water and soap and gauze rubbing, rinsed with sterile water and sterilized with warm alcohol (1-70). After the skin preparation is completed the baby should be thoroughly dried and placed on a blanket. The legs, arms and chest should be covered with sheet wadding held in position by small gauze bandages. The employment of a warmed operating table offers great advantages toward the lessening of shock.

Before the administration of the anesthetic every preliminary operative detail should be attended to so that there may be the minimum period of anesthesia. A skilled anesthetist should be employed. Complete anesthesia is necessary that certain accidents in technique may be avoided. Having confirmed the diagnosis the incision should be made large enough to allow of easy access to the parts sought, with a minimum of trauma to the wound edges. Gentleness in the manipulation of the parts involved is absolutely essential. No organs should be lifted from the abdominal cavity. If possible the liver, stomach, as a whole, and transverse colon should be pushed gently upward under the diaphragm while those parts of the stomach and the jejunum to be united are properly clamped. These clamped portions only are permanently exposed for the carrying out of the operative procedure. The remainder of the abdominal contents should be protected from loss of heat and soiling by a sterile towel.

The usual posterior gastro-enterostomy is done with thread and needle, practically the Moynihan method.²

In the case recorded in this communication and in the case recorded in this JOURNAL, Dec. 14, 1905, I made the anastomosis without jejunal loop as close to the origin of the jejunum as possible.

The seat of operation is well shown in the accompanying illustrations by Mayo in Figs. 6, 7 and 8. I did not employ the technique of piercing the attachment of the omentum to the stomach, illustrated in these plates. These plates are introduced here as they illustrate more accurately than any hitherto published, the seat of operation, the mesocolon sutures and the ideal situation of the stoma, after the completion of the operation.

The superficial sutures closing the abdominal parietes should be removed a little earlier than in the adult for they tend to cut out. The proper feeding of the baby after this operation is most important. I believe that the diet should be under the immediate supervision of one skilled in the feeding of infants.

Protection of the small infantile body from loss of heat, speed in operating, an ample incision, a minimum of trauma to abdominal contents and wound, the use of a delicate clamp to insure cleanliness and hemostasis, skilled feeding after operation, — these are the salient factors which will minimize shock after the performance of gastro-enterostomy in young babies whose normal resisting power is reduced by starvation.

² The technique of a posterior gastro-enterostomy. *Annals of Surgery*, September, 1904.

THE "HOME SANATORIUM" TREATMENT OF CONSUMPTION.*

BY JOSEPH H. PRATT, A.M., M.D., BOSTON.

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SOMEONE has said, "There are two kinds of consumption — that of the rich and that of the poor. The former is sometimes cured, the latter never." This still indicates the feeling of most physicians. The attempt to cure tuberculosis in the homes of the poor has seemed well nigh hopeless. Here and there, however, solitary workers like Dr. Flick of Philadelphia have obtained admirable results even in the slums of a great city.

As Dr. Osler stated in his lecture before the Phipps Institute, "The problem of tuberculosis is in its most important aspects a home problem. The vast majority of all tuberculous patients must be treated in their homes."

The success of the sanatorium and climatic treatment of consumption is universally recognized. Yet the essential feature of the sanatorium treatment is careful regulation of the details of the daily life, and the essential feature of the climatic treatment is life in the open air.

FIG. 1. Street in congested part of Boston. Photograph taken in front of patient's house.

In warm climates and in cold, at low altitudes and at high, consumption has been successfully treated wherever the out-of-door life has been adopted, and the modern method of treatment followed.

Since 1891 Dr. Bowditch has been demonstrating at the Sharon Sanatorium that consumption can be successfully treated in this supposedly unfavorable climate.

Dr. Millet of East Bridgewater was the first to advocate out-of-door sleeping in a harsh climate. In January, 1900, he published an important paper which bore the significant title, "The Night-Air of New England in the Treatment of Consumption."¹ It would be well if the truths contained in Dr. Millet's paper could be impressed upon every New England physician called upon to treat this disease.

Last winter I became acquainted with the

*Read before the Johns Hopkins Hospital Medical Society, Jan. 22, 1906.

¹ The Maryland Medical Journal, January, 1900.

methods used by Dr. C. S. Minor of Asheville, N. C., in carrying out the hygienic-dietetic treatment among private patients outside of a sanatorium. The regulation of the daily life, the discipline enforced and the results obtained by Dr. Minor compare favorably with those of the best sanatoria. I became convinced that it was possible to carry out the same system in the homes of the poor even in a crowded city. For the opportunity to submit my plan to a practical test I am indebted to the Rev. Elwood Worcester and to Emmanuel Church for financial support.

The reason that the results of home and dis-

FIG. 2. View from roof of same house. Note abundance of light and air, and contrast the two pictures. On this roof the patient spent eighteen to twenty-one hours of the twenty-four.

pensary treatment have been on the whole unsatisfactory is due to the lack of the careful supervision and the lack of the strict discipline maintained in sanatoria. The tuberculosis dispensaries have been a most potent factor in preventing the spread of the disease, and in educating the patients and the general public. But I believe relatively few cases treated by dispensary methods have been cured. This has certainly been the experience of my colleagues and myself in the out-patient department of the Massachusetts General Hospital, where the dispensary methods with the aid of the District Nursing Association have been employed for several years.

The difference between our method and that of the tuberculosis dispensary is essentially this: that the tuberculosis dispensary gives a small amount of care to a large number of patients, while we give a large amount of care to a small number of patients.

Our organization is known as the Emmanuel Church Tuberculosis Class. We sometimes speak of it as a home sanatorium, and it bears much the same relation to a sanatorium that a correspondence course does to a college course. Every detail of the daily life is supervised and strict discipline maintained. A nurse is employed who devotes her time to visiting the members of the class. I prefer the term "friendly visitor" to nurse, because it describes more exactly the nature of

her duties. She should be the family's wise counselor, kindly and tactful, yet a good disciplinarian.

The class should number but a few members; I think the limit should be twenty-five. It should never be forgotten that it is the individual, not the disease, that needs treatment.

We have been fortunate in having a small class and so we have come to know our patients not simply as, "this case of fibrous phthisis," and "that case of pyopneumothorax," but as "Elmer" and "Patrick."

The class began the first of July, 1905. Most of the applicants for membership were referred to us by the Out-Patient Department of the Massachusetts General Hospital.

The rule was established that no one would be accepted until the clinical diagnosis was confirmed either by finding the tubercle bacilli or by a positive tuberculin test. There has been, however, no difficulty in demonstrating tubercle bacilli in the sputum of all our patients on admission to the class.

Aid has been refused to none. Those who were too ill for home treatment have been visited by our nurse until admission could be secured to some hospital or until transferred to the District Nursing Association. We have placed consumptives in the Carney Hospital, the House of the Good Samaritan and the Free Hospital for Consumptives.

Admission to the class has not been limited to favorable cases. In fact, only one of the patients was in the incipient stage of the disease.

All of our patients have been poor. None could afford even the \$4.00 per week charged at the State Sanatorium. Not all the members are intelligent. Several are unusually stupid.

FIG. 3. Type of tent used by members of the class. In stormy or windy weather the side walls or ends are fastened down.

In the family of Zelek P., a Russian Jew, whose weight chart is shown, no one can write English, and his wife cannot speak English.

Before admission to the class is granted the applicant must promise to give up all work, to live the out-of-door life, and to obey all the rules

of the class. The truth of Brehmer's motto that "The most profitable work for a sick man is to get well," is impressed upon the patient. After the decision has been made to join the class a clinical history is taken and a complete physical examination made and entered on the clinical records. Once a month the lungs and sputum are re-examined. The patients are visited by the nurse as soon as they enter the class. Often before the decision has been made the nurse is sent to discuss the question with the invalid and his family and to determine whether it will be possible to carry out the open-air treatment in their home. If there be no roof, balcony, piazza, or yard available for the rest treatment in the open air, the family must move to a tenement that will enable the tuberculous invalid to spend the entire day and night out-of-doors. Our friendly visitor, Miss Strong, spent much time in seeking satisfactory tenements for our mem-

FIG. 4. Showing patient taking the rest treatment in her own yard. In the reclining chair she spends eight to ten hours daily.

bers. At the first visit the nurse examines the house and locality, obtains the social history of the case, ascertains the exact financial condition and gives whatever instruction may be necessary to prevent the spread of the disease. The first visit usually requires two hours or more. A detailed report of this is at once given to the physician in charge. Subsequent visits by the nurse are made as required. Usually the patient is visited daily or at short intervals, until the details of the treatment are understood and followed. It has been found that often repeated visits are necessary before some of the simplest rules can be fixed in the minds of the invalid and his friends.

On Jan. 5, 1905, the class numbered fifteen members, all but one of whom were sleeping out of doors. The single exception is a patient who would have done so had his landlord not prevented his putting a tent on the roof. At present he sleeps with his

head out of the window of his bedroom. One of our class sleeps on a balcony, the others in tents placed either on the roof or on the ground near the house. Generally the tents have been loaned, as few of the members could afford to buy them. An ordinary 7' by 7' wall tent with a fly has been found satisfactory. This costs only \$7.25. Except the time taken for meals, bath and exercise, the entire day is spent in the recumbent or semi-recumbent posture. A comfortable reclining chair is furnished each patient.

The prescribed diet consists chiefly of milk, bread, fruit, butter and oil. Most of our patients drink two to three quarts of milk a day. In a few instances unsalted butter has been furnished free. Cotton-seed oil has been found to be a satisfactory and inexpensive substitute for olive oil.

For the first few weeks no exercise is allowed and later only when the temperature is normal the entire day. Then the exact amount of exercise is prescribed. The patient begins by walking five minutes in the morning and five in the afternoon. It is required that a watch be carried and the exact duration of the walk noted in his record book. After exercising the temperature is taken and recorded. If rise of temperature occurs or if the patient becomes tired the amount of exercise is diminished. If the patient continues to improve the exercise is gradually increased. Some of our patients now walk several hours daily. During the summer and fall our fever-free patients enjoyed the privileges of the Parker Hill Day Sanatorium.

An important aid in maintaining our strict hygienic regimen is furnished by the individual record book. The form of record adopted is that devised by Dr. Minor of Asheville. Every detail of the day is recorded: The food eaten, including the total amount of milk and oil taken; the number of hours out of doors; the temperature and pulse-rate, and the quantity and character of the expectoration. The patients now keep out-of-door life charts. This keeping of records serves to impress upon the members the importance of attention to detail in the treatment. It helps them to persevere in their monotonous life. We have found that it does not depress their spirits or cause introspection. It serves rather to keep up their courage. Most of the class take great pride in their records. Of course, if a patient were doing badly and losing weight rapidly, the individual record would be omitted.

A weekly meeting of the class has been held on Friday afternoons, formerly in my consulting room, now at the Massachusetts General Hospital. The record books are then inspected and the patient's weight, temperature, pulse and vital capacity are taken.

Expenses. — Emmanuel Church has paid for a special nurse, furnished tents, reclining chairs and all other necessary supplies. To a few of the members a small amount of money has been loaned and aid has been offered when it was necessary for a family to move to another tenement. A nominal fee of \$2.00 a month is re-

quired from each patient. In some instances this has been remitted. The total expenses for the first six months ending Jan. 1, 1906, were \$513.00.

Miss Isabel Strong, acting as friendly visitor, gave her entire time to the work without pay during July and August. Dr. J. B. Hawes has assisted me in the medical work since the organization of the class. Recently Dr. C. S. Millet and Dr. N. K. Wood have associated themselves with us and Dr. G. L. Tobey has taken charge of the laryngological work.

Tuberculin has been used in a number of cases with apparent benefit. Pharmacotherapy has rarely been employed except for special conditions, such as constipation or diarrhea. In a few instances cresote and compound tincture of gentian have been used. Hydrotherapeutic procedures consisting chiefly of "Theilwaschungen," Priesnitz chest compresses and full-tub baths have been prescribed in every case.

Results. — Of the nine patients who have been members of the class for three months or more, all but one show a gain in weight. One patient's weight has increased 39½ lbs. In five of the nine cases the disease has been arrested. The term "arrested" is used in the sense in which it is employed by the Committee on Nomenclature of the National Association for Study and Prevention of Tuberculosis in their classification.

WEIGHT TABLE OF ALL WHO HAVE BEEN MEMBERS OF THE CLASS FOR THREE MONTHS OR MORE.

Name.	Date of Admission.	Wt.	Last examination.	Wt.	Gain.	No. of Weeks.
1. Minnie E.,	July 3	102½	Jan. 12	114½	11½ lbs.	27
2. Elmer C.,	" 12	106	" 5	130½	24½ "	25
3. Zelek P.,	" 12	131½	" 12	171	39½ "	26
4. John H.,	" 18	131	" 12	153½	22½ "	25
5. Samuel T.,	" 27	142	" 5	165½	23½ "	24
6. Maria F.,	" 29	117	" 12	138½	21½ "	25
7. Samuel H.,	Aug. 7	125½	" 12	132½	7 "	22
8. William F.,	Sept. 2	145	" 12	166½	21½ "	19
9. Patrick C.,	" 15	120½	" 12	124	3½ "	17
Average gain 19.40 lbs.						

ABSTRACTS OF THE CLINICAL RECORDS OF ALL WHO HAVE BEEN MEMBERS OF THE CLASS THREE MONTHS OR OVER.

CASE No. 1. Minnie E., aged twenty-eight. House-keeper. Ill since May, 1904. Cough; night sweats; loss of weight and strength; loss of appetite; frequent vomiting. Went to the Massachusetts General Hospital in January, 1905. Weight then 106½ lbs. Tubercle bacilli present in sputum. Joined the class July 3. Temperature at time of the first examination 99.8°, pulse 100, respirations 26, weight 102½. There was dullness at the right apex, bronchovesicular breathing and many fine, moist râles. At the right base crackles were heard. In the left interscapular region slight dullness, bronchial breathing and râles at the end of expiration. Jan. 12, 1906. Weight 114½ lbs., temperature 98.6, pulse 84. She now feels strong and complains only of occasional nausea and vomiting. Practically no cough and no expectoration. No fever for four months. Last examination of chest Jan. 9. Only a few râles are now heard and these are sticky in character. They are present at both apices. On Dec. 22 sputum contained tubercle bacilli. — Gaffky scale No. 2.

CASE No. 2. Elmer C., aged fifty-six. Painter. Came to Dr. Pratt's clinic at the Massachusetts Gen-

eral Hospital in July, 1905, complaining of loss of appetite and pains in the chest. He had had a dry cough for five years and expectorated some blood one year ago. For the week previous to visiting the hospital he had been troubled with night sweats. There had been no noticeable loss of weight; slight loss of strength. *Status præsens:* Thin man; bony framework prominent; weight 106 lbs. Temperature 99.6° respirations 18, pulse 92. Mucous membranes somewhat pale. Chest rather long and narrow. Dullness

OUTDOOR LIFE CHART.

Name Elmer C. No.
Locality Exacted.
Date August, 1905.

These Charts for sale by JOURNAL OF THE OUTDOOR LIFE, Saranac Lake, N. Y., Six for 25 cents

An outdoor life chart selected at random. It shows that Elmer C. was out of doors on no day of the month less than nineteen hours.

over the left upper lobe in front and flatness behind. Over both sides of chest above spine of scapula breathing is bronchovesicular with prolonged expiration. Kroenig's isthmus is 2 cm. wide at the left apex and 3 cm. at right apex. Vital capacity is 2,225 cc. Many medium-sized moist râles over both upper lobes during both inspiration and expiration; more numerous on left side; no râles over middle or lower right lobes. Over lower half of left scapula especially near angle of scapula are a few crackles. Sclerosed radial arteries; tortuous brachials. Urine is free from albumin and sugar. Suggestion of diazo reaction. Sputum is mucopurulent. Tubercle bacilli present. Gaffky's scale, No. 3. Fluoroscope shows a shadow over the entire left lung darkest at the apex. Right lung is clear. He regained strength rapidly and the cough entirely disappeared. Tubercle bacilli have not been found in the sputum for three months. Jan. 5. Patient looks healthy, skin ruddy and mucous membranes are of good color. Weight 103½ lbs., temperature 98°, pulse 78, vital capacity 2,500 cc. He feels better than he has for years and weighs more than ever before. He walks four to five hours a day. Last physical examination Dec. 14, 1905. Moderate dullness at left apex. No impairment of resonance over the right lung. At left apex expiration is prolonged but not

distinctly bronchovesicular. After coughing, a few subcrepitant râles were audible above the left clavicle; none were heard elsewhere.

CASE No. 3. Zelek P., aged thirty-five. Tailor. Came to Dr. Pratt's clinic at the Massachusetts General Hospital in July, 1905, complaining of cough and pain in the right chest. For several months he had been troubled with a cough and increasing weakness. He had lost 3 lbs. in weight since January. On examination he was found to have a temperature of 101.4, respirations were 30 to the minute and the pulse 80. There was dullness over the right side of chest, front and back, shading into flatness at apex. Breath sounds were bronchovesicular over right upper lobe, where a few fine râles were heard. They were increased by coughing. Sputum contained many tubercle bacilli. — Gaffky scale, No. 7. He gained steadily

had a cough with considerable expectoration for three months; at times sputum had been streaked with blood. He had not lost weight; his appetite was good, and aside from the cough felt perfectly well. There were slight signs at the right apex, and the fluoroscope showed a shadow extending down as far as the third rib on the right side. There was a reaction to tuberculin and then for the first time Dr. Hawes found tubercle bacilli in the sputum. Examination, Jan. 2, 1906, revealed slight dullness and bronchovesicular breathing at the right apex. No râles were heard. He looked strong and healthy. Has had no cough for two months or more, and tubercle bacilli have not been found in his sputum since September. On Jan. 12, he weighed 153½ lbs., a gain of 22 lbs. since joining the class. His temperature was 98.4°, and his pulse 104, vital capacity 3,000 cc.

Weight Chart

Weight chart of the member of the class who lived on the roof shown in Fig. 2. On Jan. 19, 1906, he weighed 171½, being a gain of 40½ pounds. He now walks three hours daily without fatigue.

during the summer and fall. He slept and lived on his roof in the crowded West End of Boston. For ten weeks he was allowed no exercise. His temperature became normal in September, and has remained so. On Jan. 12, 1906, he weighed 171 lbs., temperature was 98 and pulse 82. He has been free from all subjective symptoms for several months, but in the scanty expectoration tubercle bacilli are still demonstrable. Examination, Dec. 30, showed dullness, bronchial breathing and intense bronchophony at the right apex in front. A few râles were heard here, none elsewhere.

CASE No. 4. John H., aged twenty-two. Brass finisher. Came to the clinic in July, 1905. He had

CASE No. 5. Samuel T., aged thirty-seven. Motor-man. Cough of six months' duration. One attack of hemoptysis. A few night sweats. Lost 70 lbs. in weight during the past two years. Definite signs of phthisis were found at the right apex, and the sputum was loaded with tubercle bacilli. At the time of examination, July 27, 1905, his weight was 142 lbs., temperature 98.2° and pulse 116. Improvement followed treatment. He remained in the class six weeks and gained 14½ lbs. He then returned to his old home in New Hampshire, where he remained a month. While there he over-exerted himself and the tuberculous process was lighted up. He rejoined the class on Oct. 27. He was then having afternoon

fever and had lost 10 lbs. of weight in three weeks. He continued to have fever for six weeks. On Jan. 5 his temperature was 98.8°, pulse 93, weight 165½ lbs. He was then feeling much better. On Dec. 26 the last physical examination was made. Krönig's isthmus was found narrowed at each apex. The excursion of the diaphragm was greatly limited on the right side. Bronchovesicular breathing was present over right upper lobe. Numerous fine, moist râles were heard above the right clavicle and over the entire right back. Râles also present in middle of left interscapular space.

over entire left upper lobe. Tubercle bacilli still present in the sputum. On Jan. 12 weight 138½ lbs., temperature 98°, pulse 104, vital capacity 1,500 cc.

CASE No. 7. Samuel H., aged twenty-seven. Worker in rubber. He visited Dr. Cabot's clinic at the Massachusetts General Hospital in August, 1905. In July, 1904, he raised some blood at night; this was soon followed by a cough and increasing weakness. Many night sweats. Slight loss of weight. At the right apex there was slight dullness, bronchovesicular breathing, increased tactile and vocal fremitus and fine,

NATURE OF WEATHER <i>Cloudy fine</i>				
NAME	<i>Thomnie Earle</i>			DATE <i>Jan 10/96</i>
TIME	PULSE	TEMP.	FOOD	NOTES
7	92	98	<i>Cup Milk</i>	<i>Wash</i>
			<i>Mashed oats</i>	<i>Good fine</i>
			<i>Meat, cup</i>	<i>Cup & butter</i>
			<i>Coffee, bread</i>	<i>Expectorate</i>
			<i>& butter</i>	<i>Washing</i>
			<i>1 spoon oil</i>	<i>Lat. abs.</i>
10			<i>Cup Milk</i>	<i>18 hours.</i>
			" "	<i>Wash 2 gts</i>
			" "	<i>Wash</i>
12	92	98.6	<i>Meat - Vegetables</i>	<i>Sleep fine</i>
			<i>Cup Milk</i>	
			" "	
4	92	98.8	" "	
			<i>1 orange</i>	
6			<i>Meat Cup coffee</i>	
			<i>Bread & butter</i>	
			<i>1 spoon oil</i>	
8	98	98.2	<i>Cup Milk</i>	

Page from a daily record book with entries in patient's handwriting. This form of record was devised by Dr. C. S. Minor of Asheville, N. C.

CASE No. 6. Maria F., aged forty. Housework. She came to Dr. Lord's clinic in July, 1905, complaining of a cough of one year's duration. For several months she had been short of breath on exertion. She had lost much weight. Over the left apex as far as the third rib in front and the spine of the scapula behind there was dullness, increased vocal and tactile fremitus and fine, moist râles. Weight 117, temperature 99.6°, pulse 104. Tubercle bacilli were found in the sputum. Last chest examination Dec. 26. Dullness at left apex and bronchial breathing. Scattered râles heard

moist râles. He has done badly. The constitutional symptoms have increased and there have been repeated febrile periods one of which lasted two weeks. The exertion of coming to the class always produced some rise in temperature. The physical signs remain practically the same except râles are now present at the right base as well as at the right apex. On Jan. 12, 1906, weight was 132½ lbs., temperature 100.4°, pulse 128. Many tubercle bacilli in sputum. — Gaffky scale, No. 7.

CASE No. 8. William F., aged twenty-eight. Re-

ferred to the Emmanuel Church Tuberculosis Class by Dr. Cabot in September. Pleurisy, January, 1905. Slight hemoptysis also in January. In July, 1905, cough began. Occasional night sweats, some pain in chest. He had lost about 20 lbs. in weight and felt weak and sick. Weight 145 lbs., temperature 101.5°, pulse 104. There were signs at the right apex and tubercle bacilli were found in the sputum. He has improved steadily under treatment. On Jan. 2, 1906, slight dullness at right apex; no definite râles heard. Jan. 12, weight 166½ lbs., temperature 98°, pulse 104. Slight cough persists; general condition good. Sputum examined on Dec. 22 contained numerous tubercle bacilli.

CASE No. 9. Patrick C., aged thirty-three. Machinist. Came to Dr. Cabot's clinic at the Massachusetts General Hospital in August, complaining of shortness of breath. He had had a persistent cough since last winter. While in New York in June, 1905, he was suddenly seized with great shortness of breath, high fever and prostration. He has been quite sick ever since. Patient was emaciated. On examination there was found to be a pyopneumothorax of the left side and signs of phthisis at the right apex. Weight was 117, temperature 100.5°, pulse 84. An incision was made in the left side and considerable pus removed which contained tubercle bacilli. In September he was admitted into the Emmanuel Church Tuberculosis Class. On Oct. 13, 450 cc. greenish pus were removed, which greatly relieved the dyspnea. Temperature 100°, pulse 108. On Oct. 27, 1,080 cc. of fluid were aspirated and again on Dec. 19, 500 cc. were removed. He has continued to have slight fever. The physical signs have remained nearly stationary, but he has been weak and has had very little appetite. Jan. 12, 1906. His lips look bloodless. Left side of chest remains distended and flat. Weight 124 lbs., temperature 98.6°, pulse 92, vital capacity 1,100 cc.

COLD FRESH AIR TREATMENT OF PNEUMONIA. A CASE.*

BY W. P. NORTHRUP, M.D., NEW YORK,

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THERE are two reasons for the appearance of this report. *First*, it makes a favorable showing for fresh air treatment in a prolonged case of severe pneumonia. *Second*, we are privileged to learn how the treatment impresses the onlooker.

In this case the onlooker was an up-to-date oculist, a back-number general practitioner, a father who really thought this particular young boy was a little different from others. The said onlooker has been for years active in this society, and all who fear their patients will not consent to this radical change in treatment may wish to ask him questions. He is here and will answer.

History: F. V. F., thirteen years old, finished a bicycle ride without incident, without exposure or excessive fatigue. On the following day he came from school, having felt "bad" during session. At noon, however, he ate a good lunch with his father, and seemed perfectly well. In the afternoon of this day there was an abrupt onset of the following symptoms: malaise, persistent vomiting, severe headache. The throat was red, and no other local indications. The toxemia and nervous disturbances seemed marked,

* Read before the New York County Medical Society, Jan. 22, 1906.

but in a nervous boy of thirteen not exceptional. On the morrow, it was predicted, he would probably show tonsillitis.

On the second day no improvement, no diagnosis.

Third day: During the night the fever mounted, and in the morning all the symptoms needed for diagnosis were present. There was a temperature of 105°. Respiration-pulse ratio, 1 to 3, pain in the chest, nausea, transient delirium, restlessness, cough.

Character of the pneumonia: Clinically it was of grip type, wandering, prolonged, resolving without sputum. It began in the left lower, spreading gradually to the root, advanced to the upper posterior, then to the apex, spreading around in front. In short, it involved the entire left side.

The initial point of lesion was so attended with pleurisy and so solidly flat that empyema was expected, and when the fever, after a short decline, mounted again to maximum, the instruments were boiled for exploration. While they were boiling an examination disclosed the fact that the consolidation was clearing from below upwards, and that a new district was invaded in the upper lobe posteriorly. After a slight decline of fever again it was hoped that having seemingly invaded every portion of the left lung and taken twelve days to do it, there was about to be an end of extension and mental suspense. Alas, another sharp rise of temperature made certain interested persons look despondent. It was a question whether the process had now jumped to the other side. It had not. The spreading infecting agent had seemingly overlooked or forgotten one little place near the sternoclavicular articulation, to which it now, on the twelfth day, returned and incited the known cycle of pneumonic activity. It was attended with characteristic physical signs. The temperature again declined. By this time the tension of mind of the family may be easily imagined.

From the extent and character of the consolidation alone this is not to be considered a mild case. The fact is here dwelt upon for a purpose. Certain symptoms serve to further mark its severity. Among them are restlessness, nausea and vomiting, delirium described as muttering, or active, nearly all the time for twelve days, talking incessantly. Delirium was often violent, with fighting and attempts to escape from bed. Further symptoms were dry tongue, moaning in sleep, picking the bed clothes, risus sardonicus, respiration irregular, pulse irregular, at times dicrotic, face flushed, abdomen distended.

The temperature touched 104°-105° every day for nine days, fell a little from the tenth to the eleventh, mounted again on the twelfth, and remained normal after the thirteenth.

The respiration averaged 35 to 40, by exception reached 50 and more. The pulse was seldom above 120 and usually of good character. This was a great source of comfort. Truly the heart behaved well.

After a moderate internal sensation in one ear on moving his jaw, the ear began to discharge. This made an uneventful recovery, and did not seem to influence the temperature.

The foregoing description, it is hoped, serves to determine the gravity of the case. No difference of opinion exists as to the depressing and exhausting effects of this type of pneumonia.

After condition: The patient recovered his appetite, his ability to sleep and go about the city, and was, to physical examination, quite well, lungs and ear, but not psychically. Delusions pursued him. Impressions previously acquired from