KRETZSCHMAR. (P. H.)

Dr. Dettweiler's Method of Treating Pulmonary Consumption:

An Appeal for the Establishment of an Institution for the Rational Treatment of Pulmonary Consumption.

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DR. DETTWEILER'S METHOD OF TREATING PULMONARY CONSUMPTION:

*An Appeal for the Establishment of an Institution for the Rational Treatment of Pulmonary Consumption.**

By PAUL H. KRETZSCHMAR, M. D.,
BROOKLYN, N. Y.

Explanations and excuses are frequently offered by recent writers on the question of treating pulmonary consumption for doing so; some one has even gone so far as to make the remark, "If a professional man has nothing else to do he writes a paper on phthisis." I believe, on the other hand, that there exists in the whole subject of medical science no more important question to-day than that relating to the best possible means of diminishing the dreadful death-rate from pulmonary consumption. Not only to the members of our profession, but to the humanitarian, to the philanthropist, and to everybody taking interest in the welfare of society at large, the subject of successfully treating consumption is an important and entirely practical one. The statement can be made, without fear of contradiction, that more people die within the limits of the United States

* Read before the Section in Materia Medica and Therapeutics of the New York Academy of Medicine, January 27, 1888.

from consumption than from all the epidemics of contagious disease put together, and that no active measures are inaugurated to bring about a change for the better.

It is true that wealthy persons unfortunate enough to suffer from pulmonary consumption may derive much benefit from a long-continued residence in the well-known health resorts in Colorado, in New Mexico, or in Switzerland; they may be cured by submitting to proper treatment in the world-renowned institution for the cure of pulmonary consumption of Dr. Hermann Brehmer in Goerbersdorf in Germany, or at Dettweiler's sanitarium at Falkenstein, or they may prolong life by exchanging our cold and variable winter climate for that of Florida, Georgia, or North Carolina; but what are our poor patients to do? Having no means to employ either of these useful and frequently successful agencies to battle with the powerful enemy, they seek relief in the dispensaries and hospitals of our large cities, and after a shorter or longer period of suffering, and after having swallowed a large quantity of cough mixtures, more or less morphine, and probably a variety of quack medicines, they die. This statement sounds harsh, and it is not a pleasant one to make before a learned medical audience, but nevertheless it is the naked truth. I admire the honesty and frankness of our colleague, Dr. A. Seibert, who says, in a paper read before the Society of Physicians of the German Dispensary on November 12, 1886: "The poor patients suffering from chronic pulmonary disease—perhaps excepting old cases of emphysema—all die, and most of them without even gaining as much as temporary arrest in the destructive work of the disease. This at least is my experience after practicing for a number of years among the poor Germans of this city." If any one doubts the truth of what has been said, let him watch the routine mode of treating dispensary pa-

tients presenting the early symptoms of pulmonary consumption, or let him make inquiries as to the prophylactic measures employed by the average physician to prevent the development of the disease; let him visit our general hospitals and convince himself that the poor sufferers do not receive any kind of rational treatment. The so-called hospitals for consumptives are not hospitals at all in the good sense of the word; they are simply homes where patients find a place with comparative comfort—to die.

Can we present to the members of the profession and to our wealthy and benevolent citizens such facts as will induce them to establish institutions for the cure of consumption where the sufferers from chronic pulmonary disease may reasonably expect to derive benefit from treatment?

The cardinal question to be discussed is the one relating to the curability of pulmonary consumption, and the next one is, by which method, applicable to our large cities, can we obtain the best possible results.

In regard to the curability of pulmonary phthisis, most observers are firmly of the opinion that pulmonary phthisis in rare instances terminates favorably without regard to treatment; that under appropriate management and treatment the disease should be regarded as curable. Most observers are also of the opinion that tuberculosis and pulmonary consumption are identical, although well authenticated cases are on record where bacilli could not be detected in the expectoration of patients presenting all the symptoms and signs of pulmonary consumption. Without discussing this highly interesting and very important question, the fact seems to have been proved that bacilli which were present at one stage of the disease disappeared later on. Demme * reports a case of a child eight years of age

* "Berliner klinische Wochenschrift," 1883, p. 217.

and of previously good health which developed broncho-pneumonia and consolidation of the left lower lobe after a severe attack of measles; she suffered from cough, loss of flesh, and hectic fever. At first no bacilli could be found; later on, however, when the expectoration became thick and yellow, three or four-tubercular bacilli appeared in each field. During a period of two months the bacilli could be detected, but as the general health of the patient improved and the consolidation became absorbed they disappeared. Soon afterward the same child developed acute rheumatism and endocarditis and died. The autopsy revealed, aside from the pathological conditions due to endocarditis, a few cheesy deposits in the lungs; very few and only degenerated or dying bacilli could be detected. Two bronchial glands of the size of hazel-nuts in the stage of cheesy degeneration were subjected to a most careful search, but in a large number of preparations only *two* dying bacilli could be found. Nauwerk* reports a similar case. I am indebted to Dr. H. Brehmer, who has during a period of thirty-two years treated over 13,000 phthisical patients, for the following statement: "Until recently I discharged patients as cured if all the symptoms of pulmonary consumption had disappeared and if the physical signs showed nothing else but the result of previous disease; now I do not give a clean bill of health to any of my patients except they present the requirements of former days and their sputa have remained entirely free from bacilli for at least five consecutive weeks." Dr. Brehmer also informed me that during 1885 out of 488 phthisical patients treated in his sanitarium there were seven who were and remained free from bacilli, and that in the following year out of 521 patients seven again—though some of these had suf-

* "Berliner klinische Wochenschrift," 1883, p. 283.

fered from hæmoptysis, and all had elastic fibers in their sputa—remained free from bacilli. In 1885, 77 patients belonged to the first stage, 4 without bacilli, and of the remaining 73, 14, or 19 per cent., were discharged cured; 258 patients belonged to the second stage, presenting diagnosticable cavities; 3 of them never expectorated bacilli; of the remaining 255, 16, or 6·3 per cent., were discharged free from bacilli and cured; of 328 patients suffering from tuberculosis in its first and second stages, 30, or 9·1 per cent., were cured; the remaining 159 belonged to the third stage. In 1886 the total number of patients amounted to 521, 7 of them without bacilli; 58 of these belonged to the first, 298 to the second, and 165 to the third stage; of 356 patients available for treatment, 46, or 13 per cent., were discharged cured. Dr. P. Dettweiler, of Falkenstein, has published a pamphlet* relating to the permanent cure of seventy-two cases of pulmonary consumption, from which I now quote: "We have treated in Falkenstein 1,022 cases of consumption, the diagnosis depending on the physical signs and the general condition of the patients, together with the presence in the sputa of elastic fibers, and more recently of tubercular bacilli. Of these we have discharged as entirely cured 132, as relatively cured 110. In regard to the latter class, I wish to state that it includes cases where the general health of the patient and the condition of the heart and lungs would indicate a perfect recovery, if it were not for some one or another of the symptoms of chronic pulmonary disease remaining. Of the 132 classified as permanently cured, I addressed inquiries to 99, whose residences and addresses I knew, and who had been discharged as cured at least three years ago. Some of them had undergone treatment almost ten years

* Frankfurt am Main, 1886. Johannes Alt.

previously. I received 98 answers, which showed that 11 had died, some from consumption, some from other causes; accepting 25 per mille as the annual average death-rate, this number is not a large one, covering as it does a period of from three to nine years; 12 had had relapses, but were enjoying comparatively good health at present; 3 were at present suffering from pulmonary disease; and the remaining 72 had continued to enjoy good health—3 for nine years and over, 12 for eight years and over, 4 for seven years and over, 7 for six years and over, 14 for five years and over, 15 for four years and over, and 17 for three years or more. In all cases a short note from the family physician accompanied the patient's statement." Dr. Dettweiler, who himself has been suffering from pulmonary phthisis and had at one time been an inmate of Dr. Brehmer's sanitarium as a patient, and was afterward one of his assistants, closes his report with these words: "If it is of interest or of value to hear the testimony of a physician who has lived for over fifteen years among phthisical patients, and who has suffered himself from the disease for even a longer period, but who is now so far cured that even with the most careful examinations bacilli can not be found, I formulate my opinion as follows: *Under appropriate treatment, if the disease has not made too much progress and if the treatment is continued a sufficient length of time, more than one half of all cases of bacillary phthisis should be cured, and they will remain so if the patient will live accordingly afterward.*"

Dr. Meissen, in an able article published in the "Deutsche Medizinal-Zeitung," No. 59, 1885, entitled "Contribution to our Knowledge of Human Phthisis," speaking of the results obtained in 731 cases treated in Dettweiler's sanitarium at Falkenstein, gives the following statistical report: "The 731 cases were taken without selection from the records of the institution. They comprise 105 cases of initial

pulmonary phthisis, 442 cases of active pulmonary phthisis, 125 cases of progressive pulmonary phthisis, 6 cases of florid pulmonary phthisis, 52 cases of stationary pulmonary phthisis, and of these, 483 patients were benefited by treatment and 248 either died or did not improve. As we can hope for successful treatment in initial, active, and stationary cases only, the others—florid and progressive phthisis—ought to be excluded from the list, and it would then appear that, of 600 patients with pulmonary phthisis, 483 were improved and 117 were not benefited by treatment, and, while of all the patients 66 per cent. improved and 33 per cent. did not, of those available for treatment 81·5 per cent. improved and 18·5 per cent. did not." Dr. Meissen says further: "I have classified the result of treatment simply as 'improved' and 'not improved,' for I believe that in a very few cases we can, after three months' treatment, speak of a positive cure. By 'improved' I mean not only a temporary disappearance of one or more of the unpleasant symptoms of the disease, or a slight improvement in the physical signs, but a decided and lasting gain in every particular, more especially an increase in the weight and in the strength of the patient, a stronger heart's action, and an increased capacity of the lungs, such as a careful and painstaking physician can observe during the duration of treatment. In the cases reported the average duration of treatment was ninety days; but I should expect still better results if the patients would remain longer, although even then each case must be judged for itself. As an evidence that early treatment is of vital importance, it may be here stated that of 105 patients with initial phthisis 104 improved, of 53 with stationary phthisis *all* improved, and of 442 with active phthisis 334 improved and 108 did not."

These clinical facts, observed by the most trustworthy and experienced phthiso-therapeutists, are in perfect accord

with scientific researches, as shown by the experiments made by Dr. E. L. Trudeau, of Saranac Lake, and described in a paper entitled "Environment in its Relation to the Progress of Bacterial Invasion in Tuberculosis." * Dr. Trudeau's experiments are of such importance and show so plainly the true mode of fighting successfully the powerful enemy that I can not refrain from speaking of them at some length. The doctor, who is known as a careful and enthusiastic worker, tried to find some satisfactory answers to these three questions:

1. What result ensues when both bacillary infection and unhygienic surroundings are made to co-exist in tuberculosis?

2. Are unhygienic surroundings, when every known precaution has been taken to exclude the bacillus, sufficient of themselves to bring about the disease?

3. Is bacillary invasion invariably progressive in animals placed under the best conditions of environment attainable?

Experiments.—Fifteen rabbits were made use of, and divided in three lots, each set of animals being placed under conditions best adapted to answer, in the results noted, the three questions referred to above.

Experiment No. 1.—Five rabbits were inoculated in the right ung and in the left side of the neck with five minims of sterilized water in which was suspended a sufficient quantity of a pure culture (third generation) of the tubercle bacillus to render the liquid quite perceptibly turbid. The needle of the Koch's inoculating syringe was inserted subcutaneously on the left side of the neck and in the third intercostal space to a depth of thirty millimetres on the right side. These animals were then confined in a small box and put in a dark cellar. They

* Read before the American Climatological Society, Baltimore, June, 1887.

were thus deprived of light, fresh air, and exercise, and were also stinted in the quantity of food given them while being themselves artificially infected with the tubercle bacillus.

Experiment No. 2.—Five healthy rabbits were placed under the following conditions: A fresh hole about ten feet deep was dug in the middle of a field, and the animals, having been confined in a small box with high sides but no top, were lowered to the bottom of this pit, the mouth of which was then covered with boards and fresh earth. Through this covering a small trap-door was cut, which was only opened long enough each day to allow of the food, consisting of a small potato to each rabbit, being thrown to the animals. So damp was the ground at the bottom of this pit that the box in which the rabbits were confined was constantly wet. Thus these animals were deprived of light, fresh air, and exercise, furnished with but a scanty supply of food while breathing a chill and damp atmosphere, though free from disease themselves and removed as far as possible from any accidental source of bacterial infection.

Experiment No. 3.—Five rabbits, having been inoculated in precisely the same manner as the animals in the first experiment, were at once turned loose on a small island in June, 1886. It would be difficult to imagine conditions better suited to stimulate the vitality of these animals to the highest point than were here provided. They lived all the time in the sunshine and fresh air, and soon acquired the habit of constant motion so common in wild animals. The grass and green shrubs on the island afforded all the fresh food necessary, and, in addition, they were daily provided with an abundant supply of vegetables. Thus, while artificially infected themselves, they were placed in the midst of conditions well adapted to stimulate their vital powers to the highest point attainable.

Results.—*Experiment No. 1.*—Four of the inoculated rabbits confined in the cellar died within three months; in all of them the injected lung was extensively diseased, the other lung and the bronchial glands being also more or less involved, and tubercles in various stages, but sufficiently advanced to be macroscopical, were found in the pleura, peritonæum, spleen, and liver; from these lesions pure cultures of tubercle bacilli were

obtained. The fifth rabbit survived, and was killed four months after injection. At the autopsy the right lung was found solidified and shriveled, the upper portion being almost entirely destroyed, while a bronchial gland as large as a hazel-nut, filled with creamy pus, occupied the right chest; tubercles, which in many places had become cheesy, studded the upper portion of the left lung. The other organs were healthy.

Experiment No. 2.—The five uninoculated and healthy rabbits placed in the damp pit were all living at the end of four months. They were emaciated, and their coats were rough, but they still seemed about as active as at the beginning of the experiment. They were all killed within a few days of each other; but a careful examination of their organs revealed nothing abnormal in any of them.

Experiment No. 3.—One of the five rabbits which were allowed to run at large died just one month after inoculation. The lower portion of the lung was solidified, the bronchial glands enlarged, as well as the axillary glands on the left side, and a few tubercles were made out in the spleen. The left lung and all the other organs were sound. The four other rabbits remained apparently in perfect health, and so active had they become that two of them could only be captured by the aid of a gun. All four animals were killed at the beginning of November, or four months after inoculation. They were loaded with adipose tissue, and their flesh was so firm and red as to be in striking contrast to the blanched and flabby muscles of the other rabbits previously examined. All the organs were healthy, and even the points of inoculation could not be made out.

Instructive as it would be, it would lead us away too far from the purposes of this paper to dwell at length upon the lessons which these experiments teach us; suffice it to call attention to the fact that the large majority of those animals—lot 3—which were placed under the best possible hygienic conditions did not develop tuberculosis, although infected in precisely the same manner as those of lot 1, all of which became victims of tubercular infection.

If clinical experience and scientific investigation alike teach us that pulmonary consumption as well as artificially produced tuberculosis may readily terminate in recovery, and if we admit the truth of the statement made in the first part of this paper, that almost all of our poor patients do not recover, we must come to the conclusion that the mode of treatment practiced by us is not the proper one. It is the writer's opinion that the results which have been obtained by Dr. P. Dettweiler in the sanitarium at Falkenstein, in the Taunus hills near Frankfort, in Germany, are such that his method of treating phthisical patients should be made known to the profession in this country, and that an effort should be made without delay to establish a similar institution for the treatment of patients with limited means within easy reach of New York city. Although Dettweiler's mode of treating consumption does not reject the use of drugs altogether, its principal aim is to increase the vitality and the resisting power of the cells of the body, so as to enable them to effectually combat the bacterial invasion, by placing the patients under the closest personal supervision, and by the strictest individualization of each case. The strong points in Dettweiler's method of treating consumptives are: the most liberal and, we might say, specific use of pure mountain air—specific in the sense that the patients are either lying or walking in the open air almost day and night, as will be described farther on; the administration of a rich, liberal, and peculiarly adapted mode of diet; the very free use of milk; the general, but well controlled, use of wine and cognac, with or without milk; and the adoption of such climatic, balneological or therapeutical agents—including the use of compressed or dilated air, massage, and the douche—as each case for itself may indicate.

The sanitarium in Falkenstein was founded in 1874 by

a stock company—the shareholders not to receive more than five per cent. dividend on their investment, the surplus income to be used for the improvement of the institution, and, later on, for the establishment of similar places for the treatment of the poorer classes—and has been a success ever since, both financially and as regards its reputation among the medical profession. It is situated on the southern slope of the Taunus mountains, about fourteen hundred feet above the sea-level, near the city of Cronberg, about two hours' ride by rail and stage from Frankfort. It consists at present of three large buildings, together with such necessary annexes as gas-works, cow-stables, laundry, etc. The largest of the three buildings presents the form of a horseshoe, to protect the inhabitants from the rather heavy north winds which prevail there occasionally, and contains eighty rooms with over one hundred beds, and the post and telegraph offices, parlors, reading-rooms, billiard-room, offices, examination-room, and the douche in the basement. The next building, connected with the others by an arcade, contains the large, high, and well-ventilated dining-room, which seats about two hundred people comfortably, the kitchen being outside of the building. The third building contains the residences of the medical superintendent and his associates. Many improvements have been made during the year just closed. The climate of Falkenstein is not alleged to have any specific influence on the diseased organ; it does not differ in any essential part from that of southern Germany in general, except that during July and August the temperature is quite high. The air is comparatively free from dust or other impurities, although I believe that it would not be difficult to find localities within easy reach of New York city with still purer air; well-cultivated pine and oak forests are in the immediate neighborhood, with numerous attractive walks scattered through them, and with plenty

of seats and places for rest. A number of rotating pavilions are erected at different parts of the grounds, and a large arcade extends along the entire front of the principal building; the view from the latter, or from any part of the front of the house, is really beautiful.

One of the points which Dettweiler considers as of greatest importance in obtaining favorable results *is the treatment of phthisical patients within institutions* where they are constantly under the personal supervision of the attending physician. The medical profession of Germany seems to approve of this view, and everybody must admit the good showing which these institutions make as compared with the usual results obtained elsewhere. A number of larger and smaller establishments for the rational treatment of pulmonary consumption exist in different parts of Germany; in Goerbersdorf, where the cradle of them stands to-day as the model sanitarium of Dr. H. Brehmers, two others have been established; even Falkenstein has a second one. Dr. Driver, of Reiboltsgrün, in Saxony, and Dr. Jacubasch, of Andreasberg, in the Harz Mountains, are proclaiming good results in their respective places. *Why should we not try the system in this country?* The smallest details of the patient's life are controlled by the supervising physician, and nothing of any importance is left to his or her judgment. The daily exercise in the open air, the use of lung-gymnastics, the administration of stimulants, even the changing of garments, are matters not left to the judgment of the patients. Dettweiler says the physician who wishes to manage successfully such an institution must himself be a good man, the possessor of a big heart and much patience, and he must be supplied with all the instincts of a "shepherd's dog." The relation of teacher and pupil, in the fullest and best sense of the word, must exist between the physician and his patients, and, without

entering into the field of popular medical lectures, the patients should be taught to understand the physiological and hygienic laws which it is so essential for them to follow if they desire to come out victorious in the battle with the bacillus tuberculosis. The physician's office should be the patient's confessional chamber, and every possible effort should be made to foster implicit confidence in, and strict obedience to, the physician among the patients.

In connection with other phthiseo-therapeutics, Dettweiler praises the invigorating influence of pure mountain air, and its great value as a powerful agent in the treatment of consumption, but, contrary to the general usage, he does not allow his patients to use it at first without positive instructions from the attending physician. He maintains that the patient who has been in many instances confined to his room for weeks previous to his journey to the sanitarium, anticipating wonderful effects from pure air, indulges in an excessive use of it. Considered as a chemical compound, pure air can not injure anybody, but its physical properties may be such that harm may follow its indiscreet use in certain cases. New patients are not permitted to walk outside of the immediate vicinity, or even remain outdoors for a long time, until after the first careful examination, which is generally made by two physicians the day after arrival; the limit of outdoor exercise is then agreed upon, also the hours of rest in the open air, and the first instruction in lung-gymnastics is given. Under ordinary conditions, the duration of outdoor living is increased daily and the greatest importance is placed in "resting" in the open air. Over ninety *chaises-longues*—lounges made up of rattan and upholstered with horse-hair—are placed over the verandas, the arcade, and the rotating pavilions, and the patients, after being acclimated, spend many hours daily—dressed properly, and covered with blankets in accordance with the

season—lying upon them. It is this "permanent air-treatment" to which I referred as "specific" in its nature, for I have never observed this kind of treatment anywhere else. We can easily understand how this method may be successfully carried out during the warm season of the year; but even during the coldest period of the winter, while snow and ice cover the surrounding ground, all the patients—excepting only those with the severest cases and those suffering from intercurrent diseases—are subjected to this permanent air-treatment. During the winter before last, which was an exceptionally cold one, a daily record was kept, and it was found that some of the convalescing and more energetic patients extended the so-called "*jour médical*" to ten and eleven hours, about 6 per cent. belonging to this class, while 8 per cent. rested in the manner described over nine hours, 8 per cent. over eight hours, 18 per cent. over seven hours, 18 per cent. over six hours, 12 per cent. over five hours, and most of the remaining spent at least two or three hours on their rattan lounges. For the purpose of showing the influence of the weather on the number of patients partaking of the permanent air-treatment, Dr. Dettweiler and his associate kept an exact record during the year 1885 of the proportion of patients which were compelled to remain indoors all day and were visited by the attending physician at their rooms. The record reads: January, 10 per cent.; February, 7½ per cent.; March, 9½ per cent.; April, 9⅛ per cent.; May, 9½ per cent.; June, 7⅛ per cent.; July, 7½ per cent.; August, 6¼ per cent.; September, 7¼ per cent.; October, 9⅜ per cent.; November, 10¼ per cent.; December, 10½ per cent.—an average of 8½ per cent. during the summer months, and 9½ per cent. during the balance of the year. Considering the fact that those remaining through the winter belong to the more serious class of patients, the difference is very small. Only in exceptional cases—in highly anæmic

subjects, and those suffering from continuous and decided fever with frequent chills—is the permanent air-treatment not indicated. Those suffering from chills during the early hours of the day do not occupy the lounges until after dinner. Six hours is the average time spent on the lounge; many remain there until ten o'clock at night, passing the time reading or writing, playing dominoes or chess, the verandas and pavilions being well lighted after dark. Card-playing and games of chance are prohibited. Dettweiler maintains that experience, extending over a period of more than ten years and over a large amount of material, has convinced him that immunity against the unfavorable influences of sudden changes of temperature, diminished cough, increased appetite, and lessened fever are results obtained by the permanent air-treatment. Dettweiler being a careful observer and a man in whose judgment those who know him place confidence, the question naturally presents itself, Why should we not profit by his experience and introduce this very simple and still so effective mode of treatment in a properly situated sanitarium near New York city? Another feature of the treatment as used in Falkenstein—although not original with Dettweiler — supposed to strengthen the system and to harden it against unfavorable external influences—is the systematic use of massage and the regular daily rubbing down of patients, early in the morning and before rising, by trained nurses, first by means of dry towels, afterward with alcohol, and occasionally with salt-water. The cold douche—given at first only for fifteen and never over fifty seconds, generally applied sideways, at first as a rain-shower and afterward as a stream, always administered by a physician—is added in most cases to the other invigorating measures.

As one might expect, much attention is paid to the patient's diet and to the condition of the alimentary canal.

Dettweiler considers anorexia, next to pyrexia, the most important factor in destroying the life of our phthisical patients. As in other respects, so in regard to nutrition, much attention should be paid to the individual needs of each case, and, if necessary, all the delicacies of the season should be laid before the patient to tempt the appetite; it is certainly necessary to cater to the peculiarities of some in order to overcome their dislike for food. With these exceptions the patients take all their meals together, one physician being always with them, and the time for meals is thus arranged: First breakfast, consisting of coffee, tea, chocolate, or milk, with cakes or rolls and butter or honey, from 7 to 8.30 A. M. Second breakfast, bread and butter with milk, always as much as desired, or bouillon and cold meat, at 10 o'clock A. M. Dinner, the principal meal, consisting of soup, fish, or boiled meat, roast, with a variety of vegetables, salad and compote, and dessert, at 1 P. M. With the dinner each patient drinks from one third to half a bottle of Rhine or Hungarian wine; immediately after, but not taken in the same room, a cup of coffee, either white or black, is served. At 4 o'clock P. M. those whose condition requires additional nutrition partake of fresh milk, and a nice little room is arranged for this purpose within the cow-stable. A warm supper, consisting of soup, warm and cold dishes of meat, with compote, is served at 7 P. M.; some patients are permitted to drink beer with this meal, but most of them take a glass of wine. Instructions are given to eat slowly and chew well; milk especially must be taken only a swallow or so at the time; sometimes it is even directed to be drank from the tablespoon. The food is well prepared and cooked rather rich, and the changes are not confined solely to the bill of fare, but the manner of cooking is also changed often. Dr. Dettweiler himself directs the management of the kitchen. He

says that few of the patients do not enjoy the meals at Falkenstein; 86 per cent. of all patients gain an average of nine pounds each during a period of less than three months, while only 14 per cent. do not increase in weight. Dettweiler compares his "permanent air and rest treatment" with the administration of such a liberal and rich diet, amounting almost to overfeeding, to "Weir Mitchell's cure," and he speaks very highly of the favorable results obtained through the latter.

The free use of alcohol, more especially of pure brandy, is one of the features of Dettweiler's treatment which has frequently been criticised, but Dettweiler himself is very decided in his opinion about the value of alcohol as a remedial agent in cases of pulmonary phthisis; he says that he would give one half of the entire materia medica for this one remedy, and that the proper use of alcohol is of the greatest value not only in all cases of phthisis—whether accompanied by consuming fever or combined simply with well-defined anæmia—but also in all diseases where the general system is deranged, or where the functional activity of any of the more important organs is much below the physiological requirements. With this conviction well settled in his mind, he prescribes alcohol in every case in strict accordance with its requirements, never as a matter of routine—always with good results. The phthisical patient with a fair appetite and free from fever does not require more than three fourths to one bottle of good Rhine wine, claret, or Hungarian wine, either white or red, daily, to be taken with the meals. If, however, anæmia is a prominent feature, if the skin is cool, if slight chills are of frequent occurrence, or if the subnormal temperature of the morning extends toward the forenoon hours, he orders what might be called "the brandy treatment," the good effect of which he recognizes more every day. Under such cir-

cumstances he orders two teaspoonfuls of pure brandy to be taken every hour or two from morning till night, amounting to about eighty grammes during the day, and to be followed by a glass of brandy milk-punch before retiring. If for any reason alcohol should be administered in another form, the patients carry a flask of strong Rhine or Hungarian wine with them and partake of it in somewhat larger quantities, as is done with brandy. The regular use of brandy or wine through the day is continued generally for a few weeks only, but he advises the moderate use of stimulants during the further course of the treatment after longer walks, in cool weather, or if the patient feels easily fatigued; and he has never yet seen any of his patients acquire intemperate habits from following his advice. Dettweiler makes the following strong statement: "I should least be willing to abandon the use of alcohol in fever, the most powerful enemy of the phthisical patient. After numerous trials and experiments with a large variety of remedies, I will say freely that I would rather dispense with the use of salicyl, quinine, or antipyrine, than with good wine or brandy."

It is hardly necessary to state that the laws of hygiene are carried out strictly at Falkenstein, that the patients sleep with their windows open during the night, that pure water is at hand, that the greatest cleanliness prevails, that cuspidors filled with a solution of bichloride of mercury are placed everywhere, that the patients are instructed to make use of them instead of expectorating all over the place, that the drainage is of the best, etc. The average attendance during the last years has been 160 in the summer and 120 in the winter. The expenses, including wine, brandy, milk, douche, bath, and medical attendance, amount to not over twelve marks, or three dollars a day. The place is generally overfilled, and a number of patients sleep in houses outside of the institution proper, but all of them

are subject to the same strict supervision of the attending physician which is exercised over those living within the walls of the sanitarium.

In conclusion, I wish to say that within the limits of this paper it would have been impossible to describe the mode of treating so complex a disease as pulmonary consumption is in its details; that it was rather the intention of the writer to call the attention of the profession to a mode of treatment which seems entirely rational, and which has given such general satisfaction. Criticism has been intentionally avoided, although room for improvement might be easily detected. Let us profit by the experience of others, let us avoid their mistakes, but let us urge not only the advisability but the necessity for establishing an institution for the rational treatment of pulmonary consumption within easy access of New York city.