

Child Welfare And Public Health

Articles on Child Welfare, and Public Health will appear weekly in this column, furnished by the Local Red Cross Branch.

DIPHTHERIA

Department of Public Health, Saskatchewan

A disease mostly of the upper respiratory tract, the throat, the nose, the larynx. It is any condition, even simple sore throat, in which a special germ named "Klebs Loeffler Bacillus" is found.

Adults frequently have the disease, but children are more susceptible to it, especially between the ages of one and six. The cause of the disease being definitely known, the means by which it is spread are also known and make it easily checked when proper precautions are observed.

The germs are spread by the secretions from the nose and throat of persons sick with the disease and may be carried indirectly by freshly contaminated towels, etc. In the case of children, exchange of sweets, slate pencils and other articles that have been in the mouth, is a frequent source of spreading.

Symptoms From two to seven days after a healthy person has been exposed to the infection, the person often complains of a frequent desire to clear the throat.

Upon inspection, the throat is seen to be dark, red, swollen and sometimes covered with a dirty white coating or membrane, the color of the ash of a cigar. An attempt to remove this membrane or coating causes bleeding. In severe cases ulceration of the throat is seen, and often from this the breath has a highly offensive and characteristic odor. The glands of the neck are enlarged and tender, and often of a huge size. The nose may be affected, giving out a discharge of matter and occasional bleeding. If the larynx becomes affected there is hoarseness and a croupy cough, etc. The child is feverish, has headaches, loss of appetite, coated tongue, stiffness of the neck, tenderness about the angles of the jaw and complains of soreness of the throat.

In the mildest cases only a simple sore throat is found, with few, if any, of the above signs. In severe cases it comes on more or less insidiously with high fever, pain in ear, aching in the limbs, pain in swallowing, swelling of the neck, loss of strength and weariness so great as to cause the child to seek to lie down.

Most of the signs and symptoms, last two to fourteen days as a rule, but without proper treatment, the germ may remain in the throat and nose and is capable of infecting others for many months and even years. Therefore the doctor's certificate for the readmission to school must state that patient is "bacteriologically" free of the disease.

The chief manner of the spread of diphtheria is from person to person but all conditions of bad hygiene increase its severity and its power to spread. Schools afford a favorable ground for it; for there children at the ages when they are most likely to take the disease are brought together daily in close contact with one another. They often use the same articles, towels, slates, pencils, etc. Schools with little or bad ventilation and with a dry and foul atmosphere aggravate the spread more than others. Therefore, during recess all windows should be opened and the air purified as much as possible before the children are called together again.

The use of roller towels and the common drinking cup are prohibited by law. Teachers should also see that there is no interchange of slate pencils, etc., especially during an outbreak of infectious diseases.

In schools, also, slight cases (e.g., the apparent sore throat) more easily bring about marked and serious cases in children between the ages of three to ten years of age and among all delicate children in the home.

If there is any diphtheria in the neighborhood, all sore throats in school should be regarded with suspicion, all doubtful cases should be sent home with a note to the parents to have a doctor called in to examine the child. No children from infected households should be allowed to attend school.

All persons who have been "in contact" with a case of diphtheria should be watched for two weeks, unless the Schick test has shown them to be immune or antitoxin which case only a few days supervision is necessary.

When Schick positive, toxin antitoxin confers immunity. The Public Health Act states: (1) That whenever a teacher in any school has reason to suspect that any pupil is suffering from or that there exists in the home of any pupil, any infectious disease, he, the teacher, must notify the Medical Health Officer and the parent or guardian. Such pupil must not attend school without a special medical certificate to the effect that the home and pupil are free from the disease.

(2) That when infectious disease has occurred in a house, no pupil or teacher from that house shall attend school until a certificate has been obtained from the doctor (the Medical Health Officer in Municipalities) stating that infection no longer exists in the house and that the sick person, house, clothing, etc., have been disinfected.

(3) That no persons suffering from any infectious disease, e.g., reach of all

Report of Women's Institutes for P. E. I.

Borden The regular meeting of this club was held on October 24th at the home of Mrs. Nell Darragh. Fourteen members were present. After the usual opening, the meeting was devoted to the reading of the minutes of the previous meeting. It was decided to move the tables of the school-rooms to the front of the rooms. A programme of Victrola music was enjoyed by all the members. The next meeting will be held at the home of Mrs. Jack McIsaac.

Success. Ten members and four visitors met at the home of Mrs. Angus Green on October 16th for the regular meeting of his club. After the usual opening, the club discussed the Japanese Relief Fund Two interesting papers, entitled "Pride and Fashion" and "The Brake in the Wheel", were read by two of the members. The next meeting will take place at the home of Miss Maule MacKay.

Central Royalty. On November 1st, at the home of Mrs. Gordon Webb, twenty women were present for the regular meeting of this club. After the usual opening, the business of the club was attended to. A new show was held in the school during the holidays and a committee was appointed to see about having it painted. A programme consisting of music and readings was carried through, and proved most enjoyable. The next meeting will be held at the home of Mrs. J. W. Trowdale.

Birch Hill. Ten members and two visitors were present at the home of Mrs. H. J. MacKendrick on October 23rd for the regular meeting of this club. The meeting opened with the singing of the Ode, followed by the reading and adoption of the minutes of the previous meeting. Roll-call was responded to with jokes. A paper, entitled "To-day's Dress and Yesterday's" was read by one of the members. The next meeting will be held at the home of Mrs. Robert V. Cairns.

Lower Fretown. On October 24th this club met in the hall for its regular meeting. Ten members and two visitors were present. After usual opening the reports of committees and the Secretary's report were heard. Plans were made for a Halloween party to be held at the home of one of the members. At the close of the meeting a fudge contest was held. The November meeting will take place at the home of Mrs. Alex Cairns.

Lower Montague. This club held its regular meeting on October 11th at the home of Mrs. D. A. Norton. After the usual opening an interest ing debate was held on "Which Has the Greater Advantages, The Country Woman or City Woman?" The club then made plans to serve hot cocoa in the school at noon hour.

The next meeting will be held at the home of Mrs. George Beech. Murray River. Twenty-five members and one visitor met at the home of Mrs. Hector McLean on October 9th for the regular meeting of this Institute. After the usual opening different committees were appointed; one to visit the school one to visit the sick, and the third to collect jam for the hospital. This club is preparing for a bazaar in the near future. The programme of the meeting took the form of a "Question Box".

ARMADALE. — This Club met on November 6th at the home of Mrs. Allan McKinnon. Thirteen members and three visitors were present. After the singing of the Ode a paper entitled "Co-operation" was read and enjoyed. A number of mandolin selections were then given by Miss Emma McPhee. It was decided to supply storm windows for the School, the

diphtheria, shall be permitted to attend public, private, parochial or Sunday or other School.

(1) That no person who has resided upon the premises where infectious disease exists, within a week of the discovery of such disease, shall be permitted to attend school without a medical certificate.

In all cases of diphtheria this certificate must state that swabs have been taken from the nose and throat, sent to the Provincial Bacteriological, and that his report is "negative," i. e., not diphtheria.

A diphtheria patient must be isolated that is, placed in a room and live therein apart from any having no communication directly or indirectly with the rest of the household.

The house in which diphtheria exists must be quarantined until such time as every person is bacteriologically free of the disease. A card four by six inches bearing the work quarantine, and the name of the disease must be put up and kept up by the householder on the outside of every outer door of such house and until the patients have been properly declared free, and they themselves, their clothing and the house adequately disinfected.

Quarantine means that no persons living in such a house are allowed outside their own premises except that an inmate may go to procure medical or other aid in any emergency, nor is anyone from outside allowed to visit therein except the medical attendant, nurse, clergyman or a person acting under instructions from the Medical Health Officer. (e.g., Sanitary Inspector).

The only sure remedy for diphtheria is antitoxin given early. When sufficient is given during the first 24 hours of the disease there is practically no danger. People die from diphtheria because a case of sore throat is neglected and the physician called too late for antitoxin to give benefit. Antitoxin is distributed free to all physicians and hospitals in Saskatchewan, by the Department of

Wife Murderer Loses Appeal

(Canadian Press) OTTAWA, Nov. 23.—The Supreme Court today dismissed with costs the appeal of Gustave Dube, who lies under sentence of death for the murder of his wife. The execution is set for December 14. The accused was sentenced to capital punishment last April by the court of King's Bench, at Montmagny, and the date of the execution set for July 13. Later the sentence was postponed to Dec. 14 on October the court of King's Bench in appeal, at Quebec, dismissed an appeal and the case went to the Supreme Court.

order to be placed as soon as possible. Plans were made for ways and means of raising funds during the winter months. The next meeting will be held at the home of Mrs. John A. McKinnon.

MURRAY RIVER.—Twenty-five members and one visitor met for the regular meeting of this Club at the home of Mrs. Hector McLean on October 9th. After the usual opening reports of committees were heard and new committees were appointed. Plans are now being made for the holding of a Bazaar. A committee was appointed to collect preserves to be sent to the hospital. An interesting feature of this meeting was a "Question Box". Five new members were added to the Club. The next meeting will be held at the home of Mrs. Wm. Alley.

SPRINGFIELD.—The regular meeting of this Institute was held in the Schoolhouse on November 1st. Eleven members and one visitor were present. The meeting opened with the singing of the Ode after which the minutes were read and adopted. A committee was appointed to purchase gifts for the Christmas Tree, the sum of \$15.00 was voted for the purpose. It was decided to get the loan of books from the McGill Travelling Library and a Committee was appointed to choose the books for the lists. A paper entitled "Economy in the Home" was read. Three new members were added to the Club.

NORTHAM.—This Club met on November 8th in the Schoolhouse. There was an attendance of thirteen members. After the singing of the ode the minutes of last meeting were read and adopted. A paper "Mother's Part in School Life" was read. A sum of money was used for prizes at the end of the school term was voted at this meeting. A committee of two was appointed to visit the school and some necessary equipment is to be supplied for the school. A committee was also appointed to visit the sick and a sum of money was voted for the purchasing of fruit, etc. for the sick. A program of recitations, songs, etc., was then enjoyed. The next meeting will be held at the home of Mrs. Jas. Dymont at 7 p. m.

NEW PERTH.—The regular meeting of this Institute was held at the home of Mrs. Wm. Cain on November 7th. Twelve members were present. After the singing of the Ode the roll was called and the minutes read. It was decided to hold a Lecture and Basket Social on November 20th. Materials for necessary repairs to school have been purchased and the work is to be done in the near future. The next meeting will be held at the home of Mrs. J. Gordon.

"GLENMERRY"—The regular meeting of this Club was held at the home of Mrs. A. Magill, Sorris Line Road, on October 26th. There was no important business to be transacted at this meeting. Miss Harper, Supervisor, was present and gave a talk on Institute work and a demonstration on Flower-Making.

ELDON.—The first regular meeting of this Institute was held in the Schoolhouse on November 6th. Fifteen members and one visitor were present. At this meeting the minutes were read and a committee to arrange a programme for next meeting was appointed. Plans for work were discussed but decided to leave the matter over for next meeting, which will be held at the home of the President, Mrs. T. P. West. All of the women of the district are cordially invited to attend this meeting.

TRAVELLER'S REST. — On November 17th this Club met at the home of Mrs. Geo. Carr. There were seventeen members and five visitors present. After the usual opening the reports of the different committees were heard. Some necessary repairs have been made to the school and everything reported as being "comfortable for the winter." A paper entitled "The old-fashioned daughter" was read. Plans were made for the holding of a Chicken Supper. Three dozen cups, saucers and plates, also white cloth for three tables are to be purchased for the use of the Institute. The next meeting will be held at the home of Mrs. David Walker.

CARDIGAN.—This Club met at the home of Mrs. Jas. E. MacDonaid, on November 15th. Twelve members and four visitors were present. After the singing of the Ode the minutes were read and the roll called. A committee was appointed to interview the trustees concerning a pump which is being installed in the new school. Plans for the raising of funds were offered. After the serving of lunch by the hostess a social hour was enjoyed. The next meeting will be held at the home of Mrs. Andrew S. MacDonaid.

ST. COLUMBA.—On October 19th this Institute held its regular meeting at the Schoolhouse. Eleven members and one visitor were present. The meeting opened with the singing of the Ode. Roll call was responded to with a "Pickled Recipe." A new president, Miss Mary Donovan, was appointed for the remainder of the Institute year. The next meeting will be held at the home of Mrs. Thos. McMahon.

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THE MITCHELL ENQUIRY

Verbatim Report of the Proceedings of the Commission Appointed by Order in Council to Inquire Into the Conduct of Andrew Fraser Mitchell, Recently Dismissed Immigration Agent for This Province.

(Continued from Page One.)

Q. What date was this? A. The 26th of September, the same date as his telegram. He said they were talking about me, comparing myself with Capt. Rolliston, the last arrival, and when they received my letter they decided to send for me. The proposition was that I would go out here and take up the work that Dudley was supposed to be doing, at a salary of 200 pounds a year and all my expenses paid. Then he informed me that since his appointment there was a change in the Provincial Government; that in the Maritime Provinces they take politics very seriously and that the new Government were absolutely opposed to this scheme. They would put every obstacle in the way, but that they were committed to it by their predecessors. And he wanted someone out there who would work loyally for him and do their best to get this scheme going successfully. He also showed me his three appointments. I do not remember the wording nor the dates, but the first date I believe is right February 14th of this year. That was under the Executive Council, appointing him representative for immigration purposes.

MR. INMAN: If you are going to give me Mitchell's appointments in evidence they should be put in properly and not by hearsay. THE ATTORNEY GENERAL: It is not material; if I considered it so to this inquiry I would put in the evidence myself. We can produce the originals. A. I saw three appointments. The first was for immigration purposes. He said he had written to the Premier asking that the word "immigration" would very likely offend the people he hoped to get a touch with. He showed me another in much the same terms and different date, which was for colonization purposes. He showed me a third rather differently worded and I do not quite know what it referred to. Also I saw in print in some periodical his name as special Commissioner of the Prince Edward Island Government in a list of other Commissioners from Canada and the Provinces. And so there was no reason for me to doubt his bona-fides at all. I left on that date Sept. 23rd after he had agreed to leave England on the 26th of October and in the meantime to get a few days with him in London to get acquainted with the organization. When I saw him first in the city he had received a cable cancelling his appointment for immigration purposes and he was annoyed because the Government had knocked away one of his recognition blanks. He said, "It makes no difference, though, because the other two are still good." He took me to his solicitor, Mr. Douglas, and he gave me the same opinion, that it was quite all right, with the two appointments remaining.

MR. INMAN: You do not tell what a lawyer said in Court. A. When Mr. Douglas assured us that there was nothing wrong then I went into the question of Power of Attorney with Mr. Douglas, and Mr. Douglas said he would have it ready as soon as possible. I went home, made the arrangements with my wife, informed my employers and went to him again on Monday, the 1st of October, and stayed with him until Wednesday. I cannot say that I spent that time getting into conversation with the business, but I do not think I was very busy. I did not see a great deal of him, but he more than once impressed upon me that it was a "Government scheme all right. Have no doubt that," he said, "I am getting no salary; the arrangement with Bell was that I should make a small profit out of it. Then he had a letter that Capt. Butler and Capt. Duffie were discontented and he impressed on me the necessity of getting those two fellows to stay on the Island. He showed me the reply he wrote before he mailed it, which informed them that I was about to start and urged them to stay one year, and if not satisfied then they could have their money refunded. I suggested we should have something in writing about our arrangement and in his office he wrote the following letter:

Dear Mr. Jackson: Confirming our verbal arrangement, this letter sets out same. I agree you salary to commence from the date you arrive in Canada and is to be at the rate of 200 pounds per annum. In addition to the salary I am to pay you your own personal railroad expenses incurred when engaged on any business and also I am to pay you postage, cables and such petty expenses incurred on my behalf. You agree to settle and remain on the Island Area during the period of employment by me. This is for one year, to be for one year certain and then to be determined by either of us on one month's notice. ANDREW FRASER MITCHELL

In the ordinary course of events I should have left England from Southampton, a few miles from home, and sailed to Halifax, but so very far from the Island, but in view of the great hurry to get me away I had to leave from Liverpool and arrive in Quebec. In consideration of that

he gave me 30 pounds towards the extra expenses. On the liner before she sailed he sent me a telegram wishing me a pleasant journey and also a large envelope containing the power of Attorney. (Submitted in evidence, as follows):— POWER OF ATTORNEY, dated 3rd October, 1923. ANDREW FRASER MITCHELL to Lieut. THOMAS HENRY SCOTT JACKSON, R. N., retired.

Whereas the principal is interested in the business of acquiring lands in Canada with a view to erecting dwelling houses and other buildings thereon and to bringing settlers from Europe and Asia to Canada and inducing them to buy or otherwise acquire an interest in the aforesaid lands and buildings (hereinafter called the said business). And whereas the principal is desirous that his interests in the said business should be properly attended to and managed during his absence and has requested Thomas Henry Scott Jackson, 1, Thorpe Villa, Great Preston Road, Ryde, in the Isle of Wight, Lieut. R. N., retired (hereinafter called the agent) to go to Canada and to take upon himself the care and charge thereof on his behalf during his absence, which the agent has consented to do.

Now these presents witness that the principal hereby constitutes and appoints the agent to be his agent and lawful attorney of or for him and concerning all his interest in the said business and in the name and on behalf of the principal to do the following acts, deeds and things or any of them, that is to say:— (a) To enter into such contracts relating to the purchase of lands in Canada and to sign and execute the same and to do all things necessary for bringing settlers to Canada from Europe or Asia. (c) To sell and convey such lands in Canada to any person whomsoever. (d) Provided nevertheless that such contracts and arrangements and purchases and sales shall be subject to confirmation in writing by the Principal.

(e) The Agent is hereby empowered to enter into and sign and bind the Principal in the following matter without any previous confirmation in writing by the Principal, that is to say, To (This section struck out with an ink mark, and initialed A. F. M. D. F. B. M. L.) In general to perform every other act whatsoever in or about the interest of the principal in the said business as amply and effectually to all intents and purposes as the principal could do or have done in his own proper person if these presents had not been made. And the principal hereby ratifies and confirms and agrees to at all times to ratify and confirm whatever the agent shall lawfully do or cause to be done in and about the premises aforesaid by virtue hereof and to indemnify and save harmless the agent from and against the same.

I witness whereof the party hereto has hereunto subscribed his hand and affixed his seal this third day of October in the year one thousand nine hundred and twenty three. (The original date, twentieth day of August, scratched out with an ink mark and the correction initialed A. F. M. D. F. B. M. L.) Signed, sealed and delivered in the presence of ANDREW FRASER MITCHELL, 237 Holloway Road, Spintree, Secretary. BLANCHE M. LOUIS, 11 Amberst Rd. H. Mackey, N. E. Spintree, Typist.

Also had the following instructions what to do on arrival: Mr. Schurman—go and see at once on arrival in Island, and if he has contract tell him to fulfill it. On your way through from Montreal to Emerald wire from Montreal to D. G. Craig, Reporter, Moncton Times, Moncton, New Brunswick, the number of the train you are coming on and tell him to be positive to meet you, that you are representing Andrew Fraser Mitchell and that you are on route to the Island. Rolinson paid 100 pounds; if contract \$1,081. Steedman paid 150 pounds; he wants bedroom larger than other rooms, if contract \$1,081. Quinn paid 232 pounds. Wants bedroom larger; if contract \$1,081. Allenby paid 350 pounds. Wants 9-room house. Well must be dug at once before house is built and kitchen placed above well. Get copy to contracts from Schurman and others and send newspapers to Island bearing on me. Cable if anything known was done by power of attorney. Tell Press representatives that reads the influx of more people, more work and more wealth, more must cease and become impossible unless the Govt. oppose my work and support me financially. Raw Furs for marketing in England.

NOT GUILTY First Steno.—"The idea of your working steady eight hours a day! I would not think of such a thing!" Second Steno.—"Neither would I. It was the boss that thought of

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2 Deer Killed by Single Bullet

(Canadian Press) OTTAWA, Nov. 23.—A record for deer hunting was made by William Scollan, of Richmond. Mr. Scollan reports that while waiting among the branches of a tree he suddenly spied two deer running through the undergrowth nearby. He fired at the nearest, and through an odd streak of luck the bullet passed through the first animal and struck its mate. Both deer were killed with a single shot. Five deer, each weighing from 100 to 200 pounds, adorned an automobile parked in front of a local cafe today. They were bagged by two Ottawa hunters at Darling, Ont., near Calabogie.

Maritime Religious Education Council

Rev. Waldo C. Machum recently completed a series of district Sunday School Conventions on Northumberland, McKinleyville, Tabusintac, Loggieville, Black River, Newcastle and Whiteville. The meetings were marked by a good attendance and a remarkable interest on the part of workers. Every pastor in each district was present at the Convention with the exception of one who was away from home, not only present but gave enthusiastic assistance. Perhaps the outstanding interest evidenced was in Missionary instruction in the Sunday School and in Teacher Training. Rev. W. McN. Mathews, of Millerton, Rev. J. A. Anderson of Chatham, Rev. Thos. Harrison of Black River, Rev. F. W. Thompson of Loggieville, Rev. A. J. Brown of New Castle, Mr. J. A. Griffiths of upper Blackville and Mrs. Stymest of Tabusintac contributed to the success of the Convention with very fine addresses. Officers were elected for the district as follows: Blackville, President, Mr. Geo. Stephens; Loggieville, Secy-Treas., Mrs. James MacDougall, Lockstead. Delby, Pres. Rev. W. McN. Mathews; Millerton, Secy-Treas., Mrs. Clifford Crooker, Millerton. Allnwick, Pres. Mr. J. W. Robertson, Tabusintac, Secy-Treas. Mrs. George Buchanan, Tabusintac. Gleneg, Pres. Mrs. Benj. Sweeney, Lower Napan; Secy-Treas., Mrs. David M. Murdoch, Wellsbrook. Chatham, Pres. Mr. W. B. Snowball, Chatham, Secy-Treas., Mrs. Muriel Ellis, Chatham. Newcastle, Pres. Mr. B. A. Tozer, Newcastle. Secy-Treas., Miss D. A. Atkinson, Newcastle. North & South Esk, Pres. Mr. Ernest Tozer, Siliker, Secy-Treas., Mrs. A. E. McLean, Whiteville. Northumberland County has now raised its full allocation in support of the work of the N. R. E. C. for the year.

Mr. Machum is now carrying out a series of district conventions in Kings Co., P. E. I. Institutes, Conference and a "Children's Hour" are the activities now being carried on in the promotion of the Children's Work Programme. Various parts of the province have been touched while Summerside, Kenton, Hunter River and Charlottetown were visited last week.

At Summerside and Kensington large numbers of children gathered for their hour. The pictures and stories were much enjoyed and the girls and boys ardently fly into the Bible verses. The teachers and parents present found this period interesting and full of suggestion. The Elementary conference held in Charlottetown on Nov. 8th, was full of good things due to the splendid plans of the committee in charge.

The children's Committee of that town has been a means of bringing the workers from various churches together for practical work during the year. One result is the census of day and Sunday School scholars—the figures showing a 79% enrollment in church schools.

Children's Day was observed in the Methodist Church, Charlottetown on Nov. 11th, "Thanksgiving" was the theme of the carefully arranged program. The boys choir was a fine part of this, while the principal feature of the service was the bringing of gifts by scholars and classes for the sick and those less fortunate. This Children's Day is an annual event and a splendid item in the church's program.

Miss Trotter was in Halifax, Saturday, Nov. 3rd, to meet with the Nova Scotia Girls' Work-Board in maturing plans for the big Provincial Conference, Nov. 23-25. Splendid reports were made by the committee at work, showing attractive program and giving evidence of great enthusiasm over the coming conference. On Sunday Miss Trotter spoke to interested groups in the Presbyterian, Methodist, Anglican Sunday Schools of Dartmouth, and in the evening addressed the congregation of the Dartmouth Baptist Church on Girls' Work. Leaders' Conferences in New Glasgow and Amherst were held and a Rally of the young people's societies of Windsor was addressed by Miss Trotter on Girls' Work, and Rev. Mr. Barrett on Boys' Work programme of the churches. The Kentville girls are preparing for organizing along the C. G. I. T. lines.

Miss Trotter spent Thanksgiving among old friends in Wolfville, where her childhood was spent.

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Scientific Miscellany

Interdependent Sives, Portable Welding Outfit, An Adjustable Color-Mixed, The Leading Cause of Death, Sweetened by Source, Welding of Radio Impulses, A new Stereoscope, Blood Frenzq of Cattle.

Symbiosis, the condition in which different organisms live together with more or less mutual benefit, is found to be much less rare than was supposed a few years ago. In his British Association address, Dr. G. H. R. Muller gave many examples of its occurrence among animals and plants, and showed that algae, fungi and bacteria often take up permanent residence in the cells of their hosts, and at times are transmitted hered (largely from host to host. The varied benefits traced to the smaller members of the partnership, include the fixation of nitrogen, developing tubers on the potato, preparing food, and aiding in digestion and nutrition. Some symbiotic organisms, including some 30 species, recent researches of Harvey on the light production of two species of fishes—Photoblepharon and Anomalops—have revealed luminous cent organs made up of many sets of parallel gland tubes, and granules in the emulsion of these are recognized as bacteria. The luminosity is due to the symbiotic animal. This luminousness is bacterial in nature, differs from the more common, in which two kinds of gland cells, or stimulation, expel luciferin and luciferase, products that mix to produce the flash of light.

In a novel apparatus for studying color effects, a system of camera and levers makes it possible to vary the proportions of two colors on a whirling disc, and with out stopping the motion, and open the way to almost infinite changes in mixtures of accurately determined composition.

Heart disease, which has recently taken the place of tuberculosis as the leading cause of death in the United States, is estimated to be present in 10 per cent of the general population of the country. The number of deaths from this cause in the registration area in 1920 was 141.9 per 100,000 Vermont leading all other states with a mortality rate of 228.5 while that of New Hampshire was 204, and Massachusetts came third with 193.

A Public Health Association under Dr. C. V. Craster lately pointed out that deaths from acute heart disease—pericarditis and endocarditis—were only 8.8 per 100,000, and that the mortality from the more chronic forms was more than 16 times as high. These chronic forms commonly have their origin in infancy or early childhood. Rheumatism appears to be the most frequent cause of chronic heart trouble, and this is one of the most insidious of all diseases, manifesting itself as "growing pains," the oft-repeated sore throat and stiff neck of young adults, and rheumatic fever. It has the appearance of an epidemic infectious disease, which should be largely preventable by the usual methods of isolation and quarantine.

That exposure to light lessens the acidity of soil is the new theory of J. S. Sager, resulting from investigations around Valais, Switzerland. The region is one of gneiss, granite and schists, and the soil samples were taken near the roots of plants in the dense shade of a spruce forest, in the moderate shade of a larch forest, and in the open. The acidity was found to diminish progressively in passing from the deep shade to the open, while higher up than the forest, where the sunshine was especially scorching the soils were only very slightly acid. High acidity is strong light was found, but only where the soil was badly aerated or often water-soaked.

Pure iron is likely to become a valuable byproduct of the work of copper nickel and lead mines of certain Canadian mines. The mill of the Sullivan mine, at Kimberly, B. C., is producing daily more than a thousand tons of tailing, consisting chiefly of pyrrhotite and pyrite, iron sulphides, and containing about 40 per cent of iron. Very pure iron having been obtained electrolytically from this tailing, a Government laboratory has been equipped for extending the experimental work.

How are radio waves bent from a straight course in traveling far around the earth? Referring to this in his presidential address to the British Institution of Electrical Engineers, Dr. Russell recalled the experience last May of two mountaineers, who stood at an altitude of 13,500 feet on the "First-of-July" in the Bernese Oberland, and were able to see the English Channel at a distance of more than height is only 140 miles away, they saw around the earth's curvature. The mirage was doubtless due to refraction of light by the atmosphere, and as the radio or Hertzian waves differ from light waves only in wavelength, they also may be refracted. This effect, however, is so limited that it does not explain the radio phenomenon. Small balloons have shown that the lower stratum of the atmosphere, the troposphere, in which temperature falls with increasing height, extends upward about six miles above the British Isles, and this is overlain by the stratosphere, the very different isothermal stratum. The line of division between the two strata seems to be rather sharply drawn, forming a good reflecting

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Getting Together

(By C. E. MacKenzie.) Some wise man has said that "this life is but a school where all may study and profit by that knowledge acquired." We may learn from the successes of others how we may also improve, but I am sure that the lessons that make the deepest impressions are those learned from our failures.

One of the truths of the above assertion is the so-called pride ourselves we as farmers so often think that the life of the farmer is the most independent of all the professions that we are at the beck and call of nobody that we can come and go where we wish, and many other such assertions. We as a profession, have allowed thoughts like the above to dominate us until we are so bound up in ourselves that we do not even think of our neighbor or our community, and it is to such thoughts as these that we find ourselves in the conditions existing at the present time. Under present-day conditions with what we need as necessities away up almost out of reach, even in food times and the prices of our products away below actual cost of production it is up to us to find a solution for the trouble.

One of the most prominent sources of the above conditions is, in my mind, this false independence with its waste of time and money. One cannot help but see that an enormous waste of energy and time and money that is taking place in many of our rural communities. For instance, our rural educational systems. Many of our schools not having an average of over twenty pupils receive their education under conditions that cannot be for the best, but which represent the limit as gauged by our purses the cost to the whole province being about three-eighths of our total revenue. How much better would be the results if these schools would get together in consolidation, where much more effective work would be done at a much smaller cost. Other sources of waste are to be found in many of our agricultural lines, when each farm, no matter how small, must be equipped with a full line of machinery for a few days each year. The above, along with other things that might be spoken of over twenty pupils receive consideration of our people, especially our younger men because they are the ones who will have to begin the solution and upon their efforts will depend the state of agriculture in the future. Much improvement can no doubt be accomplished by community or joint effort. No single remedy will be sufficient to bring about a general improvement, but a united action regarding the matters that are of general interest to the community can do a great deal in improving general conditions.

Among the things that demand our special attention are first, improved roads, schemes whereby our general road system can be made better as well as a better method of repairs than is in vogue at present. We all know that we have spent too much money on improved roads to allow it to go to waste in a few years. A scheme of better and more opportune repairs would be of the greatest value to this province.