lepsy, feeble-mindedness, primary dementia, incipient forms of hebephrenia, melancholia, mania, paranoia, all forms of inebriety, drug habitués and other dissipators, besides those who suffer from hereditary or acquired nervous defects, which lead them to become more or less incorrigible or display vicious and even criminal tendencies. Such persons, through lack of proper early legal and medical restraint, are more liable to contract syphilis, enter into some unfortunate marriage relation or get into the clutches of criminal and civil law, and finally land in either the divorce court, the penitentiary or the insane asylum, and thus become a ward of the state for the rest of their lives. Unless the patient happens to be financially able to provide for himself private proper and appropriate care, he is usually doomed to neglect or incurability, for the large majority prefer to refuse state aid rather than conform to the legal necessity of being adjudged insane, with all of its supposed disgrace and consequent stigma. Moreover, if treated at home by the family physician the chances of recovery are greatly lessened and at best is simply a makeshift. Hence the practical need of state and city sanitariums or psychopathic hospitals, built or arranged expressly for the reception and treatment of those persons found suffering from all forms of neuro-psychopathy and where the rules of admission are destitute of all the present objections of legal commitment, is not only a pressing need but an absolute necessity. In the larger cities special arrangements should be made with the managers of general hospitals to admit such persons and provide them with proper and appropriate care at the expense of the city, county or state. When this is done many who now refuse state aid will gladly accept it and thereby greatly increase the percentage of recoveries.

As a result of their psychologic disorders many such persons now refuse to submit to any form of treatment, much less restraint, even where their condition absolutely demands it. Such should, therefore, be compelled by law to conform to the dictates of modern medical teaching and experience rather than be allowed to gradually merge into a known chronic incurable condition and later become a ward of the state for the rest of their lives. That the failure of enforcement of early appropriate treatment due to inadequate legal provision is to a large extent the responsible agent for many of those unfortunates who are now legally compelled to spend their lives in the state hospitals for the insane, is now generally conceded by all competent authorities. As an economical, as well as a humane, measure, therefore, the various states of the Union could well afford to provide psychopathic or detention hospitals, halfway houses, if you please, between the asylum on the one hand and the home of the patient on the other, where the mentally unsound or the presumably curable nervous borderliners could receive such early appropriate medical care and treatment as they richly deserve without being compelled to be adjudged insane or subject to the many other objectionable features which now beset their legal commitment.

By such action the percentage of recoveries would be greatly increased while the pecuniary gain to the state in not having so many incurable insane to keep for the rest of their lives would more than provide sufficient funds to build and even maintain such hospitals.

In conclusion, it is, therefore, hoped that these remarks may be the means of stimulating a more earnest zeal and enthusiastic interest in the welfare of those unfortunates who, by virtue of some congenital or ac-

quired condition, suffer from the various kinds of mental infirmity or so-called nervousness.

DISCUSSION.

DR. JULIUS GRINKER, Chicago, objected that Dr. Punton included entirely too much under the term nervousness and borderline insanity. He was reasonably certain that every one has at some time or other in his life attended a horse race, gone to a theater, visited a ball game, or been in a saloon, and done the very things which Dr. Punton pointed out as being characteristic of nervousness. There are periods in every person's life, he continued, when one might indulge in all these things and later realize their harmfulness. However, most of us are neither nervous nor on the borderline of insanity. Nervous persons have certain characteristics by which they are easily recognized. As regards the factor of environment, Dr. Grinker believes it to be inferior to that of heredity.

DR. ELLEN C. POTTER, Philadelphia, thinks it a great mistake to take girls of that age out of school and make them drop their studies. She believes that the discipline of the schoolroom is all right, even if the children have to drop off other visitations and go to bed early and get more rest in other ways. She knows many school girls who go to bed Friday night and stay there until Monday morning. Better results followed where they were kept in school under this plan than where they were taken out of school and dropped their studies and associations and interests in school life.

DR. WM. J. SULLIVAN, Lawrence, Mass., asked Dr. Punton to answer a question he was asked on the witness stand by the leading attorney of Massachusetts, in the presence of the Supreme Court justices of that state, in reference to the ability of a certain person to transfer property by will: "Do you recognize the difference between unsoundness of mind and insanity?"

DR. JOHN PUNTON, Kansas City, Mo., stated that, while it is absolutely necessary to take into consideration the family and personal history, it is also of considerable value taken in connection with the other symptoms of the case. The difference between unsoundness of mind and insanity has, he said, caused much confusion. The tendency to combine the two terms leads to many mistakes in diagnosis; but Dr. Punton believes that there is such a thing clinically as mental unsoundness which is not actual insanity, and that the medical profession generally does not recognize this distinction.

Moreover, at the present time, the subject is not given the place in medical literature that it deserves. Dr. Punton did not attempt to define these terms, but he is satisfied that there are persons suffering from degrees of unsound mind who can not be termed legally insane.

IODO-FORMIC ACID IN THE TREATMENT OF CHRONIC ULCERATIVE PHTHISIS.

HEINRICH STERN, M.D.

NEW YORK CITY.

Since the publication¹ of my experience with formic acid and the iodin-formic acid solution I have received numerous inquiries concerning the employment of the latter in chronic ulcerative phthisis. Aside from the general question² as to the preparation of the solution, special information is sought relative to its mode of administration in phthisis, the theory of its action in that condition, the accessory treatment and the history of a case in which the treatment has been employed. In the following I shall attempt to respond to these queries somewhat at length.

PREPARATION OF THE IODIN-FORMIC ACID SOLUTION.

A. To make the "mother preparation" (10 per cent. glycerio-iodo-formic acid) take:

Iodin q. s. (an excess, formic acid, taking up a certain quantity only).

1. THE JOURNAL A. M. A., April 28, 1906.

Formic acid, 40 per cent. (sp. gr. 1.200) 25 c.c.
Glycerin, C. P. q. s. ad. (1.200) 100 c.c.
The dissolving process must ensue in the cold formic acid and may be hastened by agitation.

B. To make 1 per cent. iodo-formic acid, take:

Glycero-iodo-formic acid (10 per cent.) 10 c.c.
Distilled water 90 c.c.

C. To make iodo-formic acid dil. (for internal administration), take:

Glycero-iodo-formic acid (10 per cent.) 10 c.c.
Glycerin 90 c.c.
Distilled water 1400 c.c.

The iodine-formic acid solutions should be kept in dark-colored glass-stoppered bottles, and scrupulous care should be exercised to prevent any contamination of the solutions, especially with organic matter (dust).

ORAL ADMINISTRATION.

For internal use one tablespoonful of the diluted solution (C), representing 1 c.c. of solution B, is an average dose. In cases of hyperacidity this amount may not be well borne by the stomach. It may then be tried in smaller doses and may be diluted with water so that its acid taste equals that of a weak lemonade. Care must be taken, however, that the daily intake of water is not so large as to interfere with normal gastrointestinal function. The antiseptic influence of the diluted solution (C) on the intestinal tract, if not further diluted, is a very marked one. This, of course, is the greater the more of the solution has been taken by the patient. This antiseptic or antifermentative activity is clearly evinced by the condition of the feces and the absence from the urine of fermentation and putrefaction products.

The solution may be administered in much larger amounts than the average dose, provided the stomach can tolerate the acid. As a rule, the behavior of the stomach to the diluted solution may serve as an indicator of the amount to be imbibed. The diluted solution may be given from two to five times daily *after* breakfast, but *before* the other principal meals. It may also be administered between the repasts and at bedtime. It should never be combined with other drugs and should be administered at least an hour apart from any other medicinal agents.² It has no cumulative action in the common acceptance of the term, and may hence be taken for any length of time. It may be given during the period in which intramuscular injections of the 1 per cent. solution are being made.

INTRAMUSCULAR INJECTION.

For intramuscular injection the 1 per cent. solution of iodo-formic acid is exclusively employed. The intramuscular injection method is the only one from which specific results may be anticipated within a reasonable period.

Lack of time, expense and fear of the hypodermic needle, however, prevail on many phthisics to forego this, the only rational mode of administration of the iodine-formic acid. Almost my entire positive results were obtained by the intramuscular employment of the solution. The internal administration, it is true, fulfils a certain purpose. It suppresses tendencies to hyperfermentation and putrefaction and stimulates the appetite and the digestive and assimilative processes in general. The phthisical process in the lungs, however, I think, can only be influenced directly by injecting the

solution into the muscles. I usually inject into the thickest portion of the interscapular muscles. The best hypodermic needle for the purpose is one made of platinum with an iridium tip. The ordinary steel needle, however, will also suffice if care is taken of its weakest spot—the soldered junction of the canula and the screw or connecting part. Experience has shown me that an ordinary-sized hypodermic needle is better adapted for the intramuscular introduction of iodo-formic acid than are the larger antitoxin needles commonly employed for the injection of mercurial preparations. Immediately after usage the needles should be well cleaned, dried and threaded.

Barrel and piston of the syringe should be made of glass. The barrel should be graduated and, if possible, have a capacity of three cubic centimeters. Excepting the needle, and possibly the finger rests, nothing but glass should enter into the construction of the syringe. It goes without saying that the piston must be ground to fit snugly into the barrel.

The injection site is prepared by cleaning with ether and placing a few drops of the iodine-formic acid on it. Ether in sufficient quantity exerts also a local anesthetic effect, which property is of decided value in intramuscular injections of any solution. The needle, of course, has to be inserted from above downward and should meet the body (seen from above) at an angle of about 75 degrees. This favors the injection fluid to reach the more massive muscular portions. Experience has taught me that the patient, when the injections are being applied, should be in a sitting posture on a stool or crosswise on a chair facing its back. The physician who is standing behind gains thus better control of his patient and averts, by preventing the patient from watching the necessary preparations, a great deal of psychological and probably also of physical pain. Properly executed the intramuscular administration of the formic-acid iodine solution is not painful at all or causes but a very mild localized sensation of burning for one or two minutes.

I usually start with 10 drops of the solution, of which I inject half into the left and half into the right interscapular muscle-bundles. I repeat this dose for three or four days, after which I administer, in aforementioned manner, 20 drops for another three or four consecutive days. Following this, I generally increase the dose to 30 drops (2 c.c.), injecting it every other day for two or three weeks. After the first month the dose is generally continued at 30 drops, but occasionally increased to 40 drops and administered in the same manner twice a week for a more or less protracted period.

As long as the patient bears well the intramuscular introduction of the solution it matters little how soon the larger dose is started in with and how long it is continued. In certain cases much larger amounts of the solution may be administered with impunity. In some cases, after the first few weeks of treatment, weekly injections of 30 or 40 drops very often suffice. The shortest time in which, according to my experience, the intramuscular administration of iodo-formic acid has yielded positive results was about four months.

THE THEORY OF ITS ACTION IN CHRONIC ULCERATIVE PHTHISIS.

The very small amount of iodine which is taken up by the cold formic acid precludes at once the assumption that the total action of the iodo-formic acid is to be ascribed to its contents of that halogen. The ingestion or injection of the solution never occasions iodism, and the urine and saliva do not exhibit iodine after the oral or in-

2. Until about a year and a half ago I frequently ordered patients to take the solution in some essence of pepsin or therelike, instead of in water. Although this admixture was usually made just prior of taking it, there seems little doubt that the potency of the iodine-formic acid was interfered with to some extent.

tramuscular introduction of the preparation. Even in the presence of well-developed renal disease, symptoms of iodism do not follow the administration of the iodo-formic acid. Again, if a specific local iodine action would result from the employment of iodo-formic acid we would invariably find some iodine in the excretions coming from the respiratory tract. The presence of iodine in the liquid discharges from the air passages is, however, the extremely rare exception.

In view of the fact that formic acid alone calls forth similar, though much less pronounced, improvement of chronic ulcerative phthisis, we have to consider it the more effective or at any rate the more important component of the preparation. Formic acid is pre-eminently an antiseptic; it belongs to a group of antiseptics which may be called "rational," because they are not foreign to the living organism. Formic acid, it is true, is an excretory substance in a certain sense, but it is also an integral part of the brain and the juice of muscle, and of all or almost all the glands with an internal secretion. Spleen, pancreas and thymus contain comparatively large amounts of it.³

Formic acid may be enumerated along with hydrogen sulphid, sulphuric acid, glycol, urea, cystein, the cholic acids, glycuronic and acetic acids, as one of the chemical protectors of the organism. All these protective agents are products of normal metabolism. These chemical protectors render innocuous a great number of body-poisons; besides neutralizing a host of noxious substances that are known to us, they probably also avert the toxic action of other ectogenous or intrabiontic poisons which we have as yet not isolated.

Formic acid, outside the body, acts as a powerful reducing agent. It is, therefore, a logical supposition that formic acid exerts a similar function when occurring in the tissues and fluids of the body. In the organism it may hence convert a toxic substance into an innocuous compound by the removal of oxygen. Formic acid, on account of its reducing qualities, may be an essentiality in the cell-life of certain organs. The antiseptic and stimulating properties of the systemic formic acid appear to be due, in part at least, to the detoxicating results of its powers of reduction.

It is likely that the systemic formic acid performs its activity synchronously with some of the other chemical body protectors. Oxidation, reduction, hydration, dehydration and addition, the five protective reactions, may thus take place simultaneously in one group of cells. In other words, formic acid is only one of the chemical factors essential to the life and activity of certain cells. Its augmentation, as well as its deficiency in the organism, which are dependent on anomalous catabolic processes, may disturb cell and organ function and may hence be productive of disease. Such disturbances may make themselves felt even in organs which ordinarily contain little or no formic acid, whose health, however, is in a measure due to the regular function of those organs in which the usual reduction processes ensue on account of their normal contents of formic acid.

Taking up again the subject of iodine-formic acid, we understand now that the formic acid component of the latter may supply a deficiency in the organism, and that its antiseptic and other qualities may be explained

on chemical grounds. The iodine constituent was originally added empirically on the supposition that it is an antiseptic which, given up by the general circulation, is deposited on the bronchial mucous membrane from whence it exerted its salutary influence on the surrounding tissues and on the bronchial secretions, averting the latter's decomposition. Laboratory experiments, subsequently conducted by me, demonstrated that the percentage amount of iodine in the 1 per cent. solution exhibited little or even no bactericidal activity when in a watery solution.

Results similar to those which some clinicians wanted to attain by the injection of tr. iodine into pulmonary cavities could, therefore, not be hoped for by the iodine-formic acid administration. Neither could any influence of the iodine, as in the Shurley-Gibbs method for the treatment of tuberculosis, or in that of Durante, be anticipated. Nevertheless, the addition of the iodine to the formic acid enhanced the latter's beneficial influence perceptibly. The action of the formic acid became more enduring while the reaction ensuing from the injection of the formic acid *per se* became less conspicuous. Less frequent intramuscular administration of iodo-formic acid proved of more decided value than the very frequent injection of formic acid alone. The introduction into the organism of the iodo-formic acid is followed by a longer abatement of the fever; the night sweats are more readily controlled; the cough loses its paroxysmal character, is accompanied as a rule by less pain and is often entirely suppressed; the appetite increases steadily; fatty ingesta are relished and well-born; and taking it all in all, the administration of iodo-formic acid produces more lasting effects than that of formic acid alone, as regards increase in body weight, strength and the powers of resistance.

Inasmuch as it can not be that what we are wont to look on as the specific iodine action by which the iodine factor of the iodo-formic acid displays its well-pronounced influence, it must be in some other manner that it produces the remedial effects in chronic ulcerative phthisis. For a number of years I have maintained that the physiologic action of many inorganic and organic drugs calling forth specific reactions when taken in minute doses is solely dependent on their catalytic qualities. The iodine of the iodine-formic acid, so introduced into the organism that it may come in contact with the diseased lung tissue, acts in the latter as a catalyzer. I would classify the iodine of the 1 per cent. solution as an inorganic catalyzer with specific action.

The latter I would define as a catalytically acting body affecting only substances of specific structural and stereochemic arrangement. The action of such a catalyzer is in many respects analogous to that of a ferment. Ferments as well as catalyzers remain unaltered by the chemical process which they bring about. The iodine very likely tends to combine with a constituent of the normal or pathologic tissues or with one of the disintegration products due to its own catalytic activity. This (presumably hypothetical) compound is of a very unstable nature, undergoing dissolution the moment it is formed, setting free thereby the iodine which may continue to break up catalyzable structures and substances. In reality, however, the iodine no doubt loses a part of its catalytic energy when this has been actively engaged for some time. This opinion, though, I base on purely clinical grounds.

I would venture too far into the realm of speculation were I, on the strength of our meager knowledge con-

3. In leukemia formic acid occurs as a rule in greatly augmented quantities and may be found in the marrow, the blood, urine, saliva and sweat. Its augmentation may be due to the same factor which gives occasion to the absolute increase of uric acid in the blood of leukemics—deficient oxidation. Ordinarily, the surplus formic acid in the tissues and body fluids is further oxidized to carbonic anhydrid and water.

cerning the specific catalyzers, to go into details of iodine-catalysis at the present time. I do not know whether iodine exhibits catalytic properties when administered in larger amounts, in other combinations or taken by the mouth; whether it is a catalyzer *per se*, or only when forming a salt or when in proteid combination; whether its catalyzing energy is preserved or evoked by the formic acid, or whether, on the contrary, iodine-catalyzation enhances the activity of the formic acid.

THERAPEUTIC EFFECTS.

The primary therapeutic effect of the iodine-formic acid in chronic ulcerative phthisis appears to be a local one. I base this opinion on the following clinical facts, viz.: The pain in the chest, when present, is relieved after a few injections; the cough soon loses its paroxysmal character when the patient is under the influence of the drug; the expectoration, which may have been profuse, becomes scanty and attains a less purulent character, and the bacterial flora of the sputum (with exception of the bacillus tuberculosis) becomes perceptibly reduced after ten or fifteen injections. The elastic tissue fibers and the tubercle bacilli do not disappear so readily from the sputum, but in the majority of cases they are no longer found in it after from five to seven months' treatment with the iodine-formic acid.

The 1 per cent. solution participates in the removal of the decaying material from the lungs and tends to check ulceration and caseation. Its continued administration favors sclerotic metamorphosis of the margins of the ulcerating area and subsequent fibrosis and calcification of the entire diseased lung tissue. This I have not only demonstrated by an overabundance of clinical material—the transformation of instances of ulcerative phthisis into such of fibroid phthisis—but also by direct pathologic evidence on the autopsy table.

The mediate therapeutic effect of the drug is constitutional. It would be mere conjecture to explain the beneficial influence of the solution on the weakened organism beyond that which accrues from its local operation. Still, iodoformic acid seems to influence assimilation and anabolism in an independent and rather direct way, which is evidenced by the facts that the nourishment is better utilized and that the patient begins to gain in weight soon after the treatment is instituted and before any appreciable local changes have been brought about. Such local changes of improvement are, of course, preceded by the, usually early, relief of the symptoms mentioned heretofore.

THE ACCESSORY TREATMENT.

The cases of chronic ulcerative phthisis to which iodoformic acid is administered, apart from a few exceptions, demand but very simple supplementary treatment. Of course, special remedial measures should be prescribed when the various complications urge their employment. This may be necessary in the beginning of the treatment, before any influence of the iodo-formic acid has made itself noticeable. For the cough and pain codein alone or in combination with expectorants may be useful at the outset. During the first weeks of treatment, when the cough demands it, I usually order creosote in one or two drop doses, combined with tr. gentianæ or ess. pepsini, to be taken every second or third hour. After a month or so it will be found that no additional medication is called for as a rule.

The principal accessory treatment consists in the admission of sufficient and good air and in the plentiful ingestion of readily anabolizable material. It goes with-

out saying that mountain air and that of pine forests are best suited for the phthisic. The great majority of instances of phthisis treated by me with the formic acid-iodine solution were clinic cases which could not afford to give up work and to sojourn away from their home for any length of time. They had to get along on city air and they did generally pretty well on it. The patients should be minutely instructed as to the art of breathing, and nasal obstructions interfering with respiration ought to be removed at the earliest opportunity. Lung gymnastics should be practiced a number of times during the day, especially in the morning and evening. These restorative gymnastics may be performed in the open air or in a room with the windows wide open. An air bath of from fifteen to thirty minutes' duration taken at bedtime may prove conducive to a restful sleep and tends to regulate the body heat and to stimulate the skin and the internal organs.

Concerning the nourishment of the consumptive, I can only reiterate what I have said on former occasions.⁴ Overfeeding alone does not prevent further bodily decline; it may even give rise to an aggravation of the patient's condition by overburdening the digestive organs and by overproduction of alimentary poisons. It is futile to try to check bodily decline by forced feeding without taking into consideration the organs of digestion and the general assimilatory capacity.

The treatment of the so-called wasting diseases resolves itself in the prevention of waste. The secret of success in the treatment of consumptive affections lies in the proper management of the organs of digestion and assimilation. The most potent factor in maintaining physiologic digestion and assimilation is an adequate food-supply, that is, a nourishment not only sufficient as regards the quantity, but one which the declining organism with its weakened or impaired organs is able to anabolize; one, in other words, which furnishes the needs of the specifically affected and altered organism. If the food is not adapted to the digestive and assimilative capacity of the patient, he will slowly starve, although his food-receiving organs may be filled with ingesta to the point of bursting. (Stern: The Yolk Cure, etc.)

The consumptive receives, as a rule, sufficient amounts of carbohydrates and proteids with his food. What he is in need of is fat, assimilable fat, fat which does not give rise to intestinal irritation, fat which is not objectionable to the taste, fat which may be ingested in large quantities and for a long period. The fat of the yolk of the hen's egg is the only one which fulfills all these desiderata. The details concerning the "yolk cure" will be found in aforementioned papers. On this occasion I only wish to state that yolks should occupy a prominent place in the dietary of the patient affected with chronic ulcerative phthisis. I have found that an ordinary mixed diet in which the fat substances were simply replaced by yolks sufficed in many instances to bring about augmentation of weight and strength. If a patient, who is not in the last stages of phthisis, fails to build up while under the "yolk cure" we may feel almost certain that the latter is not properly executed, that is, the food partaken of, together with the yolks, is either not the right kind or is ingested in amounts not suited to the alimentary condition. When a general improvement of the patient's condition has taken place, it is no longer essential that the yolks form the only fatty ingesta; other fats, in limited amounts, may be added to the diet. If the yolks are taken for a protracted period—which ought to be the rule in any con-

4. Who Is Underfed? Med. Rec., May 21, 1904; and The Yolk cure in the Treatment of the Underfed, Med. Rec., Dec. 31, 1904.

sumptive disorder—the proportion of the various types of nutritives may and must be altered according to the prevailing alimentary circumstances.

The whole egg may be well tolerated in certain cases; their amount during the day should, however, never exceed five or six on account of renal irritation and alimentary albuminuria which are apt to supervene when larger quantities of eggs are ingested. The frequent occurrence of alimentary albuminuria following the affluent eating of whole eggs (especially when they are in the raw or semi-raw state) ought in itself be sufficient to stop the promiscuous employ of this article of food in the treatment of phthisis. Again, the "idiosyncrasy" for eggs is solely caused by the white of the egg. The argumented involvement of hydrogen sulphid and ammonia in the alimentary tract when half a dozen or more eggs are consumed during the day is due to the disintegration of the white of the egg and not to that of the yolk.

I have not met with an aversion for yolks in a single case of chronic ulcerative phthisis. From ten to forty yolks may be given during the twenty-four hours. The yolks should not be cooked but may be added raw to warm dishes and beverages. They may be incorporated with almost any foodstuffs, and with many liquids, as soup, milk, coffee, whisky, wines, etc. Variety of combination, incorporation and flavor facilitate the execution of the "yolk cure" and favor its continuation for almost any time.

The ingestion of large amounts of milk as advocated by many phthisiologists is not necessary when the "yolk cure" is being executed. Again, certain quantities of milk (skimmed milk when starting treatment) may be given together with the yolks, provided the patient's alimentary canal is in a proper condition to receive it.

CASE HISTORY.

History.—T. T., aged 18; native of United States, elevator attendant, was referred to me by courtesy of Dr. E. Blasucci Jan. 2, 1907. He complained of weakness, loss of weight, coughing spells, pain in the chest, recurrent slight hemoptysis, fever and anorexia. He had been treated by a number of physicians for the greater part of last year for "chronic bronchitis," but gradually declined. The family history pertaining to phthisis, as far as the patient knew, was negative.

Examination.—The physical examination showed a height of 5 feet 9 inches, illy developed muscles and an emaciated body weighing 117 pounds. The abdominal organs in a physical sense appeared quite normal. The heart in the recumbent position exhibited a very slight friction of the first mitral, and some accentuation of the second tricuspid sound. Pulmonary and aortic sounds seemed normal. The pressure of the right radial artery amounted to 130 mg. Hg, as ascertained by Potain's instrument. The temperature (rectal) was 100.8 F. The chest appeared long and flattened, the ribs, and especially both clavicles, prominent. There was insufficient expansion of and increased tactile fremitus over both apices. Increase of tactile fremitus was also observed at the base of the right lung. Percussion elicited comparative dullness in the clavicular regions and the supraspinous fossæ. Auscultation on deep inspiration revealed bronchial inspiratory murmurs and râles. Expiration was somewhat prolonged, and vocal resonance was increased. The sputum, which was quite scanty in amount, showed the presence of a goodly number of tubercle bacilli.

To allay the bronchial irritation, small doses of creosote (1 drop) in essence of pepsin were given during the first six weeks' treatment. The average number of yolks consumed per day was fifteen. The abbreviated table, in the opposite column, of the result of treatment is self-explanatory.

Subsequent History.—Examination of the chest March 4 showed improved expansion of its middle and lower portions. The tactile fremitus, distinctly more pronounced on the right

than on the left side of the thorax, was a good deal less on both sides than on the first examination. The increase of tactile fremitus at the base of the right lung had continued at about the same degree. The dullness had remained unchanged in area and pitch. Expiration still appeared prolonged and vocal resonance increased. Light bronchial inspiratory murmurs and râles could be elicited.

April 19 the patient was presented before the Manhattan Clinical Society and examined by Drs. Morrissey and Reilly. They reported to the society that the apical expansion was diminished, that there existed a tympanitic-deadened sound over the apices, especially on the right side, and that there was on the same side diminished respiratory murmur and some harsh vesicular murmurs over the left lung. They expressed the opinion that the condition had become quiescent and that shrinking of the lung tissue and fibrous tissue formation in the walls of small cavities, situated in the apices, had taken place.

May 4 an examination by the Roentgen ray did not reveal any positive data, and auscultation, performed on the same day, demonstrated expiratory movements of normal duration and nothing abnormal besides some slight friction sounds over the right apex.

May 26 the auscultatory findings were about the same as on the previous examination.

June 24 abnormal sounds in the lungs could no longer be detected.

The patient returned to his work March 31 and continued to work without interruption. He now occupies a much more responsible position than formerly. He is in the open air whenever he has occasion to be. He performs his lung gymnastics several times during the day. He feels very well, is quite strong, continues to gain in weight and resistance and was not at all affected by the hot weather in June and July. The patient continues under treatment.

TABLE SHOWING DETAILED RESULTS OF TREATMENT.

Date 1907.	No. drops sol. inject.	Rectal temperature, F.	Sweating.	Pain.	Cough.	Expectoration.	Tubercle Bacilli.	Weight in pounds.	Remarks.
Jan. 2.		100.8	++	+	+++	+	++	117	18 hrs. in bed, 6 hrs. in open air daily.
Jan. 4.	20	100.8	++	+	+++	+			
Jan. 6.	20	99.8	++	+	+++	+			
Jan. 9.	20	99.6	+	+	+++	+		123½	
Jan. 12.	20	99.6	+	+	++	+		127	In country, open air.
Jan. 17.	20	99.8	+	—	—	+	++	130¼	
Jan. 22.	30	99.6	+	—	—	+		130½	In bed 12 hours, in open air 18 hours.
Feb. 3.	30	99.0	+	—	—	—		132	Every week one or two days in country; always in open air from 9 a.m. to 5 p.m.
Mar. 21.	30	99.3	—	+	—	—		138	
Mar. 31.	20	99.6	—	—	—	—		139	Temporary permission to return to work.
May 1.	40	99.6	—	—	—	—		143	Working without interruption.
June 3.	30	99.0	—	—	—	—		146	
July 18.	40	99.4	—	—	—	—		148	
July 27.	40	99.4	—	—	—	—		142½	Worry over business troubles of father.
Aug. 5.	40	99.4	—	—	—	—		147½	Works in father's store.

Explanation of the symbols used in table: — absent; + present in a minor degree; ++ present to larger extent; +++ present in highest degree.

Specific Urethritis.—In *Central States Medical Monitor*, N. E. Aronstam states that gonococcal urethritis is no longer regarded as a mere local affection; it is beyond doubt a far-reaching constitutional disease, and the practitioner is committing a criminal offense against his patient as well as against the integrity of society at large, by intimating to the patient that this malady is not worse than a "cold." Such laxity betrays an unpardonable gross ignorance on the part of the physician.