former theory. Perhaps had I not given so much air, which prolonged the induction of anæsthesia, the spasm might not have happened.

Regarding the difficulty of getting the finger down the throat and into the larynx, I have tried the experiment on several cadavers, and have found that in children it is easy to pass my forefinger, which is rather short, past the epiglottis, and push its tip into the larynx. In a woman of ordinary type, by well depressing the lower jaw, and by pushing up the larynx from outside, as in putting on the finger of a glove, I can well get down to the glottis. In the ordinary man or big woman I cannot with the finger by any means touch the vocal cords. They are beyond reach. Hence, in cases of laryngeal closure occurring in full-sized adults, when the finger cannot reach the larynx, tracheotomy would be necessary.

FORMIC ACID AND THE INHALATION OF FORMALIN AS A PREPARATION FOR AND AID TO THE OPEN-AIR TREATMENT OF PHTHISIS.*

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FORMALIN is the name given to the saturated aqueous solution of 40 per cent. of formic aldehyde obtained from wood spirit by oxidation, the dilute 1 per cent. of formalin in water has no corrosive action; it is harmless to warm-blooded animals. One tablespoonful in one quart of water suffices for the disinfection of rooms, clothing, etc. Aronsohn found that 1 part of formic aldehyde to 20,000 parts of water destroyed the typhus and anthrax bacilli. It has the great advantage that it can be used in a vapourised condition and so available for the disinfection of perishable material without destroying them. Formalin is valuable as a disinfectant and deodorant cleansing septic wounds; it destroys bacteria and combines with the fibrous tissues, so promoting rapid healing.

Dr. Mitchell¹ says that formalin is often useful in the treatment of malignant growths; but to the physician it is useful when inhaled in a fine spray in catarrhal and tuberculous affections of the lungs. Diseased mucous tissues are more tolerant of the vapour than are healthy mucous tissues. Formalin has been successfully used in skin diseases, notably in epidermycosis decalvans and E. tonsurans.

Years ago when in search of the best means for preserving cut flowers in their pristine colours by destroying the microbes causing the fermentative changes (whereby their colours become lost) I found formalin the best for the purpose. Flowers thus retain all their brilliancy and are in strong contrast with the ordinary dried flowers of the hortus siccus. This germicidal property led me in 1895 to experiment with formalin in the treatment of catarrh and influenza, with the hope of destroying the microbes accompanying those diseases. The success was immediate and decisive, as reported in my paper read before the meeting of the Southern Branch, November 25th, 1896. I then recommended a trial of the inhalation of formalin in the early stages of tuberculous consumption, stating that formalin diminished the number of the bacilli in the sputum, as was afterwards confirmed by Dr. Murrell early this year. Dr. Cervello of Palermo has experimented in a similar way. In 1895 the inhaler used by me was not equal to the production of very fine mist-like spray of the dilute solution: subsequently various forms of inhalers were tried, the vapour of formalin issuing forth was almost invisible.²

The most satisfactory mixture for the inhalation has been: R Formalin ʒj, glycerin ʒivss, aq. pur. ʒv. M. To be used with an inhaler four to six times in the twenty-four hours, as may be suitable. Should there be more than usual sensitiveness in the air passages, aromatic spirit of ammonia ʒx may be added to the above mixture.

The following cases illustrate the benefit derived from these inhalations:

* Read in the Section of Medicine at the Annual Meeting of the British Medical Association, held at Portsmouth, August, 1899.

CASE I.—G. P., a gentleman over 30 years of age, went in 1878 to South Italy for the purpose of securing a milder climate—there he had hæmoptysis with continued feeble health—during each subsequent winter spent in England the cough and catarrh returned. In 1895 he used the inhalation of formalin with great relief; since that date he has been free from chest complaints.

CASE II.—B., a young woman, aged 21, had always suffered from winter cough and bronchitis, with symptoms of the first stage of phthisis. In 1897 she inhaled formalin, and has not since suffered from any severe cold or cough.

CASES III AND IV.—Two cases reported to me this year by a physician in Harrogate. He writes: "The first patient said after using the formalin a few days it had given her more relief than anything she had previously tried." The second: "W.C., aged 40 years. Illness began with pleurisy of both sides, May 25th, 1899. On June 5th there was a second attack, with congestion of both lungs. Temperature was normal for three days (June 16th to 19th), then it gradually began to rise a little each day until it reached 104° F. The consolidation of lung tissue continued, especially of the left lung. The cough was very troublesome. Angier's petroleum emulsion was given, but the temperature remained at 102° F. I began," my correspondent continues, "with your prescription of formalin; in two days the temperature became normal and has remained so for a fortnight. July 25th: The patient is gaining flesh, the lungs are slowly recovering, and the breathing has become normal."

These cases, my own personal experience, and the numerous cases reported in the European and American journals, prove how bright a prospect is opened up by the inhalation of formalin when given to suitable subjects of phthisis. This being so, I conclude from the proofs of the very excellent results of the open-air treatment that the question arises, Would it not be best to combine these two effective methods for each to supplement the other?

Cases of phthisis in their early stages may, in the first instance, be treated by the inhalation of formalin together with suitable dieting, so as to kill or weaken most of the bacilli before the patient starts upon the open-air treatment, and during that time he is still to continue the inhalation, as may be thought advisable; in this way the length of the sojourn in the sanatorium would be shortened by probably one-third. We may deem the benefit derived from the open-air method arises chiefly from the strength and hardiness conferred upon the patient who thus becomes able, on leaving the sanatorium, to resist the invasion of the tuberculous bacilli. By these combined methods of combating the inroads of phthisis we not only relieve the patient more quickly from suffering, but by shortening the time spent in the sanatorium we diminish the outlay, and shall thereby be able to meet more fully the needs of the poorer patients, who form, both absolutely and relatively, the majority of consumptives, for more of them could thus be accommodated.

The combination of both these tried and successful lines of treatment is earnestly recommended to those who have many opportunities to carry out in a wide field for observation the suggested mode of treatment in the confident hope that we shall greatly lessen the number of the unhappy victims of the greatest scourge of the civilised world; we know that at present "of every seven persons who die, one of them dies of some form or other of tuberculous disease."

NOTE AND REFERENCE.

¹ BRITISH MEDICAL JOURNAL, February 11th, 1899, p. 337. ² (a) Messrs. Oppenheimer's "Vapouriser." (b) The Formalin Hygienic Company's "Atomiser." (c) Messrs. Slater Brothers' "Cloudiser." (d) Messrs. Burroughs, Wellcome, and Co.'s "Atomiser."

A CASE OF JACKSONIAN EPILEPSY CURED BY OPERATION.

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THE following case is of interest because at the present time, more than four and a half years since the operation, the man is well and able to work as well as ever he could. The case was a severe one, for the man at the time of the operation was almost helpless, and was rapidly losing his mental powers.

T. W., a joiner, aged 38, first seen in the summer of 1894, had complained of severe and almost constant pain in the left temple for several months, and had occasional "fits" with loss of consciousness. He had been a heavy drinker, but said he had not suffered from venereal disease. The pain in the left temple was soon followed by pain in the right arm, with some loss of power, so that he could not put on his coat without assistance. In August, 1894, he fell down in the street; he "suddenly turned round," dropped down, and frothed at the mouth. He recovered in a few minutes. The next fit occurred six weeks later, whilst at work. He kept well for six weeks, and