murmur, and cog-wheeled respiration on the right side at apex and infra-clavicular region. Temperature, A.M., 97.8, P.M., 100.

June 3d, marked improvement; weight 73½ lbs. Temperature, A.M., 98, P.M., 100.

June 10th, continued improvement; weight 75½ lbs. Temperature, A.M., 98.5, P.M., 99.

June 23d, temperature has been normal for a week.

July 8th, temperature has been normal since; now weighs 86 lbs.

September.—Physical examination shows only slight roughness on expiration.

Case 2.—Sarah W., aged 25, unmarried. First seen during miscarriage. Under these circumstances her real name was never learned. At this time she had a cough, and I advised her to try the treatment as soon as she was able.

May 30th.—She came to my office for her cough, she said. Upon examination evidence of collapse and slight perivesicular deposit were discovered at both apices. Temperature 99.5; pulse 100.

June 6th.—Considerable improvement. Temperature 99; pulse 100.

June 13th.—Great improvement. Temperature 98.4; pulse 80.

On examination I found a free respiratory murmur at both apices, no roughness nor jerking.

July 16th.—Is now entirely recovered. The treatment in this case was solution No. 1.

Case 3.—Miss J. S., aged 25, single. Present weight, 125 pounds. First seen with Dr. Robert H. Babcock, who furnishes the following history: "Patient was prostrated last May with what she supposed to be a severe bronchitis. The writer (Dr. Babcock) was called to see her, and after repeated careful examinations of the chest and an observation lasting several weeks, came to the definite conclusion that the case was one of incipient tuberculosis of the apex of the left lung. Under appropriate treatment she improved, and in June was able to be about. Desirous of trying the effect of pneumatic differentiation in her case, the writer persuaded her to take a course of treatment from Dr. Houghton."

Record as kept by Dr. Houghton:

June 4th, 1885.—First treatment, *no spray* at any time, .3 pressure, 16 respiration.

June 20th.—Fifth treatment, 3 inches expansion, .9 pressure, 11 respiration.

June 29th.—Ninth treatment, .8 pressure, 5 respiration.

July 3d.—Twelfth treatment, 4½ inches expansion, .8 pressure, weight 130 pounds.

July 27th.—Sixteenth and last treatment, 5 inches expansion, .8 pressure, weight 130 pounds.

Sept. 17th.—She was looking very well, and voice much stronger. Weight 136 pounds. Went with opera troupe as chorus singer.

"These treatments were continued at intervals of several weeks. The one result, established beyond doubt, was a better expansion of the chest. The anterior border of the left lung, which had been previously somewhat retracted and evinced, during percussion, but slight, if any, expansion upon forced inspiration, revealed in August last less retraction,

and showed ampler excursion movement during inspiration. The writer was never able to satisfy himself that the pitch of the percussion note over the affected apex became any lower, or that the respiration revealed any other change than a disappearance of the jerkiness which had first characterized it in a circumscribed area. Whether the disappearance of her cough and expectoration was due to the treatments in the cabinet or to the improvement in her health from other causes, is a question. Subsequently, in September, her cough and expectoration returned." [Signed] ROBERT H. BABCOCK, M.D.

Taking all things into consideration, I am impelled to the following conclusions, *i. e.*, that,

1. Pneumatic differentiation is of undoubted service in all conditions of primary infiltration.

2. Where the febrile movement has been unchecked for many weeks before treatment, improvement, if any, will show itself within the first ten or twelve applications; if there is no abatement of symptoms its continuance is of questionable utility, and it may be absolutely contra-indicated.

3. That phthical disease at the apices is more favorably treated than when at the base of the lungs.

4. That it is possible by this means to more thoroughly medicate the lungs than by any other known method.

5. That the expansion of the lungs by differentiation is itself a therapeutic measure of great merit.

6. That peri- and inter-vesicular exudation is capable of cure by this method, and even third stage phthisis is benefited, at least temporarily.

My experience is that when the febrile movement is excessive, when the evidences of septicæmia are pronounced, it is not wise to use the pneumatic cabinet certainly until these symptoms have subsided. In cases of chronic bronchitis I have had so little experience that I can only say that if the proper remedy can be found its application is easy enough. Articles and authorities consulted on the subject of pulmonary capillary circulation as affected by the respiratory movements were

John C. Dalton, Human Physiology.

John W. Draper, Human Physiology.

A. L. Loomis, Practical Medicine.

Wm. Pepper, Third Volume System of Medicine.

Thomas H. Huxley, Physiology.

Dr. Cartwright, in the *Boston Medical and Surgical Journal*, 1852.

Miss E. Willard, Motive Power in the Circulation.

Dr. Alonzo Clark, Diseases of the Heart.

James R. Leaming, in Birmingham's Library.

M. Foster, M.D., Physiology.

Landois & Sterling, Physiology.

Central Music Hall, Chicago, October 20th, 1885.

ACUTE CATARRHAL PHTHITIS; RECOVERY.

BY P. C. JENSEN, M.D.,

OF CHICAGO.

On April 25, 1885, I was called to see H. B., æt. 14, who had been sick three weeks with catarrhal pneumonia, for which he had been treated by another physician, and a favorable prognosis had been given.

The persistency and continued aggravation of the symptoms changed his diagnosis to phthisis, and he now gave an unfavorable prognosis.

When I took charge of H. B., I found him greatly emaciated, with large and well-marked subclavicular depressions, and but little respiratory mobility. He was continually getting more debilitated from loss of appetite and exhausting night sweats. There was an almost continuous cough, a profuse purulent expectoration, offensive in character, containing much solid substance which would sink in water. In color it ranged from grayish white to greenish brown. The temperature reached 102° in the afternoon, but was subnormal in the morning. The respiration was short, hurried and superficial, about twenty-eight to thirty-two per minute. Pulse 120 to 140 per minute, volume small, and beat irregular.

Physical Examination.—On auscultation, bronchial râles were distinctly heard, due to exudate in the bronchial tubes. There was audible a hollow or cavernous sound, as if a small cavity existed in the right lung. There was decided bronchial respiration of right lung, and an almost complete absence of the normal vesicular respiratory murmur on the same side; while over the left side the lung sound was exaggerated (puerile respiration). The impulse of the heart apex could be distinctly felt on the right side, and was still more distinctly audible by the stethoscope, thus indicating a partial consolidation of lung structure on that side.

The medical treatment consisted of the following combination:

- R Tr. Nucis Vomicae..... gtt. x.
 Tr. Digitalis..... gtt. vj.
 Maltine..... ʒiij.
 Syrupi Hypophosph. Comp..... ʒj.
 M.
 S. Take one-half hour before mealtime three times daily.
- R Quiniae Sulphatis..... gr. ij.
 Pulv. Iodoformi..... gr. ij.
 Ferri Sub-Carbonatis..... gr. ij.
 Ext. Belladonna Alc..... gr. 1-5.
 Podophyllin..... gr. 1-20.
 M. et ft. Capsule No. 1.
 Sig. One capsule after each meal.

As the patient was in a wasting condition, and as malassimilation and denutrition only increased the exhaustion and debility, remedies whose action promotes nutrition and tonicity were indicated. To aid in this direction, one ounce of cod-liver oil was given by inunction three times a day. The parts selected for the application of the oil were the axillary spaces, groins, bends at elbow-joints and popliteal spaces. Preceding the inunction, the parts were rendered hyperæmic by friction with mustard, which facilitates absorption. To aid in checking the night sweats, and also for its soothing anodyne effect in relieving the irritability of the lungs produced by movement, a large belladonna plaster was applied over the chest. Belladonna plasters act indirectly, but very efficiently, in giving relief to cough and local pain by quieting the irritability upon which the cough depends. Improvement began immediately; the night sweats gradually subsided, the appetite increased, and in three days from the commencement of the iodoform

treatment the sputa had lost its odor, and the quantity expectorated much diminished. The cough was relieved for a while by the remedies given, but was afterwards checked by the following mixture:

- R Morphiae Sulphatis..... gr. j.
 Ant. et Pot. Tartratis..... gr. ij.
 Ammonii Carbonatis..... ʒss.
 Acidi Hydrocyanici Dil..... gtt. xxv.
 Spts. Chloroformi..... ʒiss.
 Syr. Bals. Tolutani q s. fl..... ʒiv.
 M.

S. Take one-half teaspoonful every three hours.

In about three weeks from commencement of my treatment, H. B. was sitting up convalescent, but seemed apparently at a stand-still. The respiratory murmur still partook of the bronchial character, and the temperature would not go below 99.5°, except in the morning, when it was always subnormal. Thinking that if we could clean out his lungs and free them from the accumulation of pathological exudates, he would soon recover, my attention was directed to the Pneumatic Cabinet. Dr. Houghton thought the case one which would be benefited by the Cabinet. He examined the patient in my presence, but could not then, nor could I detect any cavity at this time. But Dr. Houghton agreed with me in the diagnosis: first stage of acute phthisis, with intervesicular deposit.

The spray, which was used by inhalation in the Cabinet, consisted of one part corrosive sublimate and a small quantity of ammonium muriate to 500 parts of water. The improvement in the patient from that time on was astonishing. The patient states that the metallic taste peculiar to mercuric chloride spray was perceptible all day, and that the taste was distinctly imparted to the sputa. This seems to me fair evidence that the spray must have penetrated the minute ramifications of the bronchioles and air vesicles. This brings me up to Dr. Houghton's notes (see previous article, p. 509).

The anæsthetic effect of iodoform, and the peculiar symptoms of perverted sensation, muscular incoördination, diplopia, etc., are due to its action in part upon the nervous system. In regard to the internal use of iodoform, I would say that I have used it considerably, both in syphilitic, scrofulous and phthisical cases, but in the last two only when purulent or putrefactive changes are going on. In cases where there is much expectoration of an offensive character in various stages of decomposition, good results have been obtained by internal administration of iodoform. I believe it has a restraining influence over such pathological changes as ulceration, suppuration, necræmia, necrosis, tuberculosis, and retrograde metamorphosis in general. Iodoform, whenever administered internally, should be given with caution, as it is a powerful depressant to the circulatory and respiratory systems. In cases in which it has been given in large single doses, and occasionally in persons where small doses have been given for a considerable length of time, bad results have been observed. In the "National Dispensatory," 2d edition, page 782, we read as follows: "Several cases of poisoning by this preparation have been recorded. A woman affected with syphilis had taken in the course of four months about 42 grmm's (ʒi ʒiij)

of iodoform in pills containing each one centigramme ($\frac{1}{10}$ gr.). She was suddenly attacked with faintness, vertigo, and double vision; within two days she sank into a deep sleep which lasted for thirty-six hours, and was followed by excitement, violent headache, and confused speech. These symptoms were succeeded by debility and a tottering gait, after which the vertigo, headache and diplopia recurred. This series of symptoms lasted for a fortnight. In the case of another woman, the toxic phenomena occurred at the end of the first week, and when no more than 5 grammes (75 grs.) of iodoform had been taken. She slept continuously for five days, after which debility and vertigo were experienced for several weeks. (Oberlander)."

In my own experience, I have observed no such phenomena from the use of iodoform internally. But in every case in which I have employed it as an internal remedy, the combination with *nux vomica*, *digitalis*, and ext. *belladonna* overcomes or prevents its depressing influence upon the circulation and respiration; and as these remedies are cardiac and respiratory tonics, I think it a most rational method of obviating the dangerous effects sometimes resulting from the internal use of iodoform.

Chicago Opera House Building.

FRACTURE OF THE RIB CAUSED BY SNEEZING.

BY HAL. C. WYMAN, M.D.

SURGEON TO THE WEST END DISPENSARY, DETROIT, MICH.

There is a Hebrew legend which says that before the days of Jacob no man sneezed more than once—the effort cost him his life. Jacob invoked the blessing of God and survived an attack, and since his time it has been customary for persons, in the presence of one sneezing, to utter a "Praise God!" "Gesundheit!" or other significant exclamation, lest the phenomenon result fatally. That sneezing may not, in all cases, be the harmless action it is commonly believed to be, the following case will serve to illustrate:

Mr. M., aged 72 years, remarkably vigorous and healthy for his years, summoned me hastily for relief of severe pain in his right side, which had commenced suddenly after sneezing with unusual force. I found him standing, supported by a chair; his face pale, his breathing difficult and provoking cries, with pain in the lower part of the right side. I suspected pleuritis and neuralgia; and was surprised on placing my ear on his chest to hear distinctly the crepitus peculiar to fracture of bone. Further examination showed a fracture of the eighth rib, near its angle. The treatment consisted in placing three strips, fourteen inches in length, of Seabury & Johnson's rubber adhesive plaster obliquely over the right side, crossing the ribs at right angles. The plasters were adjusted with sufficient firmness to draw the ribs snugly together, and to limit the motion of the fractured one. Recovery was prompt and without complication.

This case is of interest, because it was unquestionably caused by sneezing, and the fact that sneezing is not usually referred to as a cause of fracture of the ribs. A glance at the mechanics of sneezing

will show that two powerful sets of muscles may be brought into antagonism in a way to expend their opposed forces upon the ribs, making the fracture simply a mechanical matter.

The treatment by means of plasters having some permanency of adhesive power has proven in many cases of fractured ribs, as it did in this one, a great advantage over the old method of a broad bandage encircling the chest. It permits freedom of motion on the uninjured side of the chest, while it insures sufficient immobilization of the fractured bone to control pain and favor union.

It is said that insane persons are particularly prone to fracture of the ribs, and that sneezing among them is not infrequently the cause. Whether there is, in these cases, a dominant frailty of rib-structure, or an unusual quantity of muscular force called out by the mental unsoundness and applied to the ribs in the act of sneezing, is an interesting point to determine.

OPERATION FOR MALFORMED AURICLE.¹

BY S. S. BISHOP, M.D.,

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On July 11th, 1885, Nettie H., eight years old, presented herself at my clinic at the Infirmary and said she "wanted her ears put back." Both auricles were so abnormally prominent as to mar materially the symmetry of a very shapely face and head. The left auricle, which was the more unsightly, projected one and one-fourth inches at a right angle from the junction of the auricle with the mastoid process, and then bent forwards; thus forming what is facetiously termed "lop-ear," or "dog-ear." The natural elevations and depressions were obliterated, and the organ presented the appearance of having been flattened by the pressure of the head in sleep on an auricle folded forward upon itself. The right ear projected one inch, but was not as imperfectly shaped as the left one. At first I contemplated moulding the auricle into shape in a dressing of plaster of Paris, which would retain the parts in position for several months, with proper care and renewed dressings. But on account of the youthfulness of the child, which would render it highly improbable that she would coöperate in that treatment with sufficient persistence to insure success, I performed an operation, with the consent of her parents, and with the assistance of Drs. Hawley, Abbott and Walker.

On July 17th the little patient was anæsthetized with ether. An incision one and three-fourths inches long was made on the posterior surface of the auricle about one-half inch from the free border of the cartilage, and parallel therewith. Another curvilinear incision internal to the first was made, to unite its extremities. These incisions extended only through the skin and subcutaneous tissue, and were made to embrace about one-half inch of integument at the widest divergence of the lines of incision. After dissecting off this skin and subcutaneous tissue, two incisions parallel to the first were made through

¹Read before the Chicago Society of Ophthalmology and Otology, August 11, 1885.