**On the early symptoms of phthisis : and the means best adapted to prevent or arrest its development : a graduation essay / by P.W. Latham.**

Miscellaneous

# ON THE EARLY SYMPTOMS OF PHTHISIS,

*&c. &c.*

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# EARLY SYMPTOMS OF PHTHISIS;

*AND THE MEANS BEST ADAPTED TO PREVENT OR ARREST ITS DEVELOPMENT.*

A GRADUATION ESSAY.

BY

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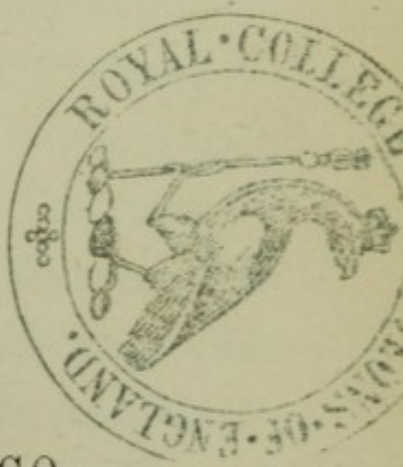


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# ON THE EARLY SYMPTOMS OF PHTHISIS,

*&c. &c.*

FEW diseases possess a more painfully interesting character than those which arise from the deposit of tuberculous matter in the different regions of the body. And this is so in an especial degree when the lungs are the seat of the disorder. Neither age, sex, nor rank escape. When the disease is fully developed, medicine may indeed do much to alleviate the pains of suffering and to delay the onward march, but the physician's art is but too often fruitlessly exerted to avert the inevitable and fatal result. In the earlier stages however, and especially when premonitory symptoms alone exist, by adopting proper measures and treatment, the patient's life may be indefinitely prolonged, the further development of the disease not only be arrested, but for ever after remain in abeyance. Fresh facts are constantly being brought forward to prove that recovery from consumption, more or less complete, is certainly

not infrequent, and this conclusion is daily gaining more acceptance. My aim in the following pages will be to suggest a rational method of prevention or cure, and in endeavouring to do so my plan will be:—

1. To discuss the nature of tubercular deposit in the lungs, and the changes which it subsequently undergoes.

2. To point out and establish the fact, that nature does frequently effect a spontaneous arrest, not only in the early, but even in the advanced stages of Phthisis.

3. To shew what are the exciting causes and the early or premonitory symptoms of tubercular deposit; and

Lastly, What means hygienic or medicinal should be adopted to prevent or arrest its further development.

## I.

*The nature of tubercular deposit, and the changes which it subsequently undergoes.*

According to Schroeder Van der Kolk,[1] if we examine air vesicles adjacent to tubercular deposits, we find, in one in which the deposit has just commenced,

[1] Nederlandsch Lancet, 1852, and translated in 'Lectures on Surgical Pathology, by James Paget, F.R.S.,' edited by Turner, 1863.

a part of the wall of the vesicle unaffected and "covered with epithelial cells of various sizes containing nuclei, oil drops, and granular matter. In the middle and at the end of the same vesicle are some cells of darker tint: they are no longer flat, but filled with some material, and thereby more or less swollen or spherical; they are epithelial cells more or less distended with fluid, and detached, and... they constantly enlarge. In an adjacent vesicle these cells are much larger and closely adherent. It is observable that the largest cells commonly lie in the middle of the cavity of the air cell; the larger are mostly filled with many nuclei, in the smaller there is but one.

"It is thus evident that these cells, which fill the air vesicles and make up the tubercles, are nothing else than epithelial cells, which swell by imbibition of plastic matter, enlarge, and are detached from the wall of the air vesicle. The cells which are placed in the middle of the vesicle are thus the oldest, *i. e.* the first removed from the walls, the longest exposed to the influence of the surrounding fluid, and therefore the largest. They are all filled with granular matter and minute oil spherules, and in the larger an increase of nuclei has taken place.

"If tubercles be examined in a somewhat further advanced stage, when they show more tendency to

softening, the larger cells just described are found in much less quantity, and in place of them the air vesicle is filled with smaller cells. Among these however some larger cells appear containing smaller cells or nuclei, which are completely like those that are free; so that there can be no doubt but that in this state the larger corpuscles are dissolved or burst, and the smaller ones set free." These smaller ones are the so-called tubercle corpuscles; they are of irregular shape, approaching a round oval or triangular form, and varying in their longest diameter from $\frac{1}{2000}$ to $\frac{1}{1200}$ of an inch; they contain from one to seven granules, are unaffected by water, but rendered transparent by acetic acid. These 'tubercle corpuscles,' more or less closely aggregated and accompanied by a multitude of molecules and granules in greater or less abundance, constitute the two kinds of tubercular masses met with in the lungs; the grey, semi-transparent, miliary tubercles, and the yellow cheesy masses or crude tubercles.

The grey semitransparent tubercle of Bayle, the miliary tubercle, is found disseminated through the lungs about the size of millet seeds of irregular shape, of a grey colour and horny consistence, and either placed singly or collected together. In these the tubercle corpuscles are more closely aggregated together, and there are fewer molecules and granules than in the

yellow tubercle—otherwise the microscopical appearances of the two kinds are the same. As soon as the deposit has taken place, the lung substance around it is more or less congested, and becomes after some time thickened and hardened; the minute branches of the bronchi are involved, and we have throughout the disease more or less bronchial irritation, congestion, or inflammation. M. Guillot[1] "ascertained that the branches of the pulmonary artery stop or cease to be permeable at a distance of 3, 4, or 5 millimeters from tubercles or grey granulations. The length of vessel impermeable increases with the augmentation of tuberculous masses, so that when these are considerable, or when they have given place to cavities, a sort of investment, two centimeters thick, may be found around them, presenting not a single ramification of the pulmonary artery. By injection and microscopical examination it is further discoverable that this total absence of vascularity is only temporary; after a time red lines tapering off at either end, and in their widest part equalling a millimeter in diameter, become discernible. At first these vessels are perfectly isolated, but in process of time communicate with the bronchial arteries, or with those of the walls of the thorax.

[1] Condensed in the *Brit. and For. Medical Review*, Oct. 1843, from the 'Anatomical, pathological, and therapeutical researches on Phthisis, by P. C. A. Louis.' 1843.

The latter communication is effected by means of new vessels developed in the pleural false membrane. The amount of new vascularization effected in this way increases greatly with the progress of tuberculous destruction. . . . . M. Guillot ascertained that the blood in these supplementary vessels must return to the heart by the bronchial, pulmonary, and azygos veins. . . . . As tuberculization advances the lungs increase in capacity for arterial and lose it for venous blood."

As soon as the tuberculous matter is deposited in the lung, it undergoes a change which is either softening or calcareous degeneration. Softening of tubercle always commences at or near the centre. If at the commencement of softening a tubercular mass be cut across, the centre "looks cracked and crumbling, and is easily pressed out, leaving a little central cavity. In the next stage it becomes liquid like thin pus, with flakes or grumous particles," and this change goes on throughout the whole mass. Sometimes, though the occurrence is rare, softening may take place simultaneously in every part of a considerable mass, and present throughout the same amount of softness and friability (Louis). This softened tubercle now gives rise to further changes. Either,—

1st. The surrounding lung tissue becomes softened and ulcerated, an opening is formed in an adjacent bronchus, matter is expectorated, and a vomica

formed; the tissue surrounding this may now either become infiltrated with organizable lymph, cicatrisation may take place, and the cavity partially or completely heal: or in the place of organizable lymph fresh deposit of tubercular matter may take place in the surrounding tissue, which deposit may undergo the changes already described, fresh cavities be formed, the lung substance be more and more destroyed, until respiration can no longer be maintained, and the patient dies.

2ndly. After the tuberculous matter has become softened and fluid, the fluid particles may be slowly absorbed, the fatty and calcareous elements being left, or even increased in quantity, until gradually it becomes a dry, greasy, mortar-like concretion, which has received the name of 'tuberculous chalk'. This is calcareous degeneration.

Calcareous degeneration also takes place in tubercles, in the same manner as described above, without these undergoing the process of softening. In either case, the degenerated tubercle ceases to produce any effect upon the surrounding lung tissue, which has become isolated by the products of inflammation, and hard, dark, and shrivelled, undergoing pigmental degeneration.

Another kind of degeneration is described, which however is peculiar to the grey tubercle, viz. deca-

dence or cornification. The granules, according to Rockitansky, lose their moisture, and becoming condensed are transformed into hard nodules, and shrivel into a tough, amorphous, or indistinctly fibrous, horn-like mass. In this case, as in the former, the lung tissue accommodates itself to the presence of the deposit.

## II.

*Nature frequently effects a spontaneous arrest of Phthisis, not only in the early, but in the advanced stages.*

In the preceding section I have described the changes which take place in tuberculous matter after it has been deposited in the lungs. It follows, that for the arrest of Phthisis, we must have the following conditions:

1st. There must be no further deposit of tubercle.

2nd. The tubercular matter already deposited must either undergo cornification or calcareous degeneration, the surrounding lung substance undergoing pigmental degeneration, and becoming tolerant of the abnormal deposit; or, after softening of the deposit, the matter must be evacuated, and the resulting vomica wholly or partially cicatrised.

Now it will be sufficient for the establishment of my argument, if I show from the investigations of

able pathologists that such conditions are met with in the lungs of persons dying at advanced ages from other causes than Phthisis; and if I can show that persons with all the physical signs and general symptoms of the disease recover their health and strength, and after living several years die eventually from a different cause.

Ancell, Andral, Bayle, Boudet, Cruveilhier, Hasse, Laurence, Laennec, Kingston, Rogée, and others, have described these healing processes, and satisfactorily proved that the morbid changes met with in the lungs were the result of tubercular deposit. Some of them have also published cases, in which all the signs of Phthisis, general and physical, were present, in which the patients recovered, and dying years after from some other cause, direct evidences of arrested tubercles were met with in the lungs. Rogée,[1] who examined the bodies of 100 old women, upwards of seventy years of age, who died at the Salpetrière from other diseases than Phthisis, found cretaceous and calcareous deposits, with pigmental degeneration of the lung tissue, in 51 cases. Copland[2], in speaking of calcareous degeneration, says, "this healing process is by no means rare, its traces being often found in the lungs of very aged persons who have died of different

[1] *Archives Générales de Médecine*, vol. v., 1839.

[2] *Med. Dict.*, vol. iii. part 2, p. 1117. 1858.

maladies, and not unfrequently also in much younger subjects." Hughes Bennet,[1] of Edinburgh, has recorded two highly interesting cases of persons with all the symptoms of advanced Phthisis, having their general health restored, and dying, the one years after the attack, the other 18 months afterwards from other diseases, and in which, on examining the lungs, the healing processes were well illustrated. The appearances presented are figured in the book. He also relates a number of cases in which all the symptoms of Phthisis were present, and in which there was either a marked improvement or a permanent recovery from the disease. Dr. Carswell states that "pathological anatomy has perhaps never afforded more conclusive evidence in proof of the curability of disease, than it has in that of tubercular Phthisis."

In the Second Report (1863) of the Brompton Hospital for Consumption, the following result of 6001 cases, on leaving the hospital, is thus given—

| | |
|---|---|
| Disease arrested and well ..... | 251 |
| Much improved ..... | 901 |
| Improved ..... | 1470 |
| Relieved and Stationary ..... | 1505 |
| Disease advancing ..... | 876 |
| Death ..... | 998 |
| | 6001 |

[1] *Pathology and Treatment of Pulmonary Consumption.* 1859.

The details of symptoms of 40 cases are given, in which there was an increase in the weight of the patient varying from 17 to 28½lbs., and also the histories of a number of duplicate cases, (cases which were admitted a 2nd or 3rd time into the hospital, after an interval of some years, and none of which "were selected for this purpose but such as furnished undeniable signs of advanced disease of the lungs, running on most frequently to excavation"). These details, the report states, "exhibit distinct evidence of considerable and permanent recovery, both in the lungs and in general symptoms, even after the formation of cavities and the establishment of the third stage of the complaint."

Dr. C. J. B. Williams[1] finds from 7000 cases of Phthisis that the average duration of life is 4 years. He then states: "The experience of Louis and Laennec gave an average duration of two years, so that by the introduction of cod-liver oil and other agencies we have lengthened the period and doubled its duration . . . . . I have notes in this period of only 24 cases to which the word "cured" could be applied. They have gone on from 2 to 18 years in fair health, and filling their places as useful members of society. Of partial cure cases, in which the duration of life has been prolonged beyond the average

[1] Lumleian Lecture before the Royal College of Physicians, 1862.

of four years to a longer period, I have 31 cases of prolongation from 6 to 31 years . . . . . These persons are now living: their life has been rendered useful and comfortable, and they may yet live for many years."

Dr. Wood, of Pennsylvania, states that the duration of Phthisis has been lengthened, and the mortality diminished, since the treatment has been directed to the improvement of the digestion and assimilative functions.

The following case, which occurred in my private practice, is one among others which has furnished me with evidence of the benefit resulting from the judicious treatment of this disease in its earlier stage.

T. W. S., æt. 25, consulted me in London on Oct. 20th, 1862, when he complained of feeling out of health, and had been troubled rather severely with Urticaria evanida. He was somewhat pale and rather thin; 'he was out of sorts and easily tired'; he did not enjoy his food. Pulse, 80 and feeble. Tongue, clean, flabby. Bodily functions, normal. There was no other marked symptom; no cough, no perspirations were complained of, no shortness of breath: before the eruption made its appearance, there was some feeling of constriction about the throat, and some dyspnœa. I prescribed a tonic for him, and saw him

twice in the course of the week, when I noticed that he had the short hacking cough at intervals, which is such a suspicious indication of the first stage of Phthisis, and on the 27th of October I examined his chest.

*Right side*—anteriorly and posteriorly, vesicular breathing free and good all over, and resonance on percussion, normal.

*Left side*—anteriorly, feeble breathing, with medium-sized crepitation from clavicle to 3rd intercostal space, elsewhere free and vesicular.

Posteriorly, coarse inspiration and expiration above the spine of the scapula; and at the superior angle of the scapula tubular inspiration and expiration, with bronchophony, elsewhere the breathing free and vesicular.

*Percussion*—dull anteriorly, from clavicle to 3rd intercostal space, elsewhere normal. Posteriorly, duller than natural above the spine of the scapula, elsewhere normal.

I prescribed steel, quinine, and nitro-muriatic acid, with ol. morrhuæ, and at once recommended him to make arrangements to spend the winter in a warmer climate, as I considered the state of his chest would not allow him to discharge the duties of his profession. He went to the country, was examined by his medical attendant, who confirmed my diagnosis. In the meantime he suffered from a slight attack of bronchitis.

Towards the end of November he came back to London, when I saw him in consultation with Dr. Burrows. The same ausculatory signs were then present; the hacking cough was more decided, especially first thing in the morning, and slight exertion produced perspiration. It was decided that he should continue the remedies already prescribed, and go to Ventnor in the Isle of Wight. His own account* describes his mode of life at Ventnor. I examined his chest on the 7th of April, 1863, when I found the following signs in the left side:

*Anteriorly*, breathing freer and fuller than in October last, with absence of crepitation; slight bronchophony, and resonance on percussion impaired from the clavicle to the 2nd intercostal space, but not dull.

*Posteriorly*, inspiratory murmur and expiratory murmur, both rather coarse above the spine of the scapula, with slight bronchophony; the tubular breathing at the angle of the scapula had disappeared.

He was stouter and stronger; he returned to his duty in May; he describes the general state of his

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* "In 1856 I caught a severe cold, which being neglected, ultimately settled in my chest, affecting the left lung, to what extent I am unable to say. A good deal of mucus attended the coughing, but eventually I regained health and strength under a course of cod-liver oil.

health in his own account. I saw him in Cambridge in March, 1864; he was not in such good health

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"In September, 1859, I sailed for India. My health during the voyage was very bad. Not in any way connected with the chest, but with the digestive organs. In December I arrived in India tolerably well, having been much better during the last month at sea. I was in India from December, 1859, till March, 1862, and during that period my health was never very good. For seven months of that time I was near Bellary, and so escaped the greater part of the hot season, and generally felt very well.

"In December, 1860, I arrived at Secunderabad. March, April, May, and part of June are the hot months there, and I then suffered severely, being prostrated by the heat, and my strength failing me entirely. My chest then became very troublesome. I had a severe cough attended with the spitting of much mucus, which once or twice, but not oftener, I remarked to be of a brick-dusty colour. The symptoms were those usually associated with phthisis; emaciation, sweatings, and great uneasiness in the chest, etc. Strange to say, as soon as the rains began and the temperature was lowered, I regained my strength, and at the same time was relieved of the distressing symptoms in the chest.

"I paid particular attention to the thermometer during this time. For about six weeks at night, that is from sunset to sunrise, the mercury did not fall below 95° F. in my sleeping room, a large airy apartment with windows and doors open. So soon however as the cause of indisposition, the heat, was removed, the irritation in the lung subsided, notwithstanding that the weather then being cold and damp, was according to general ideas more un-

as when I saw him in April, 1863, and within the previous month or so, he had lost flesh, but for that

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suited for a delicate chest than the previous very hot, dry atmosphere. This was in May and June.

"In September I suffered from *coûp-de-soleil* in a mild form, that is, I was seriously ill for about a fortnight only. I arrived in England in July, 1862; my health was not quite re-established, though I had been recovering gradually since my departure from India in March. During August, September, and part of October, I was in France—in Boulogne principally. There I suffered much from severe attacks of catarrh, to which I was very susceptible. My strength increased very much notwithstanding.

"From Boulogne I returned to London, and remained there till the 28th October, when I went to Hampshire. As to the state of my health then, you know more than I do. I may mention that I spit up a little blood on one occasion, but not since; I felt however out of sorts, and far from strong or well.

"In November I went into Essex for a fortnight, at the end of which time I suffered from cough and bronchitis. At the end of that month I was examined by Dr. Burrows, who recommended me to go to Ventnor. My stay at Ventnor was from 1st December to 28th March. Of the climate I cannot speak too highly, and the benefit I derived from my four months' residence was very great. For one day only was I kept indoors the whole day in consequence of rain. My usual habits were—to rise at 8, sponge my body over with cold water in a bath, and having put on my flannels, use dumb-bells (8lbs. weight each) for about ten minutes or a quarter of an hour.

"I breakfasted about nine. Breakfast consisted of cocoa or chocolate, bread and butter, and two lightly

time he had been at a fashionable watering-place, and had felt so strong and well, that he had foolishly

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boiled eggs. About 10, I started for a walk, generally till 12, having gone 5 or 6 miles. At 1, luncheon, consisting of a chop and potatoes and a small pint of stout; after this I went out again, and generally took a stroll in the country or along the beach, remaining out till sunset. At 7, I had dinner—a piece of steak or a chop, with a small pint of Bass or Allsopp's bitter ale. At 10 or 11, I went to bed, sometimes taking a glass of milk and a biscuit for supper. Cod-liver oil I took after breakfast and luncheon, about three tablespoonsful altogether, and at 12 and 6 I took a dose of the tonic you prescribed. I gained in weight while in Ventnor, and left it very much better. The month of April I passed at Boulogne, and was tolerably well while there. On the first of May I returned to work, and since then, till the end of the year 1863, I was never seriously ill. I have at times felt out of sorts, but nothing of moment. For some months in summer and autumn, I took no medicine, but in October I resumed the cod-liver oil and the tonic. I was able to go out with the beagles, and once on foot without any bad effects; my weight also was considerably greater than it was, at the corresponding time, the previous year. From my own experience I can say that out-door exercise is highly beneficial; also the use of dumb-bells, and the elastic band.

"In regard to your question, as to whether any members of my family have been troubled with chest affections, I regret to say that I believe that pulmonary affections have been both numerous and fatal to many of my relatives on both sides. My father and mother both perished at an early age from Phthisis."

attended numerous evening parties, and on one evening especially, had danced for seven hours consecutively. The auscultatory signs were much the same as in the examination in April, 1863. I dismissed him with a caution, and I have strong hopes that, with ordinary care, he may avoid the development of the evils which threaten him.

## III.

*The causes, and the early or premonitory symptoms, of Phthisis.*

Many and various are the causes which have been stated to give rise to Phthisis. On examining however the subjoined Table of their classification,* it will

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* Classification of the Causes of Tubercular Consumption. (Copland).

I. Causes appertaining to one or both parents.
   - A. Hereditary constitution or predisposition.
     - *a.* Transmission to the fœtus or infant.
     - *b.* Extent of hereditary transmission.
   - B. Diseases of the parents productive of tubercular consumption.
     - *a.* A syphilitic cachexia.
     - *b.* A constitution impaired by mercurial courses.
     - *c.* Exhaustion of vital power, or debility caused by excessive sexual indulgence, or by masturbation.
     - *d.* A gouty diathesis.
   - C. The ages and the social condition of the parents.
     - *a.* Premature congress in respect of either parent.

be seen that they are identical with causes which may be said to depress the vital powers, and so

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*b.* Far advanced age especially of the male parent.
*c.* Influences of circumcision or uncircumcision.
*d.* Intermarriages.
*e.* The occupation of the parents.

D. The modes of living of the parents in respect of food and drinks.

*a.* Insufficient or unwholesome food,—pork, bacon, &c.; blood and viscera of animals, &c.
*b.* A vegetable and animal diet, fish, &c.
*c.* Intemperance and addiction to spirits.
*d.* Causes acting on the female during gestation and lactation.

II. Causes acting chiefly during early life, or previously to puberty.

A. Inappropriate food, drink, and regimen of infants and children.

*a.* During infancy. The milk of strumous or phthisical nurses.
*b.* Insufficient or unwholesome food in childhood.
*c.* Sleeping with the aged, debilitated or phthisical.

B. Contaminated, cold, and humid states of the air.

*a.* Overcrowding, congregating, or sleeping in great numbers in a close apartment, &c.
*b.* Exhalations from privies, drains, cesspools, or from swamps, &c.
*c.* Emanations from the lungs and skin of the phthisical.

C. Employments, exercises, amusements, and regimen previously to puberty.

*a.* Sedentary occupations, irksome employments, &c.
*b.* Deprivation of outdoor exercises and amusements.
*c.* The congregation of numbers in factories, rooms, houses, and sleeping apartments.

produce feeble development of the body or disorder of the nutritive functions. Such as these may be

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*d.* Dress—day and night clothing.

*e.* The influence of light, sunshine, and temperature, especially the deprivation of these.

*f.* The influence of low temperature, humidity and exhalations during sleep, sleeping apartments, &c.

III. Causes most frequently acting during and subsequently to puberty.

A. Amusements, occupations, exercises, clothing.

*a.* Studies, amusements, and exercises in both sexes.

*b.* Positions of the trunk of the body, supports, stays, &c.

*c.* Clothing in respect of the several regions of the body.

B. Trades, employments, and conditions of life.

*a.* Trades which are injurious by preventing exercise in the open air.

*b.* Occupations in which dust or other irritating matters are inhaled, grinders, sculptors, &c.

*c.* Occupations which are exposed to great vicissitudes of temperature and weather.

C. The instinctive desires and emotions.

*a.* Premature or excessive sexual indulgence.

*b.* The vice of masturbation.

*c.* Celibacy.

D. Mental exertions and affections.

*a.* Intense or prolonged mental exertion.

*b.* The depressing mental emotions and affections.

*c.* Nostalgia.

*d.* Prolonged anxiety. Disappointed hopes and affections.

IV. Causes consisting of contingent or associated influences or circumstances.

A. Sex, age, diathesis, and temperament.

*a.* Sex, age.

*b.* Diathesis and temperament.

classed as predisposing causes. The exciting or pathological causes may be generally defined, as

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B. Seasons and atmospheric conditions.

*a.* Humidity, dryness, temperature, and other atmospheric conditions.

*b.* The seasons—winter, spring, summer, and autumn.

C. Climate and locality.

*a.* Climate and locality of various countries.

*b.* Climate in connection with modes of living.

*c.* Climate in connection with religious and social observances.

*d.* Prevalence in England, London, &c.

D. Influence of confinement in prisons, workhouses, and of expatriation.

*a.* Prisons, hulks, &c.

*b.* Workhouses, &c.

*c.* Expatriation, &c.

E. Vicissitudes of fortune, &c.

*a.* Poverty and distress.

*b.* Loss of reputation, of friends, &c.

V. Pathological causes of Phthisis.

A. Previous diseases of the respiratory and circulating organs.

*a.* Catarrh, catarrhal fever, influenza.

*b.* Bronchitis, pneumonia, broncho-pneumonia.

*c.* Hooping-cough.

*d.* Vascular lesions of the heart with or without hæmoptysis.

B. Exanthematous diseases.

*a.* Vaccination, small-pox, &c.

*b.* Measles, scarlet fever, &c.

C. Suppressed or excessive secretion or excretion.

*a.* Suppression of the cutaneous excretions.

*b.* Excessive secretion or excretion, prolonged suckling.

*c.* Disordered, suppressed, or excessive catamenia.

those which tend to produce congestion of the lungs and exudation. Fevers, measles, small-pox, the suppression of accustomed discharges, the sudden repulsion of cutaneous eruptions, pneumonia, bronchitis, the results of vicissitudes of temperature, are all causes, the last in a high degree, likely to develope the disease. Now when exudation of plastic matter takes place, a due supply of healthy blood and of nervous power is requisite for its proper development, but, in a person predisposed to Phthisis, these are the very qualities in which their constitutions are deficient; and when the exciting cause has produced congestion and exudation of plastic matter, causing swelling, enlargement and detachment of the epithelial cells of the air vesicles, this exudation, instead of undergoing healthy transformation, takes on the form of degeneration, and undergoes the changes described in Section I., forming the different kinds of tubercle.

We come then now to enquire, what are the symptoms which accompany the development of

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D. State of organic, nervous, or vital power.
   *a.* Hereditary debility.
   *b.* Acquired debility.

E. Morbid state of the blood.
   *a.* Anæmia.
   *b.* Chlorosis.
   *c.* State of the hæmato-globulin.

tubercles, and by what signs and symptoms, general and physical, is the early stage of the deposit manifested? It is to be feared that the early deviations from health, the disordered functions, the depressed vital powers, are either overlooked or frequently imperfectly recognised, and hence the importance of directing more minute attention to them. Unless the disease be developed during the course of some other complaint, the patient, for some time before there are any distinguishing symptoms, appears pallid and languid, there is a want of tone about him bodily and mentally, his appetite becomes deranged, there is little relish for food, and manifest disorder of the assimilating functions, slight emaciation takes place; the pupils of the eye become dilated, and the conjunctiva bluish or pearly; cough supervenes, but so slight at first, that it may not have been noticed until enquired after, perhaps occurring only first thing in the morning, or upon a sudden change of posture; it is short, dry, and hacking, or attended with a small amount of clear viscid expectoration; after a time specks or striæ of opaque matter, white, yellow, or greenish, make their appearance, a condition peculiar to the early stage of softening of tubercle; the pulse rises in frequency, the respirations are increased in number, generally bearing some relation to the state of the pulse; towards evening

there is perhaps some little heat of the skin, flushing of the face, slight feverishness, a burning sensation in the palms of the hands or the soles of the feet, slight chills running down the back. In many instances hæmoptysis, varying from a few streaks in the expectoration to ½ a dram or several ounces, is the first thing which attracts the patient's attention, though frequently it does not appear until later, and in many instances not at all as a symptom in the disease. These symptoms for some time may remain stationary, or may at once be increased in severity. The evening feverishness becomes more marked; the patient wakes from sleep with the head and neck damp with perspiration, which gradually becomes more profuse and extends over the body; the cough is more marked and frequent, often troublesome in the night-time; the expectoration becomes muco-purulent, and the opaque masses more copious; the emaciation is much more pronounced, and all the other symptoms already described are more distinctly observable: these are the symptoms which denote softening of the tubercular deposit. If the disease advances, there will be still further increase in the distinctness and intensity of the symptoms, the expectoration will become much more copious and muco-purulent, appearing in globular masses—shaped and showing they have been moulded in a cavity—profuse perspiration

and diarrhœa, often alternating, bed-sores, apthæ, mild delirium, and death.

One or two of the earlier symptoms require a somewhat fuller notice, and first of all *the cough.* In the first stage of the disease, before the commencement of softening, the dry hacking cough is caused by irritation of the pneumogastric nerves from the presence of the deposit: when this begins to soften, and there is ulceration of the surrounding textures and increased bronchial secretion, these morbid products produce the irritation which gives rise to cough, in order that they may be expelled. Irritation of the stomach or alimentary canal, or derangement of the functions of the liver, produce a cough scarcely, if at all, to be distinguished from that of the first stage of Phthisis. Congestion of the liver, with that form of dyspepsia which results from the too free indulgence in spirituous liquors, perhaps furnish a cough and some other symptoms which might easily be mistaken as indicating Phthisis. The patient complains of a dry hacking cough, shortness of breath, slight wasting, and easily induced perspirations. The other symptoms however will generally furnish a means of diagnosis.

The *sputum* in the early stage may sometimes furnish distinctive evidence of the disease. This at first is viscid and transparent, containing very little

of the corpuscular element, and should it retain this character very long in a person suffering from slight cough and expectoration, the occurrence is calculated to awaken suspicion. The appearance of striæ in the expectoration is almost conclusive evidence of phthisis, for they are scarcely ever met with in simple chronic bronchitis: and this is further confirmed, if in examining the sputum microscopically we discover in it the sharply defined, curled, dichotomously divided, elastic fibres belonging to the walls of the air cells. If the sputum contain calcareous matter, this may be taken as an indication that the patient at some former period had suffered from the disease, had partially or entirely recovered, and that it has now returned.

*Hæmoptysis* very rarely precedes the cough: when it is the first symptom that attracts attention, it will generally be found, upon close enquiry, that the dry hacking cough above described, with slight viscid expectoration, has existed for some time though unheeded. When it is completely determined that the hæmoptysis proceeds from the lungs and not from the mouth or fauces, and that it is not vicarious, or caused by disease of the heart, or congestion of the lungs, from debility, &c., or from blows or injury to the chest, its occurrence is almost conclusive evidence of the existence of tubercles. With regard to the

amount, the following table from the Second Report (1863) of the Brompton Hospital, shows the variations:—

| | DECIDED CASES. | | SUSPECTED CASES. | | TOTAL. |
|---|---|---|---|---|---|
| | Males. | Females. | Males. | Females. | |
| Below ℥j in quantity..... | 843 | 700 | 55 | 83 | 1681 |
| From ℥j to ℥ss ..... | 616 | 482 | 34 | 69 | 1201 |
| From ℥ss to ℥iv ..... | 429 | 268 | 13 | 21 | 731 |
| Above ℥iv ..... | 343 | 153 | 9 | 7 | 512 |
| Entirely absent ..... | 588 | 193 | 74 | 65 | 920 |
| TOTAL..... | 2819 | 1796 | 185 | 245 | 5045 |

The details of 22 cases are given in which this occurrence proved fatal. The following table, shewing the period elapsing between the occurrence of the hæmoptysis, and admission into the hospital, is interesting.

| | DECIDED CASES. | | SUSPECTED CASES. | | TOTAL. |
|---|---|---|---|---|---|
| | Males. | Females. | Males. | Females. | |
| Within 3 months ..... | 447 | 457 | 17 | 38 | 959 |
| 3 months to 6 months ... | 389 | 289 | 22 | 33 | 733 |
| 6 " to 12 " ... | 463 | 367 | 23 | 31 | 884 |
| 12 " to 18 " ... | 173 | 78 | 3 | 12 | 266 |
| 18 " to 24 " ... | 193 | 108 | 14 | 12 | 327 |
| Beyond 2 years ..... | 332 | 164 | 13 | 24 | 533 |
| TOTAL..... | 1997 | 1463 | 92 | 150 | 3702 |

Upon this is remarked, "If hæmoptysis be looked on as one of the most decided and pathognomonic signs of tubercular disease of the lungs, its remote

occurrence tends to throw backward the commencement of the affection, and to strengthen the impression, that the proportion of old cases, in which either the advance has been very slow, or some partial recovery has taken place, are far more frequent than former statistics have exhibited."

The physical signs, namely, those furnished by auscultation and percussion, in Phthisis, are often, in the early stage, obscure and indistinct, and require a quick and practised ear to discern their presence. Except in very rare instances, the deposition of tubercle commences at, or near, one of the apices of the lungs, and proceeds from above downwards; and if it takes place in both lungs at the same time, the disease generally proceeds more rapidly in the one lung than in the other. The physical signs, then, at the commencement, must be sought for under one or other of the clavicles: and the earliest signs are, generally, very slightly impaired resonance on percussion at one of these spots; on auscultation, the inspiratory murmur is heard more distinctly than natural, and the expiratory murmur becomes more audible and prolonged, constituting coarse breathing; and the voice at this spot is more distinct and resonant than in the normal state, producing bronchophony. The breathing may be either free from moist sounds, or attended with crepitation, or,

2ndly. The inspiratory murmur may be more indistinct than natural, and either be attended, or not, with impaired resonance on percussion, and crepitation; or,

3rdly. There may be only slight crepitation without any other sign.

My space does not permit me to enter into the various pathological differences which give rise to these variations; the explanation of them is not difficult.

Too great dependence must not be placed on physical signs, unless they are persistent, and unless there be a marked difference between the corresponding situations on the two sides of the chest. An opinion founded upon them in the early stages of this disease ought never to be expressed until after confirmation of the first diagnosis by two or three subsequent examinations; and the indications afforded to us by the general symptoms must never be lost sight of; physical examinations must never be allowed to compensate for a hurried or careless previous general examination of the patient's condition—for, if so, an erroneous conclusion will frequently be arrived at. On the other hand, how often, in a case presenting anomalous symptoms, is the mystery cleared up by the application of the stethescope to the chest. Some physicians consider a physical examination unneces-

sary when certain general symptoms are present. "When emaciation occurs without any manifest cause, and especially when it is attended by quickness of pulse, by morning chills, or by a sense of cold in the course of the spine, or by a short hacking cough, or by shortness or oppression of breathing, tuberculous disease of the lungs may be inferred: and if all these symptoms be present, the fuss, parade, manipulation, and charlatanry of a physical examination of the bare chest, so often unnecessarily, and even injuriously practised, may in most cases be dispensed with."

The following case came under my care a few days after reading the above paragraph.

G. I., æt. 21, single, a tailor, applied as an out-patient at Addenbrooke's Hospital, Jan. 20th, 1864.

Pallid and somewhat emaciated, conjunctiva pearly, respiration shallow, and easily hurried. For the last twelve months has been troubled with a cough and shortness of breath, with abundant expectoration of thick yellowish matter; the cough is very troublesome at night and first thing in the morning; night perspirations are frequent and profuse; he has frequent cold chills running down the spine, and occasionally flying pains about the chest; for some time he has been greatly losing flesh; his appetite is bad; he can't eat; could sleep well except for the cough. For the last four weeks the symptoms have been much

aggravated; and for the last fourteen days his bowels have been relaxed. Tongue, furred on dorsum, clean at tip and edges. Pulse, 120, very feeble; very thirsty.

*Percussion*—left side impaired resonance from clavicle to second intercostal space, elsewhere good.

Right side—good resonance from clavicle to third intercostal space, perfectly dull below. Posteriorly—quite dull from the inferior angle of the scapula downwards, on palpation there is no vocal vibration.

*Auscultation*—right sight anteriorly—respiration free and vesicular under the clavicle to the third intercostal space, where it becomes tubular and distant, a little below that, there is absence of respiratory murmur.

Right side posteriorly—the breathing is free and vesicular about the scapula; just below the angle of the scapula it is tubular; and a little further down, there is absence of respiratory murmur.

Left side anteriorly—coarse breathing, with crepitation and bronchophony, under the left clavicle for an inch downwards, elsewhere free and vesicular.

In this case there was considerable pleuritic effusion into the right chest, which could not have been detected except by the physical signs, together with tubercular softening in the apex of the left lung. He was admitted into the hospital. The effused fluid

was gradually absorbed, loud, distinct, and well-defined, dry, to-and-fro sounds became audible, and on the 19th of March he was so much improved, both in general health, freeness from cough and expectoration, that he was made an out-patient.

## IV.

*The means to be adopted for the prevention or arrest of Consumption.*

In discussing the causes of Phthisis, I have shewn that the predisposing causes of the disease are those which produce faulty nutrition of the body, and that the exciting causes are those which produce congestion of, and exudation into the lung substance. Now, what are the simple indications with which these causes furnish us, for the prevention of the disease? That every care should be taken, that the body should be duly and properly nourished; that all causes tending to depress the vital functions, or to lessen the bodily powers, should be studiously avoided, especially, all sources of irritation to the lungs. In infancy, the assimilating functions should be carefully attended to: if the mother's constitution be feeble or delicate, she ought on no account to suckle the child, and either a suitable wet-nurse should be procured, or it should be fed with ass's or cow's milk diluted with water, and by means of a feeding bottle.

Above all things, farinaceous food, and feeding the child by means of a spoon, are especially to be avoided, until the appearance of the teeth. I believe, that of all the causes producing faulty nutrition, and enfeebled health, in early childhood, these two are the most frequent, and almost the most hurtful. When dentition is completed, roasted meat may be added to the diet; but bread, potatoes, and other farinaceous food should only be allowed, when the child can masticate it well, so that it becomes properly mixed with the saliva. The necessity of a well ventilated nursery, and of warm and suitable clothing, must not be overlooked. As the child grows up, its mental faculties must not be unduly taxed, studious habits are not to be encouraged, school hours must be shortened and play hours lengthened, so that an abundance of healthy exercise may be obtained in the open air, thus cultivating and developing the physical powers, and promoting the digestive functions. If the bodily powers be not well developed, and if there be any appearance of the so-called scrofulous diathesis, certain occupations are to be avoided, viz., all such as are of a sedentary character, and which tend to prevent a proper amount of bodily exercise being taken in the open air. A country life of all others is to be commended, with the invigorating exercise attending agricultural pur-

suits. Trades to be avoided are those of millers, bakers, stonemasons, tailors, shoemakers, &c. Whilst those of joiners, coopers, butchers, and tanners may be suggested.

Should a person show any of those signs which may be regarded as the results of the predisposing causes of Phthisis, then all means must be used to counteract the downward tendency; and first of all, if possible, by the removal of the cause. The avoidance of catarrh in this state must be especially aimed at, sudden changes of temperature must not be encountered, but the constitution should be very cautiously and gradually seasoned to those which occur. Too much clothing is prejudicial; more ought not to be worn than is necessary to keep the body warm and comfortable, the less the better; it is generally advisable to wear flannel next the skin, and especially over the chest. For those who can stand it, nothing is more beneficial than daily morning bathing in cold fresh or salt water, or sponging the body all over immediately upon rising from bed; but it should be done rapidly, and the skin well dried and rubbed afterwards with a rough towel. Frequent exercise with the dumb-bells, and horse exercise where possible, are not to be neglected; whilst late hours, and exposure to night air, dancing, excessive running, speaking or singing are to be avoided: it is advisable for females

not to wear stays, and to have high dresses. Should any of the dyspeptic symptoms arise, which so frequently are the precursors of, and attendants upon phthisis, then the removal of these symptoms must be studiously and anxiously sought. They present indeed a multitudinous variety of forms, but in many cases the 'atonic' is the form we have to deal with, and this must be treated by strict attention to the diet, regularity of habits, and by tonic medicines. The diet should consist of light and nutritive food, such as soups, the white kinds of fish, poultry, roasted beef, and mutton, eggs, bacon, and so on; avoiding pastry, vegetables, tea, coffee, spirituous liquors, &c. In many cases I have had an opportunity of seeing the beneficial results of a moderate amount of cow's milk being added to the diet, perhaps from one to three pints daily. In taking it certain precautions are necessary. The other food should not be rich or highly seasoned, otherwise the stomach is not sufficiently stimulated by the presence of the milk, and its digestion is not well performed. If the milk be boiled and taken when cold, I have found that its digestion is more easily accomplished. I have also found it serviceable to recommend these weakly, dyspeptic persons to have a pint of boiled milk placed at their bedsides at night, and shortly after waking in the morning to take a portion, and

the remainder while dressing: this does much to remove the feeling of languor they so frequently complain of, and I have also seen their digestive and assimilative powers sensibly improved by the plan.

In persons who are pallid, and in whose blood the red globules are deficient, the preparations of iron are of great service; small doses of the Tinct. Ferri Sesquichlor. with Tr. Hyos. or Tr. Digitalis, or the Mist. Ferri Co. or the Syr. Ferri Iod., taking care to regulate the bowels with Pil. Rhei Co. or Pil. Aloes c̄ Myrrhâ, or a digestive pill composed of rhubarb, ipecacuanha and capsicum. I have found a combination of the potash-tartrate of iron with the bitartrate of potash very useful in many cases. When the chalybeates are not easily borne, then the vegetable bitters, with alkalies or the mineral acids, as the case may require, may be given; or the nitro-muriatic acid alone may be beneficial. In many cases, a judicious administration of quinine will be found to promote most rapidly an improvement of the digestive functions. At this stage, whilst we have as yet only the premonitory symptoms to deal with, I believe that no means could be adopted more calculated to ensure a removal of these symptoms, than an entire change of scene and climate. For those who can afford the time and expense, a summer's ramble in Switzerland, the Tyrol, Wales, or Scotland, with constant change from place

to place, and sustained bodily exercise, and the invigorating influence of the mountain air, is the best prescription they can adopt, and will do more to prevent the development of tubercles than all other remedies together. In other cases, a temporary change of residence during summer to some pleasantly-situated inland locality, as Malvern, Harrogate, Moffat, Ems, Wiesbaden, Creuznach, Ischl, Meran, &c., from which various excursions can be made and occupation furnished, may be recommended. In other cases, a few weeks' residence at the sea-coast supplies a fresh store of health and strength. Should an attack of catarrh or bronchitis supervene in a person exhibiting any of the symptoms indicative of a predisposition to phthisis, great care and attention should be bestowed in order to free the patient as soon as possible from this source of irritation to the lungs. Lowering remedies should be abstained from as much as possible; the febrile stage be treated with salines, with or without small doses of antimony, according to its intensity; blisters, mustard-poultices, or counter-irritation to the chest; followed by tonics as soon as the system will bear them. Of these the Liq. Cinchonæ combined with Liq. Am. Acet., Sp. Æth. Nitr. &c., is generally very readily borne, or the Inf. Cascarill. with Sp. Æth. Nitr. and Hydrocyanic acid, or the preparations of iron, and of these, especially

for this stage, the Mistura Ferri Co. With some persons no remedy seems to promote recovery from bronchitis so rapidly as cod-liver oil. In chronic bronchitis of the aged or infirm it is invaluable, and scarcely less so in young persons who are weak and debilitated. At the present time I know several persons who, whenever they suffer from an attack of catarrh or bronchitis, so soon as the febrile stage has passed away, immediately have recourse to this remedy, and who state that it relieves their cough, improves their appetite and digestion, and that unless they adopt it they experience considerable difficulty in shaking off their malady. The kind of oil I recommend is the pale, which is pleasanter to take and purer than the browner kinds. From one to three teaspoonsful twice a-day, immediately after meals, is the proper dose. I think larger doses derange the stomach, a portion is then undigested, passes off unchanged from the bowels, or produces diarrhœa. So much then for the treatment of the premonitory symptoms, and the prevention of Phthisis.

If a person presents himself in whom the symptoms of the first stage of the disease are present, the same general plan of treatment should be adopted as already recommended for the premonitory stage. If febrile symptoms are in a great degree absent, the preparations of iron and bark are generally the

most serviceable, either together or separately, and in the forms already suggested. Great importance must be attached both in this and the succeeding stages of Phthisis, to the administration of cod-liver oil. I agree with Dr. C. J. B. Williams, in believing that in addition to its being a simple nutrient "it has other and directly therapeutic powers; over and over again I have seen not only an improvement of the system generally under its use, but a diminution in the amount of tubercular deposit. I entertain the conviction that it promotes the dispersion, absorption, and removal of tubercle." If there be excited vascular action or inflammatory tendency, the treatment must consist in the administration of salines and diaphoretics until this has passed away, and then the oil and other tonics be had recourse to. Counter-irritation, by means of stimulating embrocations applied to the chest, or small blisters under the clavicles, are frequently of great use in this stage, especially if there is any oppression of the breathing or pain in the chest. If hæmoptysis occur in this stage, its treatment will vary according to the conditions under which it arises. If, as is usually the case, it be small in quantity, varying from a few streaks in the expectoration to a teaspoonful, with excited circulation and vascular congestion, such remedies as the nitrate of potash,

digitalis, hyoscyamus., &c., should be administered. If the vascular congestion arises from asthenia, then the mineral acids, especially the sulphuric, with a little syrup of poppies or paregoric, will be found of use. If the hæmoptysis should be of considerable quantity, perfect rest must be enjoined, and the patient must abstain entirely from speaking, even in whispers, and gallic acid or the acetate of lead with opium, and the administration of ice and cold drinks, be had recourse to. When the second stage of Phthisis has been reached, and the tubercular masses are beginning to soften, the great aim must be to keep up the strength of the patient, and improve the digestive functions by the means already indicated, while measures must be adopted to promote the expectoration, and to lessen the cough and irritation of the bronchial mucous membrane and the lung substance. The remedies usual in chronic bronchitis will here be serviceable, especially the stimulating expectorants, such as senega and squills, carbonate of ammonia, &c. If there be copious expectoration, troublesome cough, and nocturnal perspirations, I have frequently found the mineral acids with some vegetable infusion, such as acid. sulph. dil. in small doses, with inf. cascarillæ and oxy. scillæ with or without tr. camph. co., allay many of the distressing symptoms, and as soon as the cough becomes less trouble-

some, to follow this up with ɱv or ɱvji of the acid with from ɱv to ɱxv of Battley's liq. cinchonæ three times a day. Many authorities are opposed to the plan of administering the mineral acids in cases of Phthisis, from a belief that too great acidity already exists in the primæ viæ; that acids interfere with the digestion, and especially with the assimilation of fatty matters. My own experience does not lead me to adopt their views; and though there are cases in which distressing perspirations are the most prominent symptoms, and in which acids aggravate the dyspeptic evils, yet in the majority, I have found the mineral acids of very great service. The following case is an illustration.

J. M., æt. 33, married, a cheesemaker, was admitted as an out-patient of Addenbrooke's Hospital on Nov. 11, 1863.

*Present Condition.* Somewhat anæmic, moderately well nourished, complains of feeling weak and low but not in pain; says he is rapidly losing flesh, and has been doing so for the last 8 weeks. Respiration normal. Pulse, 80, feeble; sweats violently at night and towards eight o'clock in the morning, which is preceded by a burning sensation, especially of the palms and soles of the feet. He has no appetite, and has had none since the commencement of his illness. Tongue thinly furred. Bowels were very much

relaxed for a week, but have not been moved since yesterday afternoon. Some days ago he had a severe attack of coughing in the morning, is otherwise not troubled, except with a slight hacking occasionally. Six months ago had a little cough and expectoration which contained traces of blood. Urine high coloured.

*Ausc.*—Dull on percussion under left clavicle with coarse inspiration and expiration; slight bronchophony.

He was ordered—

Ol. Morrhuæ ʒj bis.

Liq. Cinchon. ɱv. Tr. Hyosc. ɱvij. Acid. Sulph. Dil. ɱvij. Aquæ Menth. Virid. ʒj.ter.

Conf. Aromat. ʒss. Aquæ Menth. Pip. ʒj. p. r. n.

*Nov.* 21st. The aromatic draught was not required; he feels much better; no perspirations now; has not had so good an appetite for a long time; has noticed that he has been troubled with a cough since the last visit; fancies he has got a slight cold. Auscultatory signs as before.

Rep. Mist. et. Ol.

*Dec.* 5th. Complains of dizziness and singing in the ears; otherwise improving.

*Ausc.*—as before, with slight sibilus and crepitation.

Ol. Morrhuæ ʒij. bis, Intermitt. mist.

*Dec.* 12th. Felt the want of his mixture. I now wished to see what would be the effect of an alkali

combined with the bark instead of the acid, and prescribed—

Liq. Cinchon. ℥viij. Liq. Potass. ℥x. Tr. Hyosc. ℥x. Aq. Menth. Virid. ℥j bis. Pt. Ol.

*Dec.* 19th. He came back to say he was rapidly going down the hill again; that he had completely lost his appetite, couldn't take solid food, and had been living chiefly on beef-tea; that the sweating had returned with greater intensity than before, and that his cough was more troublesome.

Liq. Cinchon. ℥viij. Tr. Hyosc. ℥vii. Acid. Sulph. Dil. ℥vij. Aq. Menth. Virid. ℥j. ter.
Pt. Ol. ℥ij. bis.

*Jan.* 2nd, 1864. He came back in great spirits to say that he was very much better; cough almost gone, though still slight hacking first thing in the morning; the perspirations have again disappeared. His appetite returned with the third dose of the medicine, and is now extremely good.

Pt. Mist. et. Ol.

*Jan.* 30th. Improving in strength and gaining weight. Still a little cough occasionally, with now and then scanty expectoration. Bodily functions normal.

*Ausc.*—dulness on percussion under left clavicle. The inspiratory and expiratory murmurs are freer than

formerly, and though still coarse not so much so as before.

Pt. Mist. et Ol.

*Feb.* 20th. Improving and fatter; complexion now quite florid. He wished to be discharged, as he said he had no cough and felt quite well. The auscultatory signs remain as at the last visit. I recommended him still to continue his medicine and oil, but have not seen him since.

The administration of opium in Phthisis requires very great judgment and discrimination. In all cases where it is not absolutely indispensable, its use should be avoided, but in the second stage of the disease conditions arise which render this drug invaluable. When, at night, the patient's sleep is restless and frequently disturbed, or when, during the day, the cough is troublesome or incessant, and the expectoration difficult, preparations of morphia or opium may be had recourse to; the former are preferable, and interfere less with the digestive functions. In many cases where there is considerable nervous irritability combined with dyspepsia, &c. even in the earlier stage of the disease, small doses of this remedy, such as gr. $\frac{1}{12}$ of morph. hydrochl., produce decided relief from the nervous symptoms, and a marked improvement of the dyspepsia soon follows. On the other hand, in many cases even a single dose of

a narcotic is prejudicial, and perhaps destroys the appetite for days after its administration: for these persons, the preparations of lactuca, lupulus, conium or hyoscyamus deserve a trial. If there be excessive bronchial secretion, pain, or difficulty of breathing, it is advisable to apply a blister or large mustard poultice to the affected side of the chest, or the croton oil liniment. For my own part, I consider the application of the emp. lyttæ or the acetum cantharidis as the best mode of producing counter irritation; it is more decided, rapid, and less troublesome in the end than any of the other applications. The application of iodine paint beneath the clavicles I am not disposed to view with favour. I have frequently seen it produce atrophy of the pectoral muscle without being attended with any other result.

Lastly, a few words regarding climate. For a wealthy person suffering from the first or second stage of this disease, a judicious selection of locality will often be attended with the happiest results. To some an elevated situation with a clear bracing atmosphere is most suitable, whilst others find a mild and somewhat relaxing climate more agreeable to their feelings. As a general rule, to those who are travelling about, I should recommend such a course as the following: To go during the summer to the Rhine, Bavaria, the Salzkammergut; in autumn, to-

wards the south of the Tyrol, and on to Venice; and to spend the winter at Rome, Palermo, Cairo, Algiers, or Madeira. The Australian climate has lately attracted much attention as being suitable for phthisical persons, and I believe deservedly. I am acquainted with several persons who have left England with the signs of the first stage unmistakeably developed, and who during the voyage, or on their arrival at the colony, have become free from their symptoms, and who are now enjoying apparently perfect health. They have established themselves in their usual business or profession, and are attending to it without inconvenience and just as a healthy person would do in this country. For those who, an account of their finances or other reasons, cannot leave home, some few suggestions may be of service. Unless, when travelling about, or temporarily changing their locality, they can command equal comfort, attention, diet, &c., as in their own home, I believe that the change would be not only not beneficial, but injurious. The advantages of change of air, scene, &c. would not compensate for the anxiety of limited resources, small lodging-rooms, or a less generous diet than that to which they are accustomed. Mere change of scene is of no earthly use to a phthisical patient unless attended with his usual degree of comfort and luxury; and unless this can be attained, he is far wiser to

remain at home, adopting proper regulations and precautions. These are, 1st, the diet should be generous and easily digested, but not stimulating. 2nd, the rooms which the patient inhabits should be of a good size, well ventilated, and of an equable temperature, suitable to the patient's feelings, about 56°F. during the winter, and the same room should not be used both by night and day. Lastly, regular exercise must be taken in the open air. The patient must be made to understand that this, and his diet, are the chief means towards promoting his recovery and arresting his disease. He should not wrap up too much, nor make use of waterproof coats, boots, or shoes, but his out-door clothing should be warm and light; and avoiding inclement weather, the temperature will not be too cold for out-of-door exercise, so long as by active exercise, the body, especially the extremities, can be kept warm: with this precaution, and with the use of a respirator, even when the ground is covered with snow, out-of-door exercise will be found to be beneficial.

Such then is the plan of treatment which I should recommend to be pursued in the earlier stages of this terrible malady. The patient must not be led to place his confidence in medicine, to the neglect of the hygienic measures here recommended; for without these latter means, medicine is utterly powerless

and useless, and the arrestment of the disease perfectly hopeless. But, by the judicious adoption of the plan here laid down, I firmly believe much may be done towards the cure or arrestment of Phthisis in its earlier stages. It is a matter for congratulation that these earlier stages can be much more certainly detected than formerly, by means of the physical signs; and that medical men of the present day have so generally cultivated their powers of auscultation, and become so skilful in the practice of them, and so precise in the interpretation of the signs furnished by them. To this, in a great degree, must be ascribed the more hopeful view which is gaining ground, of the therapeutics of consumption.

THE END.

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