iodine gr. x, potassium iodide gr. xii, and glycerin 3i. Pusey,⁹ Williams,¹⁰ Feldstein¹¹ and others have reported cases which were apparently cured by exposure to the x-rays. It would be well if the x-ray treatment were employed in conjunction with the "out-of-door good-food" treatment, especially in those cases where pulmonary tuberculosis is present. Its post-operative use would probably diminish the number of recurrences. When no improvement follows the employment of the above treatment for a number of months, operative interference is indicated, providing the lungs appear to be free from disease or not extensively involved. The complete operation is the one of choice, providing there is no contra-indication to a prolonged operation. C. M. Robertson¹² quotes the rather startling statistics of Gröber, who collected cases from several observers and found that 75% of the cases who were not operated upon subsequently developed pulmonary tuberculosis, while less than 15% of those who had the glands removed developed tuberculosis of the lungs. This percentage is very much higher than is usually given, as the following figures, taken from von Bergmann's Surgery, demonstrate: Mitchell 14%, Fraenkel (Billroth's clinic) 10.2%, Jordan 26%, Bloss 19%, Furnrohr 26.4%, Ternino 21%, Vohlgemuth 12%, von Noorden (von Burns' clinic) 20%.

It is well nigh impossible to draw any valuable deductions from these statistics, for, while one reports cases who had pulmonary tuberculosis at the time of operation, another refers to cases which were followed for years, in whom no operation was performed. Then again, the problem is made even more difficult of solution by the fact that the vast majority of the cases, presumably, were not given the treatment that at present is recognized as essential for a recovery from tuberculous disease. Thus Bloss¹³ observed a spontaneous cure in but 16 of 308 cases which he followed for some years. Yet we can be pardoned if we wonder how many "took the cure" faithfully for a number of months.

Aspiration of broken down glands followed by the injection of iodoform-glycerin solution has not met with the success its advocate hoped for. Better results seem to follow incision, curettage and packing.

We are quite apt to think of the complete extirpation of the glands of the neck as a comparatively recent operation, yet it was advocated many years ago by one John Browne who lived in Norwich, England, in the seventeenth century. When one considers that he lived in an age when the malady was considered as a mark of evil distemper, that he was one of those who assisted the king in the ceremony of "laying on of hands," and that his was a time when surgery was very crude, his words seem truly remarkable. He did not share the prevailing superstitions concerning its origin, for he stated that it was due to "no fictitious distemper or imaginary evil, but rather a proper disease." Concerning the treatment he said, "These tumors do require extirpation and extraction . . . to be so dexterously performed

as that no part be left behind. . . . Our greatest advice in the use of the knife is to have a particular and special care to the vessels bordering upon the parts, namely the nerves, veins and arteries, lest they be injured thereby. The glands are to be extracted with great care and caution so as no vessel whatsoever be injured by the operation; and if any flux of blood may happen in this operation, it is presently to be stopped with restrictives, and this method is to be prosecuted till every part of the cystus or bags thereof are perfectly and thoroughly eradicated and extracted the which being done and the part clean, mundifie the ulcer, digest, incarn and then induce a cicatrix."

The ideal method of fixation is the plaster bandage, but unfortunately the surgeon sometimes considers his responsibility ends with the last turn of the bandage. I have repeatedly seen post-operative cases of tuberculosis of the joints, glands and peritoneum, spending their convalescence in the wards of the hospital when they might to advantage have been "taking the cure" on the veranda. Even with the utmost diligence it is always possible that some tuberculous tissue has eluded one, and accordingly we should urge our patients to keep in the best physical condition possible for several years. A person with tuberculous adenitis, like one with pleurisy with effusion, can scarcely be considered out of the danger zone until three or four years have passed.

There can be no doubt but that earlier diagnoses of tuberculous lesions, and a keener appreciation of what can be accomplished by the fresh air treatment, will materially diminish the number of cases in which operative interference is indicated.

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Clinical Department.

CHLORAL DELIRIUM: A CASE REPORT.

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THE following case report illustrates the resemblance between alcohol and chloral delirium.

J. S., admitted to Danvers Insane Hospital, April 14, 1906.

Family history. — Parents, who were of Irish birth, died of tuberculosis soon after coming to this country. An only sister died in childhood. Father was intemperate. No other facts obtainable.

Personal history. — Aged sixty-two; married; shoemaker. One daughter, a healthy adult, living; two

children died in early childhood of infectious diseases, and two were still-born. Illiterate, barely able to read and write. Enlisted in the United States army at age of eighteen and served nearly five years. Was in active service during the Civil War. Suffered from malaria while in the South and had "chills" at intervals for some years after the war. For the past ten years has complained of vague rheumatoid pains and has suffered from insomnia. No serious illness, but has not been strong and healthy since army service. Used alcohol very moderately until 1897, since that time has been a total abstainer.

In 1891, following the death of a child for whom he deeply grieved, the use of chloral was begun to relieve insomnia. Previous to this time, he had never shown any nervous or mental disorder, and he was of a cheerful, lively temperament. The chloral habit became fixed and for many years he was in the habit of taking 15-30 gr. nightly.

The family noticed no bad effects until about four years ago, when he began to be unusually restless at night, and had to use more chloral to secure broken sleep. During the night, he would fancy that he heard horns and bands of music, and, finally, began to hear voices. He would be irritable and unreasonable in reaction to hallucinations which would appear irregularly for a time and then he would seem as well as usual for some months, only to have a recurrence. Three years ago, he took a large but unknown amount of chloral with suicidal intent, but was resuscitated. Chloral was gradually increased and the amount used can be estimated as averaging 75 gr. daily. For a time, he had obtained some of his chloral upon a prescription calling for a smaller amount of bromide of sodium. Until nine months before admission, family noted no more serious symptoms than previously mentioned, but after that he formed delusions explanatory of his hallucinations; imagined his neighbors were conspiring against him; bought a revolver to protect himself from incendiaries whom he believed to hover about his house at night. He lost in weight, became very tremulous and feeble, and in October, 1905, had a delirious attack lasting several weeks. At this time, saw strange animals and men about him and heard voices applying abusive epithets. He was restless and disorderly. Confined to his bed. This acute attack subsided rapidly but he soon resumed use of chloral. For some weeks before commitment, he was suspicious, deluded and threatening. Could take but little food, became feeble and very tremulous and even with more frequent doses of chloral got but little sleep.

He was taken to police station April 13 and brought to the hospital on the following day.

Physical condition. — Poorly nourished. Pulse soft, rapid and irregular. Temperature, 98.8°. Tongue heavily furred. Countenance cyanotic. Slight bronchitis. Abdomen and urine negative.

He walked with feeble, unsteady gait. Pronounced Romberg symptom. There was a fine, fibrillary tremor of facial muscles. Speech was tremulous and husky and there was general tremulous inco-ordination. Reflexes generally lively. Vision defective. Pupils reacted to light and accommodation. Considerable blunting of tactile sensibilities.

Mental conditions. — Completely disoriented. Attention could not be held in conversation. He was restless and disorderly when left to himself, moving his bed about, throwing his bedding around the room, trying to climb out the window, keeping constantly in motion. Had auditory and visual hallucinations. Slightly apprehensive. Could be induced to take only liquid nourishment. This delirious confusion and activity gradually subsided and on the fourth day he could

converse responsively and attention could be held. He was still disoriented and had no grasp upon surroundings. No longer hallucinated. Practically no memory for recent events. Continually abusing his wife and charging her with immorality and a desire to be rid of him. Able to grasp explanations concerning his surroundings.

During this time, temperature had not risen above 100°, he had taken liquid nourishment in small quantities. Sleep had been very fitful, but restlessness gradually decreased.

From this point, physical and mental improvement were rapid, and at the end of first week he had good insight and had corrected all his delusions concerning family and associates. There was only partial restoration of memory for the period of active disturbance. He was grateful that the chloral habit had been broken. He could sleep from four to six hours nightly without hypnotics, and was cheerful and contented. The tremor persisted for nearly three months. During this time, he gained ten pounds.

He was removed by relatives on Aug. 1, 1906. He was recently seen and stated that he was sleeping better than for years and had not resumed his habit. He appeared to be in even better physical condition than at time of leaving the hospital.

In 1873 Elliot¹ stated that there was no appreciable difference in delirium tremens resulting from use of chloral or alcohol. Only the history made the differentiation possible in this patient. For several years he had suffered from pain and stiffness, which were assumed by the patient to be rheumatic in character. These symptoms disappeared entirely while he was at the hospital.

Griffiths² describes the occurrence of pains in joints and muscles following prolonged use of chloral.

Antheaume and Parrot³ advise the gradual reduction of drug over a period of about twelve days and say that delirium may follow the abrupt withdrawal of chloral as of alcohol.

There was abrupt withdrawal in this case. Stimulants, forced feeding, hydrotherapeutic measures, with a hypnotic for the first three nights in hospital, were the only means used to aid in a gradual and uneventful recovery.

MacKenzie⁴ reports delirium following use of 15 gr. of chloral hydrate daily for a period of five weeks.

Da Costa⁵ tells of delirium in a man who began to use 20 gr. daily and increased the amount to nearly an ounce during a period of six months. Mental symptoms were not observed in the case until nearly twelve years after habit was formed.

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According to the *Medical Record* the College of Physicians of Philadelphia has received from Mr. Andrew Carnegie \$100,000 towards the erection of its new building, on condition that a like sum be raised, of which \$80,000 has already been subscribed.