tubes has been remarkable; sticky crepitus has been abundant, especially over the posterior bases, and violent and frequent cough has not availed to remove the secretion.

Of pleurisy, dry or attended by slight effusion, I have seen several cases. Of pneumonia, I wish to speak briefly.

In my hospital service between November 1st and December 20th, I had only four cases of pneumonia and all recovered. Between December 20th and January 12th, sixteen cases of pneumonia were admitted to my wards, all but one males, and of these eight have proved fatal, a mortality of 50%. Three only of the eight were intemperate. In all of the sixteen cases influenza had preceded the pulmonary consolidation. In thinking this matter over it has seemed to me that the explanation for this fearful mortality probably lies in the exhaustion so characteristic of epidemic influenza. When pneumonia came there was no power of resistance left. In the cases in which pneumonia has not proved fatal, recovery has been very slow, and true crisis has rarely occurred. I speak only of my own experience, and shall be particularly anxious to hear that of others on this point.

As far as I have been able to learn, pneumonia has been the most dreaded and fatal complication in previous epidemics, here and elsewhere. On those cases in which the disease has spent its fury on the intestinal tract, causing vomiting, perhaps so persistent and long continued as to excite the gravest apprehensions, or a sharp diarrhoea; on other cases in which a very prominent symptom, perhaps the most prominent, was extreme abdominal tenderness suggestive of peritonitis, I do not propose to dilate.

Peri- and endo-carditis, convulsions, menorrhagia, abortion, as complications, have not entered into my experience. Cutaneous manifestations, other than herpes in connection with pneumonia, I have not seen. Has the fact that I have never used antipyrin anything to do with this negative experience? The suggestion from some quarters that dengue had wandered far from home would indicate that in Paris, at least, cutaneous eruptions were noted. Neuritis I have been on the lookout for, but have not seen.

In one case, now under observation, acute nephritis supervened on influenza; but whether there is any real connection between the two, I do not know. The only fatal case I have thus far seen, apart from those of pneumonia, was one which I saw with Dr. E. W. Cushing. A man of about thirty, with a tubercular family history, supposed himself to be perfectly well, and was of vigorous appearance, when he was taken down with the influenza, suddenly and violently. It was learned that he had had for a year or so some cough, with expectoration, but his general condition was so good that he attached no importance to these symptoms and sought no advice. Dr. Cushing tells me that from the first he was struck by the rapidity of the respiration. When I saw him, a little more than twelve hours before his death, which was very sudden, his temperature was normal, the pulse 150, the respiration 50, with retraction of the soft parts below the rib margins. The physical signs indicated capillary bronchitis, with hypostatic oedema of the lower portions of the lungs, and everywhere very abundant secretion. The autopsy showed a large cavity with smooth walls and surrounding emphysema in the upper lobes of each lung, largely destroying their usefulness.

There was intense bronchitis and inflammatory oedema of the lower lobes. In the immediate vicinity of the cavities were some cheesy nodules and a moderate number of fresh miliary tubercles. The old disease crippled the upper, the new the lower lobes; between the two life was crushed out.

With reference to treatment I will only allude to the brilliant service rendered by the modern antipyretics. I do not know whether one was better than another, but I began with phenacetine and found it so satisfactory that I used no other. I gave it in antineuralgic rather than in antipyretic doses: about a grain to the year in children, fifteen to twenty grains in adults, repeating the dose in an hour if the first was not efficacious. I rarely gave more than three doses in the twenty-four hours. The pain and restlessness were indications with me rather than the fever. In no case did I find it necessary to use stimulants to counteract the effect of the analgesic. Relapse has been common enough to be noteworthy.

In conclusion, my personal experience suggests to me that the very young and those advanced in life, as a rule, either escaped entirely or had the disease in a mild form. Speaking broadly, the severest cases were in vigorous persons; the most dangerous cases, apart from those in which pneumonia appeared, were in those who were the subjects of some more or less chronic and serious visceral disorder.

Many diseases, among which may be cited the plague and the sweating sickness, which were scourges of the Middle Ages, have disappeared, it is to be hoped forever, under improved hygiene; others, like small-pox and leprosy, are far less common; others, like syphilis, are less virulent. Influenza seems to be the same to-day that it was in the Middle Ages; uninfluenced by human action, climate, or season; coming whence and why, we know not; disappearing for longer or shorter periods; recurring, unlike almost any other miasmatic disease with which we are familiar; having the power of withstanding the freest atmospheric dilution, and thriving under conditions which are, as far as we know, inimical to or incompatible with the indefinite multiplication of other infectious principles of the nature of which we must believe it to partake. It is to be hoped that this epidemic will not leave us in as deep darkness as it has found us.

THE FAMILY TREATMENT OF THE CHRONIC INSANE.

BY PHILIP COOMBS KNAPP, A.M., M.D.

THE recent report of the State Board of Lunacy and Charity repeats the emphatic indorsement pronounced by the Inspector of Institutions, last June, of the value of this method of providing for the harmless chronic insane. The experiment of boarding-out a certain class of the chronic insane, first urged upon the Board by Dr. H. R. Stedman, was begun nearly four years ago, and its success, under proper conditions, is no longer questionable.

In order to relieve the asylums from the over-crowding caused by the steady increase of chronic cases, three methods of extra-mural provision for the insane have been adopted. Of the first, the colonies attached to asylums, small separate buildings for the reception of the harmless insane, we need say but little. This system has been tried successfully at Clermont, Ats-

cherbitz and other places in Germany. Under this system, the patient is still in an asylum, under the control of the asylum physician, and subject to the routine of institution life. The asylum is relieved, but usually at the expense of erecting new buildings, and individual treatment is not attained.

The second method, the independent colony, has been so often described that it needs little mention here. The success of the colony at Gheel has led the Belgian authorities to establish another colony at Lierneux. The disadvantages to the sane inhabitants of these colonies from the presence of so many insane, and the congregating of so many insane in one place, have often been dwelt upon. Few would advise the establishment of a Gheel in any of our Massachusetts towns. The attached colony, however, may well be introduced in connection with the large asylum for the chronic insane which is so necessary.

The third method, of boarding out suitable individual cases in private families, which shall be not too near together, was introduced in Scotland, in 1857, as a means of relief to obviate the necessity of erecting a new asylum. At present, 2,270 insane out of a whole number of 11,329, or 22.8 per cent., are thus treated. The Scotch system, although less widely known than the colony at Gheel, has been successfully adopted in Germany, at Bremen, Ilten, Buntzlau, and other places.

The advantages of this method must be considered from two standpoints—the personal advantage to the patient himself, and the economic advantage to the State. The advantage to the patient can hardly be expressed in figures. The thirtieth annual report of the General Board in Lunacy for Scotland, in 1888, shows that the percentage of cures among the patients boarded-out was lower than among patients provided for in any other way; the mortality, however, was also very low. As the majority of cases are selected from the harmless, demented class, who are chronic and incurable, the fallacy of basing any argument on such figures is apparent. There is, however, a marked improvement often noticed in the patient's mental condition. The change seems to arouse an interest in the new occupation, and the freedom and social excitement and the opportunity for regular occupation, which he can enjoy only to a limited degree in the asylum, make him feel that he is once more a member of society and stimulate his feeble intellect. The change sometimes seems to awaken a patient from a state of hopeless dementia and to render him much more intelligent. The reverse is unfortunately noted in patients who are transferred to almshouses, where these three factors, work, freedom and social excitement, are reduced to the minimum. Sioli¹ has recently laid especial stress upon the improvement that takes place, an improvement analogous to that noted by Schüle, in some cases after an early removal to their homes. Dr. Stedman, in his report to the Board of Lunacy and Charity in 1889, and Dr. Moulton,² in his remarks on Dr. Stedman's paper at the meeting of the Asylum Superintendents, at Newport, last June, have both noted concrete instances of this improvement in patients whom they had previously known in asylums.

The advantage to the State can be readily calculated. The parochial board of Barony Parish, Glasgow, found, in 1885, it cost \$2.18 a week for boarded-out patients, and \$3.37 a week in the asylum. The average cost in

Scotland has been in private houses twenty cents a day, in almshouses twenty-five cents, and in asylums thirty-six cents.³ Dr. Stedman⁴ has shown that in Massachusetts there is a similar advantage. The average weekly cost per capita for patients at the five State hospitals was \$3.88; at the asylum for the chronic insane, \$3.12; the average net cost for patients boarded-out was \$2.93. As yet the cost of boarding-out is greater than the cost of maintenance in an almshouse. Dr. Stedman also points out the advantage which this method offers for private patients whose families can afford to pay only a small sum weekly for their maintenance.

Numerous objections have been urged to this method of provision for the insane, many of them urged by asylum superintendents unfamiliar with its good work, who, if acquainted with the system at all, see only the failures of the system in the return to the asylum of improperly selected cases.

It is said that families cannot be found who will take the insane and give them proper care for the price paid (\$3.25 a week), or, if found, that they are not fit guardians; that the insane will be abused by those who take them; and that the presence of the insane among the sane will have a deleterious effect upon the family, especially upon the young. The first two objections are disproven by the fact that fit persons in Massachusetts are ready and willing to take all the insane that are offered, and that the majority of the insane in private families have been found by Dr. Stedman and Dr. Moulton to be contented, happy and well cared for. Abuses have arisen under this method, just as they have arisen in asylums, but with careful and intelligent supervision, which is the essential feature of the system, these abuses will diminish. Again, trouble may arise from an improper selection of patients. Violent patients, dangerous or suicidal patients, and young women are obviously not the ones to be selected. Mistakes may be made, too, in the selection of families, but if families be chosen where there are no young children, the third objection has much less weight. The boarding-out system is best adapted to a rather thinly-settled farming region. Hack Tuke, while commending the Scotch system, is disposed to think it less suitable for the thickly-settled county of Yorkshire. Moreover, both patients and families should be carefully selected, and competent medical supervision is a *sine qua non*.

Although boarding-out is often beneficial to the patients, and is a cheaper means of provision than maintenance in the asylums, it is urged that it does not relieve the asylums from over-crowding. It deprives them of quiet workers who can sleep in dormitories, but the excited wards are as crowded as ever. Many old persons, unable to work, are fit patients to board out, and, moreover, the constant influx of new patients will soon furnish workers, to say nothing of the possibility presented by Dr. Stedman that the attendants will often train other patients to take the place of the worker who is taken away. In Scotland the relief to the asylums is unquestioned; in Massachusetts, it is thus far very slight. The difficulty, however, is not with the system of boarding-out. At present, about a hundred and twenty patients are thus provided for, but there are nearly five hundred more in our asylums who could be cared for in the same

¹ Allg. Zeitschr. f. Psych., xlv, 510, 1889.

² Am. Journal of Insanity, October, 1889.

³ Féré: Du traitement des aliénés dans les familles, p. 61.

⁴ Am. Journal of Insanity, January, 1890.

way. Unfortunately, these are town patients, and the overseers of the poor would prefer to care for them in the almshouses at a cheaper rate, if the question of removal from the asylum should be brought up. Many of the insane in the almshouses, too, could be cared for in the same way, but the slightly greater cost of maintenance in private families prevents their removal, and the disgrace of our almshouses is suffered to continue.

Under favorable laws and with proper supervision, the boarding-out of the harmless insane in private families is a successful and advantageous method of providing for them. Its long success in Scotland has won for it the support of all the alienists in that country; Hack Tuke, Merson, Atkins, Duckworth Williams and others are in favor of it in England; Sioli, Soemerling, Moeli, Nücke, and various other competent observers note the success of the experiments in Germany; and Féré, in his treatise already referred to, urges its introduction in France. With the success of the present experiment in Massachusetts every effort should be made to extend the system.

REPORT OF THREE HUNDRED AND FOURTEEN CASES OF INFLUENZA.

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DURING this epidemic of Influenza I have seen 314 cases up to date, and being desirous of studying the art and nature of this disease I have noted the various symptoms in each. Of these 314 cases, 190 have been females and 124 males.

Synonyms.—The French call it *la grippe, fièvre catarrhal épidémique*; the Italians, *influenza, catarro Russo*; the Germans, *blitzkatarrh, die Russische krankheit*; the Spanish, *influenza Rusa*; the Swedish, *Ryska snufvan, nyssjuka*; the Norwegians and Danes, *nyssesygge*. The most correct name that has been applied to this ailment seems to be the American, *epidemic febrile catarrh, febris catarrhalis epidemica*.

Definition.—A violent, acute catarrh, causing profuse watery discharges from nose and eyes, inflammation of the mucous membrane of the nose, pharynx, larynx and bronchial tube; and sometimes, especially in the weak, in old people and young children, disturbances of the gastro-intestinal tract and the liver. Coughing, sneezing and expectoration of frothy, watery and mucous discharges are common, accompanied by muscular pain, headache, fever, languor and prostration, and sometimes nausea and vomiting.

Ætiology.—A disease invading whole continents in a few days, and caused by a specific germ, thriving best in a mild, foggy atmosphere, and carried in the air.

Pathology.—Most cases of death that have been reported, with this disease as a primary cause, have been declared bronchitis, capillary bronchitis, croupous and catarrhal pneumonia and the like, and in very few has the influenza been given as the cause of death. The pathological distinction between death from influenza, and death from the former diseases seem to have been: a marked dark red color of the mucous membrane of the whole respiratory tract, the bronchial tube and bronchi being covered with a sticky mucopurulent exudation; the pleural cavities have been

partly or entirely filled with serous and muco-purulent fluid together with parts of the lungs, especially the lower lobes.

This leads us to the conclusion, that death must have ensued from either non-arterialization of the blood, or from a most profound impression on the centres of respiration, thus destroying the vital energy of the lungs. Out of my 314 cases only one died, and unfortunately, no autopsy was allowed, and I must, therefore, rely upon the observation of others.

Symptoms.—In all cases there was headache, with shooting pain in the eyes and frontal sinuses; severe muscular pains, principally in the lumbar region of the back and in the joints, sometimes light, but in some cases almost like those of acute inflammatory rheumatism.

Two hundred and thirteen cases started in with one or more chills, and in one, that rapidly turned into capillary bronchitis and died, there were periodical severe chills with convulsions. The temperature ranged from 100°F. to 105°F., the mean height being about 102°F., with evening rise.

Two hundred and eighty-seven cases had severe coryza, with running eyes; 281 had laryngitis, with a dry laryngeal cough; and 193 had aphonia, that lasted many days after the active symptoms had subsided.

Two hundred and sixty-one had bronchitis, with the characteristic pain behind the sternum, of a raw, burning and tearing character, with pain in the inframammary and infra-axillary regions.

The respiratory murmur was always harsh, with sonorous and sibilant râles, and later, moist bubbling râles. In a few cases there was marked dulness over the lower lobes of the lungs and insufficient distention, with rapid and laborious breathing, as if the organs were trying hard to overcome some powerful irritant.

The tongue was coated with a dirty whitish fur, with anorexia, in all cases.

Two hundred and nine cases had epigastric distress with nausea, vomiting and constipation.

All were weak and debilitated and some prostrated. A peculiar hyperæsthesia was always present. A measly eruption extending all over the body and fading on pressure, was present in thirty-three cases, mostly in children of French and Italian parentage. In menstruating women severe uterine colic was present, with profuse flowing, lasting many days.

Duration.—Acute symptoms mostly abated in four to seven days, a catarrhal state remaining long after.

Complications.—Influenza proved to be an exciting cause of phthisis in three persons with scrofulous diathesis, and of acute nephritis in two others, with previous kidney affections. Thirteen had catarrhal and three had croupous pneumonia. Three cases turned into pleurisy and two into dysentery. Nineteen had congestion of the liver, with severe jaundice. In fifty-three cases severe facial and supra-orbital neuralgia followed. Sciatica was very hard to overcome in seventeen cases. Palpitation and much weakness of the heart was present long after recovery in seventy-seven cases.

Prognosis.—Recovery occurred, except in one case of capillary bronchitis that terminated in death, a man addicted to excessive alcohol drinking, and in those who suffered from previous organic diseases, such as tuberculosis and Bright's disease.

Treatment.—I experimented with several modes of treatment, antipyretics, anodynes, sedatives, laxatives