 cc. to 3,700 cc., showing that the kidney was still capable of response. That this difference was not the result of failure of absorption on the part of the theobromin sodium salicylate was shown by giving each later intravenously when the same difference was observed.

Unfortunately theocin is very apt to produce nausea, and this, if for no other reason, renders continuous use undesirable. This nauseating effect seems in large part to be central and is not avoided by intravenous use of the drug in my experience with a few cases. In the patient just referred to intravenous administration of theocin produced nausea.

In patients in whom I have quantitated sodium chloride and nitrogen output theocin when it produces diuresis increases their output relatively proportionately to the increase in water excretion. Sometimes, however, the sodium chloride output is increased more than that of nitrogen and occasionally solids are excreted more than would be regarded as an amount proportionate to the increased output of urine. This occurs most often in patients with œdema of circulatory origin, and there is a question as to how much good is done by removal of these solids considered apart from the removal of fluid.

What I have already said in regard to excretion of solids in acute nephritis applies in chronic nephritis. The chronic nephritis case who typically shows toxic symptoms is the chronic nephritis with little or no œdema. In a previous paper I have shown that in 100 consecutive cases of chronic nephritis with little or no œdema so-called diuretic drugs

failed very generally to produce a diuresis. In such a toxic patient at this stage of the process in my experience diuretics rarely increase urine output. Even if they did increase the urine we have little evidence that such increased output is at all effectual in detoxifying the patient. Bleeding is a prompter and more efficient method of removing toxic substances. As a means of treating uremia diuretic drugs in my opinion are of very little use. Such patients often have a good urine output; at other times the amount of urine grows very scant. Each type is very little effected by diuretic drugs.

If I were to attempt to sum up my views as to the use of diuretic drugs in nephritis I would say that in uncomplicated nephritis of all types diuretics are either not indicated because there is no need for increased urinary output, or where there is a need for diuresis to remove œdema or detoxify, they do no good. In other words, in nephritis as such they should not be used. Reduction of fluid intake, salt, poor diet, sweating and purging are more efficacious than diuretic drugs. On the other hand, in patients with cardiac insufficiency and realtively little organic lesion diuretics are extremely useful to aid in the removal of fluid accumulated in the body. Under these conditions they seem to work best when given intermittently in part because of their tendency to cause nausea and in part because study of renal function indicates that frequently following very active diuresis renal function is temporarily depressed. They are most effcient when given after a short period of digitaliis therapy. In the patient with œdema of nephritic origin without cardiac insufficiency digitalis, however, in my experience, produces no diuresis.

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THE ESTABLISHED VALUE OF RADIUM AS A THERAPEUTIC AGENT.*

By Dr. W. H. B. Aikins, Toronto.

DURING the last decade considerable advances have been made in the study of the therapeutics of radium, and the use of the rays has been extended with varying success to a great variety of conditions, some belonging to the domain of surgery, and others to the province of internal medicine. These conditions include benign and malignant neoplasms in different parts of the body. The influence of radio-activity on the blood has also been found useful in the treatment of certain constitutional diseases. Additions are constantly being made to the already long list of conditions in which radium is proving itself a benefactor to humanity.

An accurate estimate of the value of any physical therapeutic agent is usually not arrived at until some considerable time has elapsed since its first introduction, and radium has been no exception to this general rule. During the first few years its advocates met with a considerable amount of opposition, and their claims were received with scepticism by the more conservative members of the medical profession. This conservative attitude in regard to new remedies obviously has its drawbacks, but it undoubtedly has the corresponding advantage that it tends to check their indiscriminate use at a time when they are still more or less in the experimental stage. At the present time, however, although a certain amount of scepticism in regard to the efficacy of radium treatment still persists in some quarters, it is gradually disappearing in view of the brilliant results which it has achieved in many cases, notably in cancer of the skin, fibroid growths of the uterus, hæmorrhage of the uterus and as a palliative in inoperable cancer, and it is now generally

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agreed that in radium we possess a valuable adjunct to our therapeutic armory.

Several factors have contributed to bring radium treatment into disrepute, and to give the impression that the claims made for it by its advocates are not justified by facts. Failure, more especially in the early period, have often been due to the inferor quality of the preparations used, or to the fact that radium was not available in sufficient quantity. No one will deny that under certain circumstances radium has a harmful, rather than a beneficial effect, and if given in too small doses it may stimulate the growth of cancer instead of retarding it. On the other hand, the destructive action of too large doses may result in an irreparable damage to normal structures, and has been known to cause death. That failure may be due to insufficient dosage is evidenced by the fact that many cases unsuccessfully treated by small doses of radium subsequently respond satisfactorily to larger doses.

In view of the importance of accurate dosage and technique it is clear that, in order to obtain good results special training and prolonged experience are absolutely essential—a fact which too many people are prone to forget—and that in the hands of those who have not had an opportunity of acquiring such experience the treatment may be dangerous. In not a few cases disastrous results, which tend to discredit radium treatment, are not to be ascribed to it, but to the inexperience of the operator.

In estimating the value of radium treatment, it should be borne in mind that its advocates do not claim that it supersedes surgery, but that it is a valuable adjunct to surgery in helping to prevent recurrence after operation, in rendering inoperable cases operable, and that it has proved itself to be one of the best palliatives we have in cases in which operation is impracticable, and in many of such cases has brought about apparent cure. This being so, it is obvious that in a large proportion of cases radium is used as a last resource, sometimes when the patients are in an almost moribund condition, and when all other measures have failed to give relief. This should therefore be taken into consideration in estimating the results. In such instances, even if we succeed only in alleviating the distressing symptoms and giving the patient a certain amount of comfort, the treatment will have justified itself, and radium will have accomplished what nothing else is capable of doing. The reputation of radium has too often suffered in the past, both at the hands of its friends and its enemies, exaggerated claims as to its efficacy being on the one hand based upon brilliant results in one or two apparently hopeless cases, whilst on the other hand it has been condemned altogether for isolated failures.

Character of the Rays. Amongst the important factors which influence the treatment are the character of the rays, the method and degree of filtration, and the density of the tissue. Dr. Viol will take up this important branch.

Analgesic Properties of Radium. Radium possesses valuable analgesic properties. It relieves irritation of the skin, and is especially indicated in pruritus ani and other localized forms of pruritus. The analgesic effect persists for some considerable time, and has been found most useful in neuritis, neuralgia, and in the relief of symptoms in inoperable and hopeless cancer.

Selective Action of the Rays upon Cancer Cells. In regard to the selective action of the rays upon cancer cells, Dr. Schmitz,[1] of Chicago, who has given a clear description of the histological findings, is to deal with this subject.

Dr. James Ewing,[2] of New York, has also enriched the literature regarding the histological changes which are to be observed under radium treatment.

Dr. Ransohoff[3] points out that the changes invariably include obliteration of the blood vessels, which is an important factor in the cure of uterine fibroids by radium. He also quotes Keetman and Harting, who have shown that radium is dependent for its action "on the denser substances in the nuclei of the cells." Ransohoff says that this indicates that "the more closely the tissue approaches the embryonal type, the more amenable it will be to radium treatment," which accounts for the excellent results obtained in lymphosarcoma, and the comparatively poor ones in periosteal sarcoma and chondrosarcoma.

Morson[4] finds that in a considerable number of cases of cancer, absence of cancer cells can be demonstrated fourteen days after beginning radium treatment, but that in more resistant cases the malignant cells may show only slight alteration at the end of two months. Burman[5] in dealing with the apparently selective influence of radium on cancer cells, concludes that the radium rays have a "deleterious effect on all living tissue," but that while, when weakened by the action of radium, the diseased tissues disappear because they are unable to resist the normal protective forces of the body, the normal ones, when exposed to similar influences, persist, because these prttective forces are constructed with the object of helping and protecting them.

Constructive Effect fo Radium. In addition to its destructive and selective action in regard to cancer cells, radium has a constructive effect, both on the tissues and on the system generally. Wickham and Degrais[6] found that while the cancer cells undergo primary hypertrophy, and subsequently soften, disintegrate, and are probably ultimately elimin-

ated by phagocytes, radium has a stimulating effect upon the connective tissue surrounding them, which is invaded by embryonic nuclei which separate and finally replace the groups of cancer cells.

Cancer of the Skin. As Dr. F. E. Simpson, of Chicago, is taking up the subject of Radium in Dermatology, I will but briefly refer to some points which might reasonably come under the caption of his address. Observers everywhere are now agreed that radium is the ideal method of treatment in cutaneous cancer, both from the point of view of its selective destructive action on the cancer cells and its cosmetic results. In many instances it is preferable to surgery. This applies especially to epitheliomata of the face, in which operation may entail considerable disfigurement and mutilation. The results in some of the cases reported have been simply marvelous, and cases in every stage of the disease, even the most advanced, have yielded to radium treatment, sometimes proving refractory to all other methods.

An experience of several hundred cases has convinced me that no other agent can compare with radium for the treatment of these lesions. Small rodent ulcers respond magically, whilst more extensive cases, which are of several years' duration, and have resisted all sorts of therapeutic measures, including the X-rays, excision, and various kinds of physical treatment, have also been favorably influenced by radium. Dr. Frank Simpson reports over two hundred cases, which were all, with very few exceptions, cured by radium. He is of the opinion that the general rule that operable cases should be operated upon is not applicable to epithelioma of the skin, especially of the rodent ulcer type, in which radium is superior to surgery.

Dr. Russell Boggs[7] refers to the high degree of malignancy often associated with epithelioma of the lower lip, the almost invariable involvement of the lymphatic glands, and the freqnency of recurrence after operation. He emphasizes the importance of treatment of the lymphatics, in view of the frequency of their involvement. Abbé[8] has successfully treated many cases.

All writers on the subject are agreed in emphasizing the importance of prophylactic treatment of pre-cancerous lesions, such as chronic abrasions and fissures of the lip, keratosis of the skin and leucoplakia of the tongue. Abbé and Delavan[9] point out that before the advent of radium there was no known cure for leucoplakia of the tongue, which is now generally assumed to be a pre-cancerous lesion. They find that both leucoplakia of the tongue and keratosis of the skin readily respond to radium.

In addition to the treatment of pre-cancerous lesions, it is advisable to give prophylactic doses of radium at intervals after apparent cure of

epithelioma, and to keep all cases under observation for a long period, with the object of detecting recurrences at an early stage.

Radium in Metastasis. Dr. Lee[10] does not agree with the statement of the Harvard Cancer Commission that metastatic cancer should never be treated by radium. He reports three cases: One of epithelioma of the wrist, with extensive metastatic deposits on the upper lip and adjacent region. Treatment resulted in healing of the lip, disappearance of the primary lesion of the wrist, and great improvement in the general condition. In a case of epithelioma of the bridge of the nose with metastasis in the neck, there was great improvement, and in one of epithelioma of the lower lip with metastasis in the cervical glands and sternum the patient was regarded as clinically cured.

Cancer of the Mucous Membrane. Epithelioma of the mucous membrane, such as those of the mouth, pharynx and larynx, is frequently associated with lymphatic involvement, and is much more difficult to influence by radium than that affecting the skin.

Parotid Tumors. At a meeting of the American Association for Cancer Research at St. Louis in April, 1916, Dr. Richard Weil[11] reported a case of very extensive tumor of the parotid, involving the whole of the lower part of the right ear and of the neck behind the ear. It was shown microscopically to be an adenoid cystic epithelioma. Six weeks after treatment it had practically disappeared, and a year later there was no recurrence.

Tumors of the Brain. Dr. Frazier[12] reports six cases of malignant tumors of the cerebellum, which he referred to Dr. Sawyer for radium treatment. Two died, one from fibro-sarcoma, the other from meningitis, and four are still living. In one of these cases, a deeply seated cerebellar tumor, the patient, a child of ten, shows some general improvement, but there is still marked cerebellar disturbance. A boy of fifteen, with tumor of the right cerebellar pontine angle, is now able to follow his former occupation, and is quite well, with the exception of blindness due to optic atrophy. A woman of thirty-five who was treated with radium seven months ago is now able to walk by herself, and has gained in weight and strength. All the tumors were inoperable.

Carcinoma of the Breast. Practically all writers are agreed that surgery is the treatment of election in operable cases, but prophylactic treatment by radium after operation is of great service in helping to prevent recurrence. In inoperable cases, or in those in which there are contra-indications to operation, radium will at least give considerable relief.

The "cross-fire" method of applying it increases its efficiency and intensity. Dr. R. T. Morris[13] has had a varied experience with radium in cancer of the breast. In some of his cases recurrent carcinoma was

uninfluenced by radium; in others the course of the disease was arrested, and a few are regarded as cured, some of them having remained without recurrence for seven or eight years.

Cancer of the Bladder and Prostate. Up to the present comparatively few cases have been recorded in which radium has been used in the treatment of carcinoma of these regions. Pasteau and Degrais[14] report some interesting cases in the successful treatment of cancer of the prostate. Schoenberger and Schapira[15] report two cases of carcinoma of the bladder, in which the character of the growth was confirmed by microscopical examination of the pieces removed. In both cases a tube of radium was introduced into the bladder after suprapubic cystotomy, remaining in place for twelve hours.

In the first case the tube, after removal from the bladder, was buried in a large metastatic growth in the right inguinal region. Two months later the bladder tumor had entirely disappeared and metastatic growth considerably diminished in size, but the patient subsequently died from pelvic metastasis. In the second case there was extensive carcinoma of the bladder and prostate. Three months later the mucosa of the bladder was apparently normal, and the prostate much reduced in size and of normal consistency, the patient having gained twenty-six pounds in weight.

Dr. Winfield Ayres,[16] by using a very large cystoscope and a high concentration of radium, was able to give the very large total dose of 795 millegramme hours of radium. Cure was obtained in an inoperable cancer of the bladder, and seven months later there was no sign of recurrence. Young,[17] of Baltimore, has described a highly specialized technique by means of which he has been able to treat cancer of the prostate and bladder with great accuracy and detail, but he will deal with this subject at the afternoon session.

Carcinoma of the Uterus. The uterus, chiefly on account of its accessibility, which allows of the radium being brought into direct contact with the growth, is very suitable for radium treatment. Ransohoff, who has had considerable experience in this class of case, refers to a patient who came under the obseravtion of Rubens-Duval, suffering from inoperable cancer of the uterus. She died of intercurrent disease several years after undergoing the radium treatment, autopsy showing complete anatomical cure. Cheron and Duval[18] report a similar case. The patient died fifteen months after radium treatment had resulted in apparent cure, and histological examination did not reveal a single cancer cell in any part of the body.

Dr. J. G. Clark[19] reports forty-four inoperable cases of carcinoma of the uterus, vagina or urethra, treated by a dose of 85 to 100 milli-

grammes of radium. No deaths could be ascribed to the treatment, the results of which were in many cases so remarkable as to be almost incredible. Newcomet[20] states that his experience indicates the advisability of the more general use of radium in uterine carcinoma, more especially after operation. I merely mention the names of Drs. Clark and Newcomet as having done most excellent work, and they will deal with the subject of Radium in Gynæcology.

As regards persistence in cure in malignancy after radium, in 1911 Wichmann[21] reported thirty cases, many of which had remained without recurrence for four years; Jungmann[22] one of the ala nasi which has remained without recurrence for two and a half years. Haslund[23] one which also has remained without recurrence for a like period. Dr. Benham Snow[24] states that in his experience radium has been uniformly successful in these cases.

Lymphosarcoma. Kelly and Burnam report a series of twenty rapidly recurrent cases of lymphosarcoma of the neck, of which thirteen to sixty-five per cent. were apparently cured. The total dose of radium varied from 441 to 2,000 milligrammes, distributed over several hours repeated at intervals of weeks or months, the entire lymphatic system of the neck being irradiated in the more advanced cases. They conclude that in this class of case radium should invariably be substituted for surgery, and that if the treatment could always be undertaken in the early stage the proportion of recoveries might very possibly rise to ninety per cent.

Tumors of the Bone. Bissell[25] reports two cases of sarcoma of the bone, one of which ,affecting the femur, apparently completely recovered. Before treatment the X-ray picture showed a typical sarcoma, whilst the last taken resembled that of chronic periostitis.

Radium in Non-Malignant Conditions. Many non-malignant conditions have responded well to radium, including uterine fibroids, nævi, warts, papillomata, keloids, tuberculosis of the skin, eczema, psoriasis, cervical adenitis, and various kinds of uterine hæmorrhage.

Radium in X-Ray Burns of the Skin. Abbé has reported several cases of epithelioma of the skin, due to X-ray burns, which were cured by radium. One of these, affecting the back of the hand, was cured by one application only, as long ago as 1903, and has remained without recurrence ever since. In a very extensive and long-standing case, in a maker of X-ray tubes, the growths on the hands fell off in thirty days, leaving a smooth soft scar. There was no recurrence of the epitheliomata, but the patient subsequently died of general carcinomatosis. Abbé states that he has not had a single case in an early stage which has not yielded to radium. He uses the same dose as for ordinary papillomata or basal-celled epitheliomata.

Sinclair Tousey[26] has treated about fifteen cases, and also his own hands, from which all traces of growth had disappeared ten weeks after the first application of radium, although they had been very severely affected.

Radium in Synovial Lesions. Dr. Richard Sutton,[27] of Kansas City, reports two cases, both in women, one affecting the distal phalanx of the right index finger, and the other the metacarpo-phalangeal joint of the index finger. In the first case the lesion became much smaller, and pain disappeared under radium, but it seems unlikely that the relief will be permanent. In the second case the lesion has entirely disappeared for five months, with the exception of a small central cicatrix.

Fibroids of the Uterus. Abbé of New York was the first to use radium treatment in a case of fibroid of the uterus, which came under his observation in 1905. Cure resulted, and the patient has remained without recurrence for twelve years. The obliteration of the blood vessels, which follows the use of radium, has been found most useful in the treatment of this and other conditions causing uterine hæmorrhage. Abbé, who has treated a large number of uterine fibroids, says that he is continually gaining more confidence in the use of larger doses and less frequent applications of radium.

Wickham, Degrais and Cheron also report satisfactory reseults. Of 120 cases, Cheron states that the menopause was brought on in 117, and the size of the tumor markedly reduced in 108. Dr. Kelly, is of opinion that in fibroid of the uterus operation is indicated only in the case of urgent pressure symptoms or complications, such as lateral inflammation or ovarian cysts, and that in all other cases radium alone should be used. From his experience he concludes that in practically every case radium will stop menstruation, reduce the tumor in size, and sometimes cause its complete disappearance. Abbé also concludes that its action in uterine fibroids is the most extraordinary of all the remarkable effects of radium. He regards radium as the method of election in all but pedunculated fibroids.

Radium has also been very successful in other varieties of uterine hæmorrhage, chronic endometritis and cervicitis.

Naevus. In certain types of nævi and birth-marks destructive doses of radium gives results superior to those from any other method of treatment, the scar being soft and flexible, and the skin ultimately becoming quite normal. The painlessness of the applications is a great advantage.

Keloid. Abbé has had brilliant results from both true and false keloid, and his experience confirms the statement of Wickham that both are equally easy to cure. Inoperable keloids are removed by inducing

in the first place a severe inflammatory reaction, the mass atrophying on subsidence of the inflammation, leaving a thin flexible cicatrix.

Vernal Catarrh. Abbé cured ten cases of vernal catarrh, which had previously been unsuccessfully treated by the removal of hypertrophied masses, cauterization and caustics, by a fifteen-minute application of a tube of strong radium under the eyelid, the tube being moved backwards and forwards, with a lead screen for the protection of the cornea. They had all been recurrent for many years, and have now remained cured for periods up to ten years. Tousey has also had good results in vernal catarrh.

Lymphoid Tumors. Delavan reports cure by radium of lymphoid tumors of the tongue, myeloid tumors of the jaw, laryngeal tumor and naso-pharyngeal fibromata. Bissell has had satisfactory results in inflammatory conditions, infections after trauma, etc., and in a case of streptococcal infection of the metatarsus after compound fracture of the second phalanx of the second toe, all evidence of infection had subsided a week after commencing treatment.

Exophthalmic Goitre. Abbé, of New York, first used radium successfully in exophthalmic goitre, and his favorable experience of its results has been confirmed by other writers. The experiments of Sir Victor Horsley[28] and Finzi[29] show that the most constant changes after radium affect the blood vessels. In refractory cases of exophthalmic goitre I have found the treatment to be of decided benefit, and my clinical experience shows that, when applied over the thyroid, the most penetrating rays of radium diminish the vascularity and reduce the secretion of the gland. I have recently reported seven successful cases, in which the application of radium was followed by relief of the symptoms and reduction in size of the thyroid.

Lupus Vulgaris and Lupus Erythematosis. I have had good results from radium treatment in several cases of lupus vulgaris and other forms of tuberculosis of the skin. In these conditions, in view of the possibility of the existence of general systemic disease, it is important to keep under observation for some considerable time, in order that relapses, if they occur, may be dealt with in an early stage. Cases of lupus erythematosus have been most favorably influenced by the proper use of radium rays.

Tuberculosus Sinuses. It is well recognized that considerable difficulty is frequently encountered in obtaining healing of sinuses persisting after removal of tuberculous cervical glands. In several cases radium treatment, carried out by the insertion of a powerful tube of radium directly into the sinus, has been most successful in bringing about destruction of the diseased tissue, and in stimulating development of

healthy granulations, ultimately resulting in obliteration of the disease focus.

Tuberculous and other Diseased Glands. Radium has been used with varying success in malignant, non-malignant and tuberculous disease of the glands. Sarcomatous and lyphadenomatous glands respond much more rapidly than carcinomatous glands, which should, if possible, be surgically removed, as they rarely disappear or become quiescent under treatment. Inflammatory enlargement of glands promptly responds to radium.

Radium either alone or as an adjunct to vaccine treatment is often of considerable value in the treatment of tuberculous glands. It is advisable to give heavily screened exposures of 30 or more hours' duration, endeavoring if possible to give "cross-fire" radiation. If the glands are caseating radium is of little use. In view of the frequency of involvement of the thoracic glands in these cases, it is advisable to include them in the irradiation.

In some cases enlargement of the glands is due to mixed infection, and under such circumstances the response to treatment may be irregular, some subsiding promptly, others slowly.

Radium in Military Surgery. The simulating and decongestive action of radium on the tissues has been shown by Barcat and Dominici, and in 1910 Chevrier showed that it accelerated the cicatrization of wounds. Wickham and others have shown that it diminishes the virulence of bacteria and their products. These characteristics of radium, together with its analgesic properties and beneficial effect in the restoration of motor function, have already proved of great value in the present war. The idea that the stimulating properties of radium might be of service in the treatment of infected wounds, deep sinuses, etc., arose from the observation of the stimulating effects of inadequate doses, and was first acted upon by Dr. Bissell, of New York, who obtained very satisfactory results in cases which had proved resistant to surgery.

Drs. Cameron and Almquest[30] treated over 100 cases in military hospitals in England, and their experience indicates that whilst radium is not capable of preventing infection, it assists nature to resist it when present. In acute cases, in which defensive forces are active, they do not use radium unless there are indications that simulation is required, and the yadd 2 to 50 micrograms of a soluble radium salt to normal saline solution, and use it as a continuous douche. They reserve tubes for sub-acute or chronic cases, and give in cases of severe shock, intravenous injections of 50 to 100 micrograms in 2 cc. of normal saline solution. They give details of 47 cases and are of opinion that radium increases the activity of the leucocytes, and is the most economical method of treating obstinate wounds which refuse to heal.

This brief and incomplete summary of the work which has been done during the last few years sufficiently indicates the extraordinary development which has taken place in the radio-therapy, a development which has been rendered possible by improvements in technique and our knowledge of the character of the rays, and which justifies us in the anticipation of continued progress in this direction in the future. Even in desperate and particularly moribund cases, which are hopeless from the point of view of cure, radium has in many instances added greatly to the comfort of the patient, and has proved itself one of the best palliative measures we possess.

As remarked by Kaye:[31] The story of radium and its discovery is tinged with the spirit of romance. It is a story unequalled in the world's history as radium stands unequalled at present among the world's metals. Looking back, from the laboratory of Prof. Curie, down to a long vista of years one can trace the gradual evolution of a scientific certainty out of the half-formed and crude beliefs of the Middle Ages.

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FALSE SYSTEMS OF HEALING. NO. 1, CHRISTIAN SCIENCE.

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THIS system of healing has been before the public for at least forty years. In the preface to *Science and Health, with Key to the Scriptures*, Mrs. Eddy states that the first edition was published in 1875. It is somewhat strange that the medical profession has paid so little attention to Mrs. Eddy's writings; for most of the criticisms to which they have been subjected have come from clergymen, or general writers and essay-

ists. It is well that the medical profession should take stock of all false claimants, and fearlessly expose them in the interests of the people whose welfare they conserve, and make an effort to bring them under control as its members have ever striven to bring contagious diseases under control, though in doing so they really lessen the total amount of sickness. It must be stated at once that medical men do not oppose Christian Science, Osteopathy and Chiropraxy because of any competition from these false systems; but because they are false, and misleading to the public. No false system of treatment can in the least degree interfere with the amount of cases that must come the way of the regular medical practitioners. Indeed, as a matter of fact, these false systems can have no other result than that of increasing the sum total of disease and suffering.

In the preface to *Christian Science,* Mrs. Eddy contends with regard to some writings that have plagiarized upon *Science and Health* that "They regard the human mind as a healing agent, whereas this mind is not a factor in the principle of Christian Science." This shows very clearly that Mrs. Eddy disclaimed the view that her system of healing, as set forth in *Science and Health,* is by way of suggestion. This is borne out by this quotation found on page 144 at line 14: "Human will-power is not Science. Human will belongs to the so-called material senses, and its use is to be condemned. Willing the sick to recover is not the metaphysical practice of Christian Science, but is sheer animal magnetism." She goes on in like strain to repudiate all connection with hypnotism, suggestion, or any form of mental operation. When she speaks of mind healing, she is thinking of the mind of the sick person being brought into harmony with God, or the universal mind; and as soon as this is accomplished all disease and pains depart, as that which is perfect cannot harbor any imperfection.

On page 143 at line 5 we read: "It is plain that God does not employ drugs or hygiene, nor provide them for human use; else Jesus would have recommended and employed them in his healing." On page 148 at line 25 these words are found: "Physiology exalts matter, dethrones Mind, and claims to rule man by material law, instead of spiritual." On page 150 of *Science and Health* we meet with this at line 31: "The hosts of Aesculapius are flooding the world with diseases, because they are ignorant that the human mind and body are myths." But for a genuine piece of profound ignorance or mental aberration take the following, found on page 153 at line 25: "We weep because others weep, we yawn because they yawn, and we have smallpox because others have it; but mortal mind, not matter, contains and carries the infection." But there is a very definite statement on page 157 at line 8, which settles

beyond a shadow of doubt that Mrs. Eddy discarded entirely the use of any material agency. Here it is: "Christian Science exterminates the drug, and rests on Mind alone as the curative principle, acknowledging that the divine Mind has all power."

Mrs. Eddy repudiated the idea that she cured disease by suggestion, but was in error, as her system is only suggestion or mind-cure, with a faked revelation. She was equally positive that material means were utterly valueless. On this point note the following quotation from page 155, line 3: "When the sick recover by the use of drugs, it is the law of a general belief, culminating in individual faith, which heals, and according to this faith will the effect be. The chemist, the botanist, the druggist, the doctor, and the nurse equip the medicine with their faith, and the beliefs which are in the majority rule. When the general belief endorses the inanimate drug as doing this or that, individual dissent or faith, unless it rests on Science, is but a belief held by a minority, and such a belief is governed by the majority."

According to the foregoing Mrs. Eddy, the founder of Christian Science, taught that the qualities found in any drug are in it because the majority of people believe that these qualities are there. In other words, if the majority of people believed that arsenic is not a poison it might be swallowed with impunity. In other words, the qualities of drugs are thought or voted into them. This would be an excellent way of securing temperance. Vote that whiskey would not make people drunk; but on the other hand is an excellent and nourishing drink, and the whole thing is done.

For a piece of reasoning that makes one smile the following may be assumed as the acme of folly. On page 157, line 16, Mrs. Eddy writes thus: "If drugs are part of God's creation, which (according to the narrative in Genesis) He pronounced *good*, then drugs cannot be poisonous. If He could create drugs intrinsically bad, then they should never be used. Erring mortal mind confers the power which the drug seems to possess." These words indicate the wild wanderings of a mind that is either mentally deranged, or so profoundly ignorant that upon either view it must be regarded as wholly untrustworthy.

But to brand Mrs. Eddy's whole system of teaching as founded upon an entirely erroneous conception, the following may be cited as found on page 395, line 21: "It is mental quackery to make disease a reality—to hold it as something seen and felt—and then to attempt its cure through Mind. It is no less erroneous to believe in the real existence of a tumor, a cancer, or decayed lungs, while you argue against their reality, than it is for your patient to feel these ills in physical belief. Mental practice, which holds disease as a reality, fastens disease

on the patient, and it may appear in a more alarming form." But Mrs. Eddy's imagination or ignorance again runs away with her. On page 417, at line 20, the following appears: "To the Christian Science healer, sickness is a dream from which the patient needs to be awakened. Disease should not appear real to the physician, since it is demonstrable that the way to cure the patient is to make disease unreal to him. To do this, the physician must understand the unreality of disease in Science." Any one holding such views should be prevented making use of them in any form or on any occasion for the treating of persons who are ill. On page 450, at line 19, Mrs. Eddy gives us this gem: "The Christian scientist has enlisted to lessen evil, disease, and death; and he will overcome them by understanding their nothingness and the allness of God, or good." So it appears from this that disease and death are nothing.

That Mrs. Eddy believed disease to be due to people's thought the following, from page 154, line 16, completely proves: "If a child is exposed to contagion or infection, the mother is frightened and says, 'My child will be sick.' The law of mortal mind and her own fears govern her child more than the child's mind governs itself, and they produce the very results which might have been prevented through the opposite understanding. Then it is believed that exposure to the contagion wrought the mischief." Here one meets with a most extraordinary statement. In the first place the child contracts a sickness because the mother thinks it will do so, having been exposed to a contagion. In the next place, Mrs. Eddy tells us that if the thought had been the opposite of this, the child would not have become ill. This sort of teaching is so absurd that one can hardly imagine that it is countenanced by any one at this day of education. But the quotation contains a real contradiction; for she says the child becomes sick because the mother is frightened. Now, it often happens that children are exposed to contagious diseases, and no one knows it. In such a case the mother could not entertain a fear about what she had no knowledge. Truly, Mrs. Eddy is a law unto herself. On page 114, line 23, we are told that "Christian Science explains all cause and effect as mental, not physical." This is a contradiction of all laws of nature.

It may be well to examine into the reason for Mrs. Eddy's beliefs, so strange and fundamentally wrong. Clearly they arise from an erroneous conception of *idealism*. Many philosophers, and especially Bishop Berkeley, have taught that we only know a thing through the sense impressions we receive from it. When one looks at an orange there are impressions made upon the retina of its shape, size and color; and it is these that are known in consciousness. Thus one does not know anything about the real thing called the orange. Mrs. Eddy here fell down,

and concluded that matter does not exist, that all is mind, and that apart from mind there is nothing. This view contradicts all experience; for the evidence of our senses, instead of rendering the material world a negation ,is the proof that comes through our senses of its reality.

As evidence that Mrs. Eddy threw away the testimony of the senses the following should suffice. It is found on page 353, line 1, of *Science and Health*: "The Christianly scientific real is the sensuous unreal. Sin, disease, whatever seems real to material sense, is unreal in divine Science. The physical senses and Science have ever been antagonistic, and they will so continue, till the testimony of the physical senses yields entirely to Christian Science." Now, it must be borne in mind that Mrs. Eddy means by Science that same thing as Christian Science; for on page 127, line 9, this appears: "The terms divine Science, spiritual Science, Christ Science or Christian Science, or Science alone, she employs interchangeably, according to the requirements of the context." It would be possible to select many other passages to prove that Mrs. Eddy was a thorough believer in the nothingness of matter; and, as a consequence, in the nothingness of disease. They are both false creations of mortal mind. This is her position, as found on page 475, line 28, when she says: "Man is incapable of sin, sickness and death. The real man cannot depart from holiness, nor can God, by whom man is evolved, engender the capacity or freedom to sin." Here it will be seen that her idealism completely carries her away. As a culmination of this belief take this, found on page 489, line 24: "The corporeal senses are the only source of evil or error. Christian Science shows them to be false, because matter has no sensation, and no organic construction can give it hearing and sight, nor make it the medium of Mind." This is further borne out by the statement, on page 120, line 15: "Health is not a condition of matter, but of Mind; nor can the senses bear reliable testimony on the subject of health."

On the subjects of disease and sickness, a few quotations will show up the teachings of Mrs. Eddy, and the beliefs held by her followers, on the important subject of disease and sickness. Here is one found on page 393, line 29: "Man is never sick, for Mind is not sick and matter cannot be. A false belief is both the tempter and the tempted, the sin and the sinner, the disease and its cause. It is well to be calm in sickness; to be hopeful is still better; but to understand that sickness is not real and that Truth can destroy its seeming reality, is best of all, for this understanding is the universal and perfect remedy." But let this be still further driven home, and for proof take the following from page 411, line 20: "The procuring cause and foundation of all sickness is fear, ignorance, or sin. Disease is always induced by a false sense mentally

entertained, not destroyed: Disease is an image of thought externalized. The mental state is called a material state. Whatever is cherished in mortal mind as the physical condition is imaged forth on the body."

The remarkable thing is that astute business people can accept this sort of thing and give their money to erect churches to propagate it. Again, Mrs. Eddy lays down her views thus on page 543, line 24: "You should treat sickness mentally just as you would sin, except that you must not tell the patient that he is sick nor give names to diseases, for such a course increases fear, the foundation of disease, and impresses more deeply the wrong mind-picture. A Christion scientist's medicine is Mind, the divine Truth that makes man free. A Christian Scientist never recommends material hygiene, never manipulates. He does not trespass on he rights of mind nor can he practise animal magnetism or hypnotism." That this absurd teaching of Mrs. Eddy is still the teaching of Christian scientists is established by an article, specially written for the *Christian Science Monitor* of 18th May, 1917. Here it is: "Christian Science declares that the origin of disease is always due to false belief, that it is an inharmonious condition of the human mind made manifest on the human body. But as the body is itself a false concept of the human mind, disease is but a belief in the reality of evil, or matter, or inharmony. To put it somewhat differently, disease is a false belief that heaven, or harmony, is not ever-present."

Having now disposed of Mrs. Eddy's views on disease and how all our bodily ailments should be treated, it is in order to show how she claims to have received her system of religion and healing. This can be best done by using her own words. On page 367, line 24, she tells us: "The infinite truth of the Christ-cure has come to this age through a 'still, small voice,' through silent utterances and divine annointing which quicken and increase the beneficial effects of Christianity. I long to see the consummation of my hope, namely, the student's higher attainments in this line of light." There is certainly nothing very moderate in this claim. She has really improved upon Christianity by quickening and increasing its beneficial effects. But she goes on, and the following still further sets forth the evolution of her beliefs. On page 350, line 22, she contends: "Many years ago the author made a spiritual discovery, the scientific evidence of which has accumulated to prove that the divine Mind produces in man health, harmony and immortality." So it remained for Mrs. Eddy to make this discovery, copyright the same, and turn it to the fullest possible commercial value at the rate of $300 a pupil for 4,000 pupils, or the handsome sum of $1,200,000 in the few years she carried on her school of metaphysical healing.

Turning to line 24, on page 460, one reads: "When the Science of

mind was a fresh revelation to the author, she had to impart, while teaching its grand facts, the hue of spiritual ideas from her own spiritual condition." This claims a direct revelation to her. But she grows bolder as she goes on, and on page 559 there is an account of how she came by her book *Science and Health*; for it is none other than the book in the hands of the angel spoken of in Revelation. At line 1 this is given: "This angel had in his hand 'a little book,' open for all to read and understand. Did this same book contain the revelation of divine Science, the right foot or dominant power of which was upon the sea—upon elementary, latent error, the source of all error's visible forms?" Now, just take notice of the question, "Did this same book contain the revelation of divine Science?" Surely she expects the answer, yes. On page 588, line 7, she gives a definition of Holy Ghost as Divine Science; and Science with Mrs. Eddy is her system as contained is *Science and Health*. For arrogance and assumtpoin the following must be admitted as taking first place. Page 99, line 9 gives this: "Truth has furnished the key to the Kingdom, and with this Christian Science has opened the door of the human understanding. None may pick the lock nor enter by some other door. The ordinary teachings are material, not spiritual. Christian Science teaches only that which is spiritual and divine ,and not human. Christian Science is unerring and divine."

But once again, on page 107, line 1, there appears this: "In the year 1866, I discovered the Christ Science or divine law of Life, Truth and Love, and named my discovery Christian Science. God has been graciously preparing me during many years for the reception of this final revelation of the absolute divine principle of scientific mental healing." Just so! As a poor, pampered, hysterical and frail woman she was conjuring up some strange fancies in her mind, and calling them a discovery and a revelation. This aspect of Mrs. Eddy's pretentions may be dismissed with the following from page 110, line 17: "No human pen nor tongue taught me the Science contained in this book, *Science and Health*; and neither tongue nor pen can overthrow it." Yet, there are thousands who worship at the altar set up by this woman so strangely mentally distorted.

What Mrs. Eddy claims for her system of healing may well occupy a brief consideration. In the first place, she contends that her method is the method of Christ; for on page 26, line 28, one reads: "Our Master taught no mere theory, doctrine, or belief. His proof of religion was no formor system of religion and worship, but Christian Science, working out the harmony of life and love." On page 41, line 22, Mrs. Eddy tells us that "Jesus foresaw the reception Christian Science would have before it was understood, but this foreknowledge hindered Him not." Mrs.

Eddy here means that what Jesus foreknew did not prevent His being a Christian scientist, though it was left for her to complete the system as she states. On page 44, line 10, she states that "He met and mastered on the basis of Christian Science, the power of Mind over matter, all the claims of medicine, surgery and hygiene." On page 55, at line 27, this startling statement is made: "In the words of St. John: 'He shall give you another Comforter, that He may abide wtih you *forever.*' This Comforter I understand to be divine Science." Now, Mrs. Eddy tells us that divine Science is the same as Christian Science. If any one should claim for his writings that they were the Comforter referred to in St. John's Gospel, his sanity would be at once called in question, or he would be branded as a fraud. On page 135, line 1, she declares that: "Jesus established His church and maintained His mission on a spiritual foundation of Christ-healing." If one turns to page 342, and line 21, a very remarkable paragraph will be found. It reads thus: "Christian Science awakens the sinner, reclaims the infidel, and raises from the couch of pain the helpless invalid. It speaks to the dumb the words of Truth, and they answer with rejoicing. It causes the deaf to hear, the lame to walk, and the blind to see."

But this wonderful system can cure those who do not believe in it; for we are told on page 359, line 7: "I have healed infidels whose only objection to this method was, that I as a Christian scientist believed in the Holy Spirit, while they, the patients, did not." This is certainly working miracles, and first place must be accorded to the pretentions of this woman. Turn now to page 412, and line 13, where this will be found: "The power of Christian Science and divine love is omnipotent. It is indeed adequate to unclasp the hold and to destroy disease, sin, and death." This claim, however, is eclipsed by one on page 442, at line 26: "Jesus said, 'Fear not, little flock; for it is your Father's good pleasure to give you the Kingdom.' This truth is Christian Science." But to cure invalids it is not necessary to bring the human into harmony with the divine Mind. All one needs to do is to read Mrs. Eddy's publications. Here is what she says: "A thorough perusal of the author's publications heals sickness. If patients sometimes seem worse while reading this book, the change may either arise from the alarm of the physician or it may mark the crisis of the disease."

Well might one say, "May heaven protect those who resort to such a method of treatment!" Finally, this from page 483, line 27: "And Christian Science does honor God as no other theory honors Him, and it does this in the way of His appointing, by doing many wonderful works through the divine name and nature." Another quotation regarding the claims of Christian Science is taken from page 162, and line 16:

"Working out the rules of Science in practice, the author has restored health in cases of both acute and chronic diseases in their severest forms. Secretions have been changed, the structure has been renewed, shortened limbs have been elongated, ankylosed joints have been made supple, and carious bones have been restored to healthy conditions. I have restored what is called the lost substance of lungs, and healthy organizations have been established where disease was organic. Christian Science heals organic disease as surely as it heals what is called functional." Surely, surely this reaches the climax of madness; and this is the system seeking the right to treat people in Ontario.

Mrs. Eddy tells us on page 109, line 11, that, "For three years after my discovery, I sought the solution of this problem of Mind-healing, searching the Scriptures, and read little else." Mrs. Eddy certainly did try her best to make the public believe that she was the author and discoverer of the system of healing found in *Science and Health*. In later years she did what she could to undo and nullify what she had said at an earlier period of her life. When sad and sick as a nervous wreck she came under the treatment of Dr. P. P. Quimby, who had a great influence over her. She wrote of Dr. Quimby "as one who healed as Jesus did," and wrote a poem in praise of him when he died. There is no doubt but that Quimby's method was one along the lines of suggestion. Quimby in his small booklet on the Science of Man tries to show that many of the ailments that afflict people arise out of the mind. Now Quimby uses such expressions as "disease originates in the mind," "diseases being made by our belief," "if you are not afraid to face the error and argue it down," "disease is in belief," "error is sickness," "wisdom is a principle," "understanding is God," "all sciences are part of God," "truth is God," "God is wisdom," "God is principle," "error is matter," "matter has no intelligence." It will be at once seen that these are the sort of expressions that run all through Mrs. Eddy's *Science and Health,* and clearly show to what a great extent she borrowed from Dr. Quimby. She added a good deal of religious mysticism and much confused metaphysical speculation; but the foundation of her system is clearly to be found in Dr. Quimby's Science of Man. Mrs. Eddy was his patient and his pupil, and for some time could not say too much in his praise; but, after his death, when she desired to palm the whole thing off as her own discovery, then she repudiated having obtained any of her thoughts from him or his writings.

On the first of February, 1866, Mrs. Patterson (Eddy afterwards) fell on the icy pavement and was injured. The account given of her recovery was that on the third day of her illness she took her Bible and read about the man who was palsied and was immediately cured. This

is a pure falsehood; for on 15th February, 1866, she wrote that she was slowly failing. This is quite inconsistent with her miraculous recovery on 3rd February, 1866, or three days after her fall. It is a very well-known fact that Mrs. Eddy had a much better imagination than memory. This is well shown by the following statement by her: "I then (1866) withdrew from society, about three years, to ponder my mission, to search the Scriptures, to find the science of mind that should take the things of God and show them to the creature, and reveal the great Curative Principle, God," Mrs. Eddy does not here say a word about getting the foundations of her spurious system of religion and healing from Dr. Quimby, though it has been amply proven that such was the fact.

But Mrs. Eddy was in another matter regarding her injury quite untruthful. She reported that her physician said she could not recover. Under oath the physician who attended her declared that he had made no such statement about the seriousness of her injury. He had not in the slightest degree suggested that she could not recover. Again, her imagination far outran her memory, or, at least, the use she made of her memory.

Such a horrible mess of religion as she propounded may suit some people, and, if so, they may be allowed the privilege of extracting what comfort they can from it; but information they cannot, because it contains none. It is one continuous conglomeration of contradictions and absurdities. But her monstrous system of healing must not be allowed in this fair province. A system that teaches there is no disease outside of our mind, that there is no need for hygiene or preventive medicine, that there is no such thing as treatment other than Mrs. Eddy's unintelligible mind cure, must be granted no recognition here. Life is too sacred a thing to place it in the custody of such healers, whose qualification is that they can show that they have treated three cases in order to gain the right to take patients.

At a recent sitting of the Medical Commissioner, an effort was put forth on the part of the advocates of Christian Science that it was Christianity, and that healing was not its chief concern. Judge Smith, of Boston, said: "It would be wrong to give the medical profession a statutory monopoly and would be a monstrous violation of human rights, not the least of which is the right to depend on prayer and the practise of religion." No one wishes to deprive Christian Scientists of the right to depend on prayer. They are welcome to as much of Mrs. Eddy's religion as they wish. A statement such as this is only trying to sidestep the real issue.

Whether healing is an important part of Christian Science or not, let us hear what Mrs. Eddy has to say. In her preface to *Science and*

Health, page viii., line 12, we have this: "The question, what is Truth, is answered by demonstration—by healing both disease and sin." On page x., line 3, we find this: "The first edition of *Science and Health* was published in 1875. Various books on mental healing have since been issued, most of them incorrect in theory and filled with plagiarisms from *Science and Health.*" In both of these quotations the stress is on the healing aspect of her so-called discovery. But let us go on. At line 22, on page x., we have this: "The divine principle of healing is proved in the personal experience of any sincere seeker of Truth. Its purpose is good, and its practise is safer and more potent than that of any other sanitary method." All this is about healing, and nothing about religion.

On page xi., line 25, we read this: "The first school of Christian Science mind-healing was started by the author with only one student, in Lynn, Massachusetts, about 1867." Here all we have is a school is started for mind-healing. On page xii., line 6, we are told that: "During seven years over four thousand students were taught by the author in this college." All this is about teaching students how to practise Christian Science healing. Turning to page 109, line 6, we read: "This great fact is not, however, seen to be supported by sensible evidence until its divine principle is demonstrated by healing the sick, and thus proved absolute and divine. This proof once seen no other conclusion can be reached." Here, again, we see that the healing takes the lead, and is the means of establishing the religious aspect of her teachings. It has been well remarked by many writers that without its healing feature Christian Science would never have acquired any following; and that if its healing feature were taken out of it, the religious side of it would at once crumble to pieces.

An eminent lawyer of the Boston bar during the lifetime of Mrs. Eddy wrote thus: "The founder of this pretended religion, this bogus healing system, audaciously and irreligiously professing equality of character and of power with Jesus, has, throughout her whole long life, been in every particular precisely antithetical to Christ. Sordid, mercenary, unprincipled, the consuming passion of her life has been the accumulation of money, and she has stopped at no falsehood, no fraud, and no greater wickedness that seemed to put her in the way of adding to her accumulations, or overcoming her supposed enemies."

His writings were all the way through of the severest character, and he made this further statement: "I challenge Mrs. Eddy and the whole Christian Science combination to dare to prosecute me for libel, and I affirm and shall continue to affirm that their omission so to do is an acknowledgement of the truth of every statement I make."

The New York *Times* in reviewing the earlier edition of this work said: "There is absolutely no middle ground. Either Mr. Peabody is the most shameless of calumniators or Mrs. Eddy is the basest of charlatans. Mr. Peabody expresses an eager readiness to have this question submitted to any test. His charges run the whole gamut from attempted murder to accomplished theft, with endless lying scattered all along between. They are not vague, but definite, and every one of them can be settled as true or untrue. Why do the Eddyites wait? The courts are open, and until Mr. Peabody is a convicted slanderer no sane or decent person, man or woman, can afford to give any countenance to Christian science."

To show that this indictment is not too severe, the following extract from page 147, line 24, of Mrs. Eddy's *Science and Health* is submitted: "Our Master healed the sick, practised Christian healing, and taught the generalities of its divine principle to His students; but he left no definite rule for demonstrating this principle of healing and preventing disease. This rule remained to be discovered in Christian science. A pure affection takes form in goodness, but science alone reveals the divine principle of goodness and demonstrates its rules."

So we leave Mrs. Eddy, in her own estimation, as greater than "Our Master."

Judge Smith argued that medical men often made mistakes in diagnosis, and should not be granted too great powers. But this argument cuts the feet from under his own position, and goes to prove that the medical standard should be raised still higher, rather than lowered to the level of the know-nothing Christian Science theory of disease and treatment. He tried to show that Christian Scientists are following the original practice of Christianity. Not so; for Mrs. Eddy claimed that she had made a new discovery, had received a special revelation, and declares that she had improved upon the plan and teachings of Christ, and then copyrighted the plan and made a great fortune out of it. This is certainly not in accordance with the teachings of Christ and His disciples. He also contended that Christian Science did not ignore disease, nor did it contribute to the spread of disease. We have clearly shown from Mrs. Eddy that all disease is a mere delusion of mortal mind, and is best treated by being completely ignored. Indeed, it should not even be named. Scientists know nothing about disease, and, therefore, cannot distinguish one disease from another. They must then be agents for the spread of infection. Judge Smith should have better arguments next time, and we do not thank him for coming here to try to lower our standards.

PERSONAL AND NEWS ITEMS

The British Red Cross Society had on hand at the end of 1915, £14,796, and at the end of 1916 £11,586. The demands for this year are very heavy. The honorary treasurer is Mr. G. C. Cassels, 47 Threadneedle St., London, E.C. Socks and other supplies should be sent to 123 Victoria St., London, S.W.

The research laboratories of the city of New York claim to have found a method of obtaining a serum from the horse that is valuable in the treatment of anterior poliomyelitis.

Dr. D. H. McAllister has been nominated by the Liberals of Kings-Queen's, N.B., at a convention held at Norton as candidate for the House of Commons in the next Federal election for the new Federal constituency of Royal. He was member of Parliafent for King's county from 1908 to 1911.

The death occurred at her late residence, 817 Lansdowne Avenue, Toronto, on May 25th, of Victoria Elaine, wife of Dr. A. E. Morgan, aged 43 years.

The Dominion Hospitals Commission will greatly enlarge the capacity of the military hospital at Cobourg. It is expected that the new buildings will double the capacity of the hospital, which is now 175.

Surgeon-General Eugene Fiset is honored by the King because of his distinguished service as Deputy Minister of Militia and Defence for Canada and vice-president of the Militia Council. He was born in Rimouski, Que., in 1874, the son of Senator J. B. K. Fiset. He is a graduate of Laval University and was house surgeon in the London Throat Hospital. He formed the 89th Temiscouata and Rimouski Regiment as a lieutenant in 1894 and transferred to the A.M.C. in 1890. In the South African War he was assistant surgeon of the 1st Canadian contingent and won honors. He was appointed Deputy Minister of Militia and Defence in 1906, and has been honorary surgeon to the Governor-General since 1904. He resides now in Ottawa.

Lt.-Col. Charles A. Warren, formerly assistant to Lt.-Col. Ryerson, of the Toronto district, has gone to New York to take a post under the British Minister, and will have charge of the medical services, examining those who wish to enlist in the British army. Lt.-Col. Warren graduated from the University of Toronto in 1901.

The following honors have been awarded to Canadian nurses: Royal Red Cross of first class—Nursing Sisters Anne Gorest and Jean Matheson. Second class—Sisters Louise Brock, Harriet Graham, Laura Gam-

ble, Mabelle Jamieson, Kathleen Little, Lizzie MacEachern, Georgian McCullough, Mary Morrison.

Lieut.- Col. A. J. Mackenzie was formerly a partner of the late Dr. Oldright, of Carlton Street, Toronto. In May last he was promoted from the rank of major, and given command of the Moore Barracks Hospital, Shorncliffe. He went overseas as medical officer of a Toronto Highland battalion of the first contingent. He had a brilliant academic career at Toronto University, where he took the degrees of B.A., M.B., and LL.B.

Word has been received that Nursing Sister Madeleine F. Jaffray had been awarded the Croix de Guerre. She was recently wounded in the foot with shrapnel while serving with the French Nursing Corps. She is a daughter of Mr. J. P. Jaffray, Canadian Government Agent at Philadelphia, and her home is in Galt. Shortly after war was declared Miss Jaffray went overseas with a contingent of Canadian nurses and has been on active service ever since.

During the year ending 1st June, 1917, the Canadian casualties were 65,549. Of these, 12,064 were killed in action, 2,800 died of wounds, 911 died of sickness, and 1,328 are presumed dead. The prisoners total 1,010, and there are 603 missing. The total number of permanently incapacitated, not counting the wounded, for the twelve months, is 19,-726.

Ninety convalescent soldiers, inmates of Whitby Military Hospital, have addressed a letter to Lt.-Col. R. S. Wilson protesting against the publicity given to the complaints of a few patients against the conditions at the hospital. Fresh air, exercise and good food, the three elementary requirements for fitting the men for their future battles in life are, the writers of the letter state, all received at Whitby.

Edith Irene, daughter of Dr. and Mrs. Perry E. Doolittle, of Toronto, was married recently in New York, to Mr. Clarence P, Thomas.

On 13th June the Military Hospitals Commission received from the Director of Medical Services in London a return showing the number of members of the Canadian expeditionary force in hospitals in the United Kingdom on May 18. The total, 22,544, showed an increase in Canadian primary and special hospitals, however, had fallen from 5,121 to 4,965, while the number in Canadian convalescent hospitals had risen from 4,633 to 5,049. The number in non-Canadian hospitals had also risen from 12,198 to 12,462. There were 68 men in the sanitoria for tuberculosis.

On 20th June there was a fire in the Asylum at London, Ont. The origin of the fire is unknown, and the damage was estimated at $25,000. The patients, numbering seven hundred, were removed to places of

safety. No one was injured. The patients behaved well, and there was no excitement or confusion. Many of them assisted in controlling the fire.

A statement calling attention to a shortage of medical men on all the allied fronts, as well as in Britain itself, was issued in Chicago a few days ago by Col. T. H. Goodwin, medical officer with the British Mission to the United States, who is touring the country to inspire the volunteering of medical men for service abroad. Col. Goodwin seeks medical men in addition to the 20,000 required by the new American army.

Sir Adam and Lady Beck, of London, have made the gift of a nurses' home to the Queen Alexandra Sanatorium for Tubercular Soldiers. The hospital has accommodation for 250 patients.

The extension to the Ontario Government Hospital at Orpington, Kent, is now complete and the ceremony of inauguration took place on 5th July, Right Hon. Walter Long officiating.

A new hospital at Basingstoke ready for opening will be staffed entirely by a Toronto University unit.

The Canadian medical service has opened an institution at Kirkdale, Liverpool, to serve as an assembly station for the sick and wounded men about to be sent to Canada for further treatment. It will have a total accommodation of 1,500 beds, 500 beds being in reserve for cases arriving in England oc transports. The men sent there will remain about three weeks. Lieut.-Col. Biggar, previously in charge of a field ambulance on the western front, is the officer commanding, with eight officers, 150 of other ranks and ten nursing sisters.

In New St. Andrew's Church, Toronto, on Saturday, June 16th, by Rev. Thomas Eakin, M.A., Ph.D., Angele, daughter of Monsieur and Madame Harmendt, St. Nicolas, Belgium, to Benjamin Philip Watson, M.D., F.R.C.S.E., F.A.C.S., Toronto.

Dr. S. E. Foster, of Wiarton, has been nominated for North Bruce as a candidate for the next Provincial election.

Several cases of smallpox have been reported in Dover township, and health officers are placing strict quarantines. Dr. McRitchie, M. O. H. for Chatham, took prompt action when he heard of the cases, and placed temporary quarantines on Chatham homes. These have since been lifted.

The Military Hospitals Commission has a plan under advisement to build a $300,000 hospital in London, Ont., for that military district. The Ontario Government is to be asked for a grant of 20 acres from the property fronting on Dundas Street of the London Hospital for the Insane.

The Provincial Board of Health of Ontario, Burroughs, Wellcome

and Company, of London, and Montreal, and Poulenc Freres, Paris, have applied to the Government to cancel under the War Measures Act certain patents held by alien enemies for the manufacture of certain chemical products.

Capt. Archie Naismith, M.D., son of Dr. A. D. Naismith, of Staffordville, Ont., formerly of Milverton, who for two years has been in France with the 101st Field Ambulance, B.E.F., has been awarded the Military Cross. Dr. Naismith enlisted as a private in November, 1914, in Vancouver, with the B. C. Horse, and received a second lieutenant's commission in England. He is a graduate of the Stratford Collegiate and the Toronto Medical College.

Capt. Carl W. Waldron, C.A.M.C., who was, until recently, located at the West Cliff Canadian Eye and Ear Hospital at Folkestone, where he was in charge of facial restoration and jaw fracture work, has been transferred to the Ontario Government Hospital at Orpington.

The Cavendish lecture, which any medical man considers a high honor to be asked to deliver, was given recently in London by Capt. Andrew MacPhail, Professor of Medical History at McGill, who received special leave from France for the purpose. Capt. MacPhail spoke on Canadian medical work at the front, giving details of the preparations required for the success achieved by the Canadian medical service in dealing with the operations at Vimy Ridge.

An army surgeon, who went up in the air to study the effect of flying on the nerves, was killed in a recent aeroplane accident in England. He was Capt. James Annesley, who had held that it was very difficult to judge the effect of flying on the nerves until one had had personal experience. He went up as a passenger and was killed with the pilot when the machine dived to earth.

Lieut. W. E. Ord, of the Royal Army Medical Corps, has been decorated with the French Croix de Guerre for bravery while attached to a French unit. The bulletin announcing the award reads in part: "For having shown the utmost devotion to duty, and caring for the wounded on the battlefield fearless of all danger."

Bloor Street Presbyterian Church, Toronto, recently presented Rev. Dr. Menzies, medical missionary in North Honan, China, with a cheque for $1,000 to enable him to procure hospital equipment. He has labored in North Honan since 1904.

Francis Robert Sargent, M.D., of Sydenham, has been made an associate coroner for the county of Frontenac.

The campaign in the United States to raise $100,000,000, as the Red Cross Mercy Fund, has attained its object.

A number of British hospitals in France are now being taken charge of by surgeons, medical men and nurses from the United States. This relieves the former staffs for much needed work nearer the front. This was a much-needed help indeed.

The National Council of Women, at their meeting in Winnipeg a few days ago, discussed the advisability of demanding the persons before marriage furnish certificates of health.

Lieut. A. E. Morgan, A.M.C., has been raised to the rank of captain in Division No. 2.

Capt. H. R. Smith, of 48 Yorkville Avenue, Toronto, a medical student in the University of Toronto, enlisted two years ago, and served in the A.M.C. under Col. Rennie. Later on he went to Gallipoli, and in three days said they handled 10,000 wounded men. At Darfur airplanes shaped like dragons and painted with phosphorus were sent over the Turks at night, and dropped bombs with sirens attached. The Turks took fright and the place was captured. He was wounded in a dugout in France.

The sixth annual meeting of the Canadian Public Health Association will be held in Ottawa on September 27th and 28th, 1917. The meeting of the Canadian Association for the Prevention of Tuberculosis will also be held in Ottawa on 26th September.

The American doctors and nurses comprising the units from Chicago, Philadelphia and St. Louis were entertained on a lavish scale in London. Nearly every hour of thei rtime was demanded by their British, Canadian and American hosts, who arranged in their honor no end of receptions, dinners, teas, theatre parties and sight-seeing trips.

Dr. John Edward Squire, a very unassuming but thorough physician, of London, died recently. His articles were always of a most valuable character.

Dr. Sproule, former Speaker of the House of Commons, and now a Senator, was taken ill some time ago with strangulated hernia, and was operated upon. He is making a good recovery.

Col. W. T. Connell, Professor of Ophthalmology, Queen's University, has been appointed officer commanding the military hospital at Kingston.

Dr. M. F. E. Graham, who was assistant physician to the Brockville Asylum, has been appointed resident physician to the Jubilee Hospital, Victoria, B.C.

Sir Marc Armand Ruffer, the president of the Egyptian Sanitary Council, died on his way from Salonika to Egypt. He was a noted authority on the diseases of Egypt and that region.

Dr. Francis Henry Brown, senior past editor of the *Boston Medical Journal,* died in May, 1917, as the result of a street car accident. He was born in 1835.

Dr. Lazarus L. Zamenhof, the author of Esperanto as a universal language, died 21st April, at the age of 57. He was a Pole and graduated from Moscow.

Dr. Franklin H. Martin, of the General Medical Board, United States, is reported to have said, in describing the imperative need for American doctors abroad, that in one retreat alone the British lost 267 surgeons, all killed near the same spot within half an hour, and that as a result 5,000 men lay on the ground unattended for seventy-two hours.

At the formal opening of the American Red Cross Hospital of Paris, on 31st May, President Poincare bestowed the cross of the Legion of Honor on Dr. Joseph A. Blake, surgeon-in-chief of the hospital, and thanked him in the name of the Republci for his valuable services during the war.

Dr. Thomas A. Emmet, of New York, celebrated his 89th birthday on 29th May, and received the honorary degree of doctor of literature from the Catholic University of America.

The Rockefeller Foundation has authorized the construction in China of two hospitals, at a cost of $3,000,000. The first will be built in Berlin and will be modelled after the Johns Hopkins Hospital. The second hospital will be built in Shanghai.

The fund for the suppression of infantile paralysis in the State of Massachusetts has reached the sum of $10,484.

The new headquarters of the American Red Cross in Washington were dedicated on 12th May, and accepted by President Wilson as the head of the society. The building, which cost $800,000, has been erected as a monument to the women of the Civil War. It will serve to house all the activities of the Red Cross in Washington.

Prof. William G. MacCallum has resigned the chair of pathology at the College of Physicians and Surgeons, New York, to accept an appointment as professor of pathology and bacteriology at Johns Hopkins University, Baltimore.

Dr. Louis Joseph Landouzy, professor of clinical medicine at the University of Paris and dean of the Faculty, died recently at the age of 72 years. Dr. Landouzy was a member of the Paris Academy of Medicine, physician at the Hotel Dieu, editor-in-chief of *Revue de médecine,* and scientific director of the *Presse médicale.*

OBITUARY

JAMES RUTHERFORD.

Dr. J. Rutherford died at his home in Orono, Ont., where he had practised for many years. He graduated from Queen's University in 1870.

SAMUEL W. HEWETSON.

Lt.-Col. S. W. Hewetson, M.D., died at the Royal Hospital, London. He was in practice at Pincher Creek, Alta., and went overseas when the war broke out. He was appointed to the command of the Eighth Field Ambulance. His health broke down, and he was invalided home. He was 49 years of age, and was a graduate of McGill University.

HENRY JAMES FIXOTT.

Dr. Fixott died at his home at Arichat, N.S., April 11th, in the seventy-third year of his age. He was a graduate of Harvard and had been in practice fifty years.

WALLACE G. KING.

Dr. King, of Buctouche, N.B., died 21st April. He had been in practice for thirty-two years in Woodstock, N.B. He had been in failing health for some time, and was sixty-seven years of age at the time of his death. His widow and six of a family survive him.

JOHN BUCHANAN WILSON.

Dr. Wilson was a Canadian and a graduate of the University of Toronto. He located and practised in Ottumwa, Iowa, where he died on 20th April.

E. L. GRAVES.

Dr. Graves died at Mount Bridges, Ont., last March. He graduated from the Western University in 1914, but contracted tuberculosis.

BOOK REVIEWS

HANDBOOK OF ANATOMY.

A Complete Compend of Anatomy, including the Anatomy of the Viscera, a Chapter on Dental Anatomy, Numerous Tables, and incorporating the Newer Nomenclature Adopted by the German Anatomical Society, generally designated the Basle Nomenclature, or B.N.A. By James K. Young, M.D., F.A.C.S., Professor of Orthopaedic Surgery, Philadelphia Polyclinic, etc., etc. Fifth edition, revised and enlarged, with 154 engravings, some in colors. Philadelphia: F. A. Davis Company, English Depot, Stanley Phillips, London.

This book has now become so well known that an introduction is now no longer required. All that one needs to say is that the author, by careful revision, keeps it up-to-date, and is ever watchful for any way in which he can improve his book by adding any new feature or by any new illustration. This is really a very useful work for reference, and especially in the case of the busy man who wishes to refresh his memory quickly. The book merits a large sale.

PROGRESSIVE MEDICINE.

A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., and L. F. Appleman, M.D. June, 1917. Philadelphia and New York: Lea & Febiger. Six dollars per annum.

This volume contains articles on Hernia, Surgery of the Abdomen, Gynæcology, Diseases of the Thyroid Gland, Diseases of the Blood, Metabolism, Diabetic Diseases, Diseases of the Lymphatic System, and Ophthalmology. The writers are W. B. Coley, J. C. A. Gerster, J. G. Clark, Alfred Stengel and Edward Jackson. The articles are all very excellent, and the illustrations numerous and helpful. The paper and type are such as make reading a pleasure. We have much pleasure in recommending the volume as one of a very superior series. Anyone who reads Progressive Medicine from quarter to quarter cannot fail to keep himself abreast of the best thought and experience in medicine. The publishers deserve praise for their part in the production of these volumes.

MORTALITY STATISTICS.

Department of Commerce, Bureau of Census, Samuel L. Rogers, Director, 1915. Sixth Annual Report. Washington:Government Printing Office, 1917.

This is a large volume full of tables and explanatory text. It contains a vast amount of information on the frequency of the various dis-

eases, the ages most subject to them, and the localities of prevalency. This report also points out to what extent certain diseases prevail in certain localities show a disposition to attack various rases.

INTERNATIONAL CLINICS.

A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Obstetrics, etc., etc. Edited by H. R. M. Landis, M.P., and Charles H. Mayo, M.D. Vol II. of the 27th series, 1917. Philadelphia and London: J. B. Lippincott Co. Cloth, $9.00 per annum.

This volume contains ten clinical lectures, five articles on treatment, three on medicine, one on dermatology, two on gynæcology, one on ophthalmology, four on surgery, and one on history. The articles on medicine, surgery, treatment, etc., are all of a high standard, and well reward the reader for the time he gives to their study. The historical article on Lancisi is very well written and on a very interesting subject. Lancisi was a truly great man, and was thrown into a history-making period. As the article states, he was a pathologist, clinician, sanitarian, and epidemiologist. We can speak in high terms of praise of this volume, and of the entire series to which it belongs.

MISCELLANEOUS

ONTARIO COLLEGE OF PHYSICIANS AND SURGEONS.

The following successfully passed the May examinations of the College of Physicians and Surgeons of Ontario:

Howard Ryerson Adams, R.R. No. 2, Freeman, Ont.; Norman Edwin Betzner, Moose Jaw, Sask.; York Blaney, Toronto; Arthur John Boyce, Goderich; Ernest Alfred Broughton, Whitby; William Elmer Brown, Gananoque; Frederick John H. Campbell, London, Int.; Thomas Fitzroy Carter, Kingston; Thomas Crossman Clark, Dundas; Robert Dennis Collier, Picton; Isaac Cohen, Sault Ste. Marie, Ont.; Wilmer Lloyd Denney, London, Ont.; John Ferguson Doyle, Kingston; William Harold Ernest Vernon Duffett, Adolphustown, Ont.; Duncan D. Ferguson, St. Thomas; Hans Olding Furey, Toronto; George D. Gordon, Kingston; Malcolm George Graham, Rodney, Ont.; William Lindsay Graydon, Toronto; Arnold Grisdale, Niagara Falls, Ont.; James Harrison Howell, Welland; Leslie Melrose Jones, Chesley; James Albert Key, Shanty Bay, Ont.; George Franklin Laughlen, Point Anne, Ont.; Patrick Leacy,

Lanark; Frederick William Leech, Newboro, Ont.; Archibald Edward MacKenzie, Toronto; John William MacKenzie, Toronto; George Walter MacNeill, Owen Sound; Thomas Mervyn Martyn, North Bay, Ont.; William Thomas Burton Mitchell, Watford, Ont.; Clarence John Archibold McKillop, St. Thomas; William Charles O'Donoghue, Smith's Falls; Albert Phelphs, Windsor; Harry Albin Rawlings, Toronto; Joseph Whittier Reddick, Toronto; John Alexander Renwick, London ,Ont.; Percy Roy Shannon, St. Thomas; Frank Roy Shannon, Barrie; Donald Jabez Taitt, Brooklyn, N.Y.; Chas. Archibald Wells, Toronto; Percival A. Williams, Toronto; James McStay Young, London, Ont.; Robert Stanley Murray, Galt.

GERMAN CASUALTIES.

The German casualties as reported in the German official casualty lists in the month of May are:

Killed and died of wounds or sickness, 22,000; prisoners and missing, 26,562; wounded, 62,394. Total, 110,956.

These casualties added to those previously reported give the following totals since the beginning of the war:

Killed and died of wounds or sickness, 1,068,127; prisoners and missing, 557,410; wounded, 2,731,223. Total, 4,356,760.

In this war about as many are permanently disables as are killed. This would make the permanent German loss approach 3,000,000.

DESCRIPTION OF A NURSE.

Writing in the *Pacific Medical Journal,* Dr. Winslow Anderson gives the following somewhat rhetorical but accurate description of the qualities of the ideal nurse: "She is a genteel, genial, generous, gracious, graceful and grateful gentlewoman. She is calm and calcareously clean. She carries congenial, companionable comfort in her conscientious, courteous, cadenced conversation. She is cheerful, charming, and charitable. Her smile is like a beam of sunshine; her sympathy is strengthening. Her speech is soft and soothing. Her shoes are swift, soft and soundless. She is a Serapic Samaritan, with salve to soothe a smarting soul to slumber. Her motto is 'Safety First.' She kindles kinetic kindness and renders restful repose with a rosy and radiant outlook for the morrow. Her ministrations are always merciful, her management magnanimous. She is warm-hearted and winsome in her willing ways. She would not hurt the feelings of a sister nurse nor the feelings of a sick,

sensitive, petulant patient, because she is a gentlewoman and her inborn refinement, her pure heart and tender compassion for human frailties forbid."

AMERICAN SURGEONS IN FRANCE.

American doctors, nurses and enlisted men have within the last fortnight taken over six of the British great general field hospitals, releasing the English staffs for duty near their front.

The Americans have been much impressed by the cordiality of their welcome, as well as by the thoroughness and effectiveness of the British hospital system. So smoothly have the transfers been made that the Americans have taken up their new work without even a moment's upset in the routine of the various hospitals. The Stars and Stripes fly with the British Union Jack from each hospital flagstaff, the two ensigns fluttering side by side in the cool breezes that sweep in from the sea.

The British selected their hospital sites with the greatest care and have developed them with a completeness that has come from nearly three years' field experience. Some of the general hospitals are made up of tented wards, accommodating forty to sixty beds each. Others are constructed of a series of huts. Both styles are models of field comfort and convenience. The operating theatres are splendidly built and seem to lack nothing in the way of modern surgical equipment.

Originally planned for 1,040 beds each, the general hospitals have been practically all enlarged to 1,400 beds, and during a crisis can accommodate 2,000 patients.

INVALIDED CANADIAN SOLDIERS.

The latest figures, based on returns from the ten units of the Military Hospitals Commission command, show that on May 31 there were 6,826 men under the commission's care, being 52 more than on May 22.

The latest return from the director of medical services in London shows that on May 11 there were 22,019 Canadian patients in hospitals in the United Kingdom, including 673 officers, as again 21,445 on 4th May.

An analysis of the returns shows that on May 11 there were 3,208 in Canadian primary hospitals, the largest individual figure being 1,021 in the Moore Garracks, Shorncliffe. In Canadian special hospitals there were 1,913, of whom 858 were in the Granville Hospital at Ramegate. Patients in Canadian convalescent hospitals numbered 4,633, including 2,437 at Woodcote Park, Epsom. There were 67 men in the sanatoria

for tuberculosis at Hastings and Wokingham. The total is completed by 12,198 men in "British," that is, non-Canadian, hospitals, the largest number being 4,171 in the eastern command.

That the United States is anxious to profit by Canada's experience in the care of disabled men is evident from the number of official investigators visiting the various units of the hospitals command.

MEDICAL PREPARATIONS

ANTIPHLOGISTINE IN SEPTICAEMIA.

I did not pay very much attention to a slight prick on my right index finger, until the pain and swelling were quite severe. After several days when the symptoms of septicemia were pronounced, and the condition had not responded to the use of local applications and antiseptic treatments, I called in our surgeon, who advised the amputation of the finger at once. I was suffering intensely, and as a palliative measure I put on a liberal application of hot Antiphlogistine; the effect was instantaneous, the pain subsided, and the swelling was considerably reduced within a very short time. The application was repeated every few hours, and within one week I could attend to my work as usual, with the finger as good as ever. The instant relief from pain, the gradual amelioration of the condition, and the final result were the most remarkable I have ever seen.—C. W. Weaver, M.D., 609 The Gilbert, Grand Rapids, Mich.

SANMETTO AS A DIURETIC.

Sanmetto is a mild, non-irritating diuretic, which allays urinary irritation and increases urinary secretion. It is thought of in prostatitis, pyelitis, purulent or catarrhal cystitis, irritable condition of the bladder, gonorrhœa, enuresis in children, and in fevers where a mild diuretic is desirable to increase the secretion of urine. Sanmetto has been used by thousands of physicians in old men with irritable bladder and difficult urination, and they have found it a very satisfactory medicine. It is safe and harmless, and by its soothing action on the mucous membrane of the bladder it relieves the irritation, and adds greatly to the comfort of the patient. It increases the flow of urine, lessens the specific gravity, clears up clody urine, and relieves undue acidity. In all these ways it is of great benefit to the patient. In enlarged prostate it has done good service by its soothing qualities while reducing the enlargement.